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MEMORANDUM

TO:	Darlene Stringer, MDEQ Matt Gamble, MDEQ	REF. NO.:	017360-T05
FROM:	Jeni Quigley/eb/63/Pwl.	DATE:	March 11, 2013
CC:	David Favero, RACER		
RE:	**Data Package** **2012 Site-Wide Investigation – Stage III** **Former Grand Rapids Metal Plant** **Wyoming, Michigan**		

Conestoga-Rovers & Associates (CRA), on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust, conducted soil and groundwater investigation activities at the former Grand Rapids Metal Plant property located at 300 36th Street SW in Wyoming, Michigan (Site). The scope of work (SOW) implemented was presented in the memorandum entitled *Proposed Sample Locations, 2012 Site-Wide Investigation – Stage III, Former Grand Rapids Metal Plant, Wyoming Michigan*, submitted to the Michigan Department of Environmental Quality (MDEQ) on October 16, 2012. The protocols utilized during the implementation of the October 16, 2012 SOW were described in the Site-Wide Investigation Work Plan (Work Plan), submitted to the MDEQ on January 7, 2011. The samples were collected during the field investigation conducted between October 23, 2012 and November 5, 2012. At the approval of the MDEQ, the October 2012 Semi-Annual Groundwater Monitoring activities were completed in conjunction with Stage III of the Site-Wide Investigation. Sampling was conducted in accordance with the 2005 Groundwater Monitoring Work Plan submitted on April 12, 2005 to the Michigan Department of Environmental Quality (MDEQ) and verbally approved on April 28, 2005. This memorandum (Memorandum) has been prepared to present the "Data Package" summarizing the data collected during Stage III of the Site-Wide Investigation field activities.

Soil and Groundwater Investigation Activities

Field activities included the advancement of soil borings, installation of monitoring wells, and the collection of soil, groundwater, surface water, and borehole water samples. Plan 1 presents the sample locations. Table 1 presents a sample summary. Stratigraphic soil boring logs and well construction details are included in Attachment A.

October 2012 Monitoring Activities

The scope of work (SOW) for the semi-annual groundwater monitoring program conducted at the Site includes: the collection and analysis of groundwater/surface water samples for Target Compound List (TCL) volatile organic compounds (VOCs) from monitoring wells and culvert locations; the

collection and analysis of groundwater samples from monitoring wells 85-6, MW44-12, MW45-12, and MW46-12 for TCL semi-volatile organic compounds (SVOCs); the measurement of static groundwater levels in all monitoring wells; and the measurement of light non-aqueous phase liquid (LNAPL) levels in select Site monitoring wells 85-6, MW44-12, MW45-12, and MW46-12.

A total of 48 groundwater samples, including quality assurance/quality control (QA/QC) samples, were collected from monitoring wells 85-1, 85-2, 85-6, 85-7, 86-3, 87-8, 87-9, 87-10, 87-11, 87-13, 88-2, 88-3, 88-4, MW1-03, MW2-03, MW5-03, MW6-03, MW7-03, MW8-04, MW9-04, MW10-04, MW11D-04, MW13-04, MW15-04, MW11S-05, MW17-06, MW27-11, MW28-12 through MW46-12, and PWDISCH. A total of three (3) surface water samples were collected from culvert locations C-1, C-2, and C-3. All samples were collected between October 23, 2012 and November 2, 2012 for analysis of TCL VOCs. In addition, samples collected from monitoring wells 85-6, MW44-12, MW45-12, and MW46-12 were analyzed for TCL SVOCs. It should be noted that certain samples were analyzed for additional parameters as part of the on-going Site investigation; as discussed in the subsequent section. Table 1 presents a summary of the samples collected during the Fall 2012 semi-annual sampling event.

Prior to groundwater sample collection, static water levels were measured and recorded for the monitoring wells. Well caps were unlocked and removed allowing the water levels in the wells to stabilize. Static water levels and free product levels were measured to the top of each riser. Table 2 presents static water levels for October 22, 2012. No measurable LNAPL was detected in monitoring wells 85-6, MW44-12, MW45-12, MW46-12, MW50-12, MW51-12, and MW52-12 during the Fall 2012 semi-annual sampling event. Figure 1 presents the approximate groundwater flow direction for October 22, 2012.

Dedicated ¼-inch diameter polyethylene tubing is utilized in each of the wells to be 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 200 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 a YSI® and HACH® turbidity meter. Groundwater quality parameters included pH, specific conductivity, temperature, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity. Upon groundwater stabilization, based on three consecutive similar readings, groundwater samples were collected.

Water samples collected from the culvert locations C-1, C-2 and C-3 were collected using a new disposable polyethylene sampling bottle in each location.

Analytical Results

Analytical results for the soil and groundwater samples were evaluated against the Generic Residential and Non-Residential Cleanup Criteria and Screening Levels established in Part 7 of Administrative Rules, effective September 28, 2012, pursuant to Part 201, Environmental Remediation, 1994 PA 451, as amended. In addition, analytical results for polychlorinated biphenyls (PCBs) were evaluated against the High Occupancy Area Cleanup Level of 1 part per million (ppm) for bulk remediation waste (without further conditions) set forth in the Toxic Substances Control Act (TSCA). Analytical results for soil and water samples compared to the aforementioned criteria are presented in Tables 3 and 4, respectively. Plan 2 presents exceedances of the Part 201 Generic Residential and Non-Residential

Cleanup Criteria in soil samples collected during the Stage III Site-Wide Investigation, except for samples collected in the Bulk Unload and Zc 5.5-7 areas. Exceedances of the Part 201 Generic Residential and Non-Residential Cleanup Criteria in soil samples collected in the Bulk Unload and Zc 5.5-7 areas of the Site are presented on Plan 3. Plan 4 presents exceedances of the High Occupancy Area Cleanup Level of 1 ppm for bulk remediation waste (without further conditions) set forth in TSCA. Plan 5 presents exceedances of the Part 201 Generic Residential and Non-Residential Cleanup Criteria in groundwater from the data collected during the Stage III Site-Wide Investigation. Plan 6 presents exceedances of the Part 201 Generic Residential and Non-Residential Cleanup Criteria in borehole water from the data collected during the Stage III Site-Wide Investigation.

A QA/QC data validation was conducted on the analytical data consistent with the Quality Assurance Project Plan (QAPP) for the Site. Copies of analytical data and data validation memoranda summarizing the results of the data validation are presented in Attachment B and Attachment C, respectively. Based on the review of the data validation memoranda, data precision and accuracy meets all accepted standards and the data contained within this report are appropriate for use and are without significant anomalies. The detected concentrations are valid and reliable, with the qualifications noted, for the purposes of this investigation.

Samples were not collected from several locations proposed in the Work Plan due to the requirement for procurement of access agreements for the off-Site sample locations and the discovery of a destroyed/abandoned monitoring well. A brief list and description of variances from the Work Plan is provided below:

Location	Deviation
MW4-03	The monitoring well protective cover was found to have been removed and the well casing had been filled with bentonite chips.
HP28-12/ MW47-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become MW47-13 when installed).
HP29-12/ MW48-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become MW48-13 when installed).
HP30-12/ MW49-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become MW49-13 when installed).
SB208-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become SB208-13 when installed)
SB209-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become SB209-13 when installed)
SB210-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become SB210-13 when installed)
SB211-12	Not installed at this time due to requirement for procurement of access agreement due to off-Site sample location (This will become SB211-13 when installed)

Please contact David Favero at (217) 741-6235 or Jeni Quigley at (269) 685-5181 with any questions or regarding this Memorandum or the enclosed information.

LIST OF FIGURES

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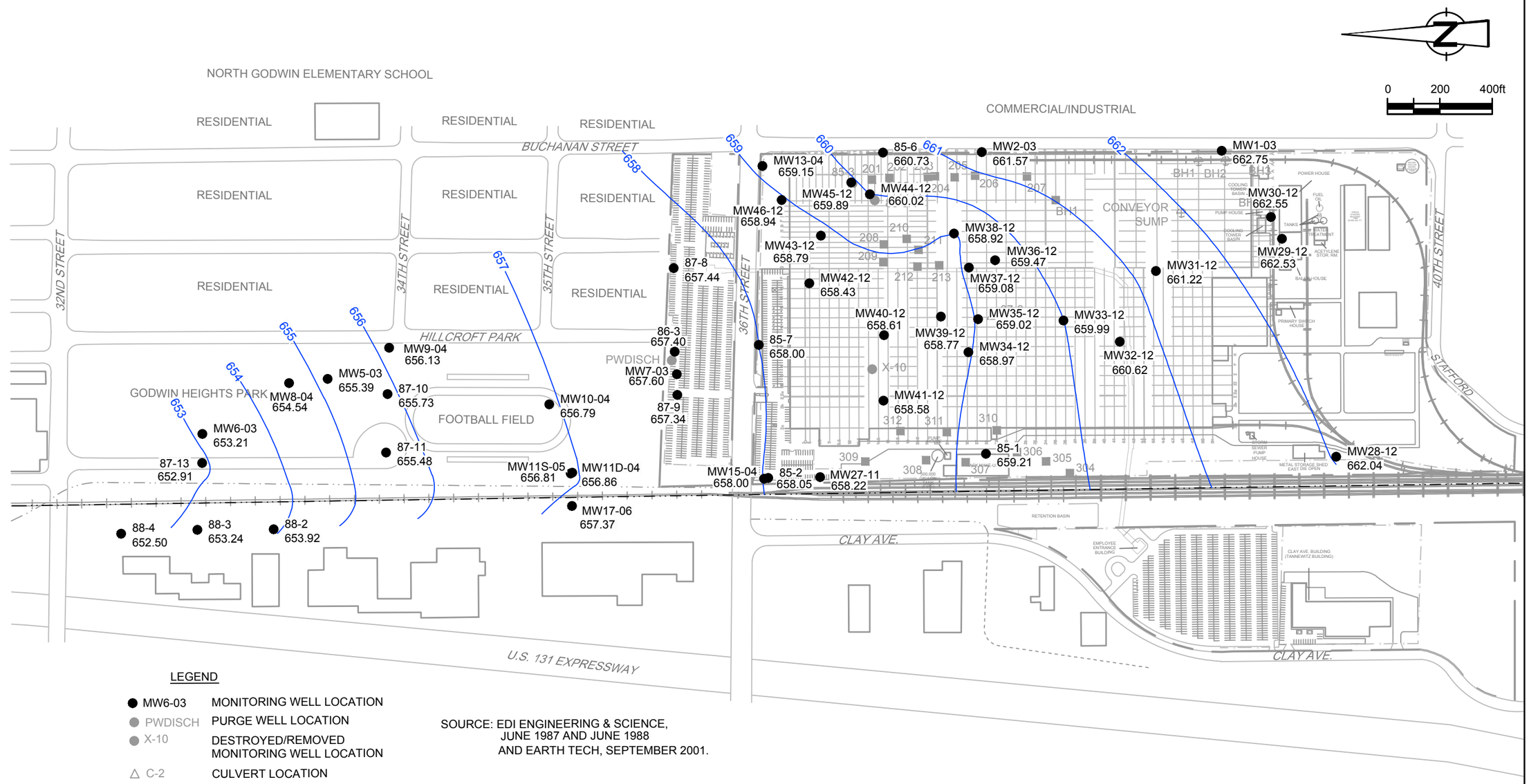
LIST OF ATTACHMENTS

ATTACHMENT A	STRATIGRAPHIC SOIL BORING LOGS AND WELL CONSTRUCTION DETAILS
ATTACHMENT B	ANALYTICAL LABORATORY DATA
ATTACHMENT C	ANALYTICAL DATA VALIDATION MEMORANDUM



LEGEND

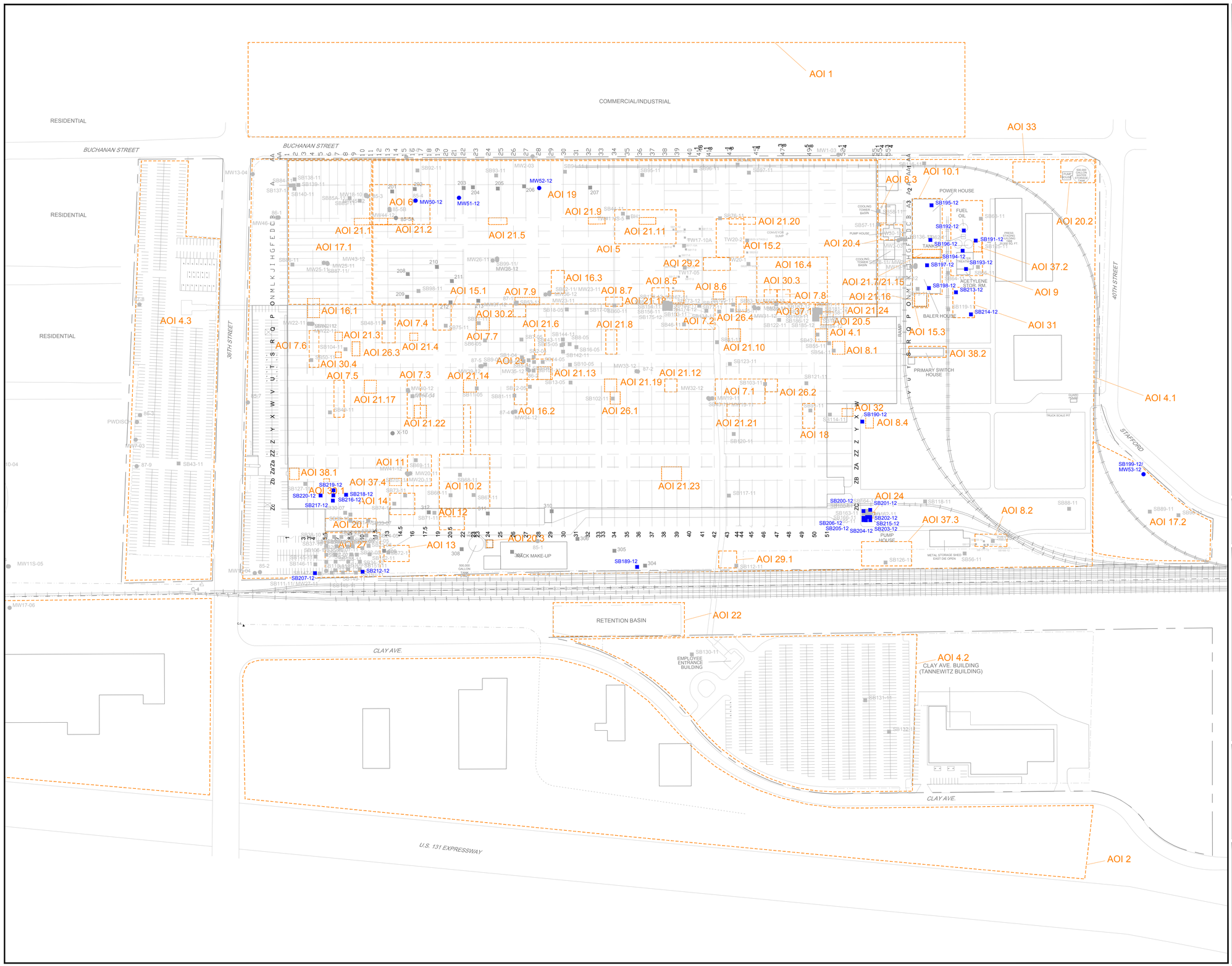
● MW6-03	MONITORING WELL LOCATION
● PWDISCH	PURGE WELL LOCATION
● X-10	DESTROYED/REMOVED MONITORING WELL LOCATION
△ C-2	CULVERT LOCATION
⚠ 87-3	AIR PURGE WELL
⊕ BH1	APPROXIMATE LOCATION OF DEWATERING WELLS
	APPROXIMATE SITE BOUNDARY
	FENCE
	RAILROAD
	COLE DRAIN
653	GROUNDWATER ELEVATION CONTOUR
653.21	GROUNDWATER ELEVATION MEASURED SEPTEMBER - OCTOBER 22, 2012

SOURCE: EDI ENGINEERING & SCIENCE, JUNE 1987 AND JUNE 1988 AND EARTH TECH, SEPTEMBER 2001.

figure 1

SITE-WIDE INVESTIGATION - STAGE III
GROUNDWATER CONTOURS - OCTOBER 2012
FORMER GRAND RAPIDS METAL PLANT
Wyoming, Michigan

017360-T05(MEMO063)GN-DE014 MAR 04/2013



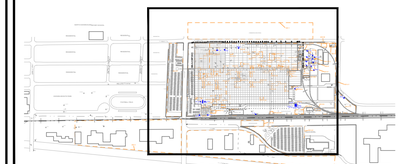
Nº	Revision	Date	Initial

0 80 140ft

LEGEND

- SB214-12 STAGE III SITE-WIDE INVESTIGATION SOIL BORING LOCATIONS
- TW20-2 HISTORICAL SAMPLE LOCATION
- MW6-03 HISTORICAL MONITORING WELL LOCATION
- MW53-12 STAGE III SITE-WIDE INVESTIGATION SOIL BORING/MONITORING WELL LOCATION
- MW25-11 DESTROYED MONITORING WELL LOCATION

- APPROXIMATE SITE BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI



KEY MAP

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

SAMPLE LOCATIONS

SITE-WIDE INVESTIGATION - STAGE III

FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
J.Q.	E.B.	DECEMBER 2012	
Scale: 1:140	Project Nº: 017360-T05	Report Nº: MEMO063	Drawing Nº: PLAN 1

017360-T05(MEMO063)GN-DE015 FEB 12/2013

SB219-12	11/1/2012 (0-2) ft BGS ug/kg	11/1/2012 (15.5-17.5) ft BGS ug/kg
VOCs		
Ethylbenzene	58 U/95 U	54 U
Methylene chloride	350 U/120 U	110 U
Trichloroethene	490 J (bc)/26 J	54 U
Xylenes (total)	170 U/280 U	160 U
SVOCs		
2-Methylnaphthalene	30 J/33 J	360 U
Benzo(a)anthracene	520 J/570 J	6.2 J
Benzo(a)pyrene	410 J/440 J	4 J
Benzo(b)fluoranthene	580 J/590 J	5.8 J
Dibenz(a,h)anthracene	30 J/51 J	360 UJ
Fluoranthene	1400 J/1500 J	12 J
Naphthalene	15 J/18 J	360 U
Phenanthrene	980 J/950 J	14 J
Metals		
Antimony	960/780	39 J
Arsenic	14000 (bodp)/12000 (bodp)	190
Barium	57000/51000	4300
Cadmium	130/130	9.7 J
Chromium	8000/8900	3700
Cobalt	3200/3100	1000
Copper	13000/15000	1300
Iron	5600000/5300000	1600000
Lead	46000 J/48000 J	1200 J
Manganese	92000/90000	21000
Molybdenum	1400/1800 (b)	76 J
Nickel	8900/8900	2700
Selenium	490 (d)/450 (d)	92 U
Silver	70/75	11 J
Zinc	29000/25000	7100

SB198-12	10/25/2012 (0-2) ft BGS ug/kg	10/25/2012 (11-13) ft BGS ug/kg
VOCs		
Ethylbenzene	54 U	56 U
Methylene chloride	110 U	110 U
Trichloroethene	54 U	56 U
Xylenes (total)	160 U	170 U
SVOCs		
2-Methylnaphthalene	95	19 U
Benzo(a)anthracene	780	19 U
Benzo(a)pyrene	460	19 U
Benzo(b)fluoranthene	570	19 U
Carbazole	140 J	190 U
Dibenz(a,h)anthracene	180 U	37 U
Fluoranthene	2400	19 U
Naphthalene	84 J	19 U
Phenanthrene	1900	19 U
Metals		
Antimony	290	50 J
Arsenic	2600	1500
Barium	35000	3900
Cadmium	110	23 J
Chromium	8300	3600
Cobalt	2400	1400
Copper	9000	3300
Iron	6600000	3100000
Lead	56000	1900
Manganese	150000	84000
Molybdenum	870 J	260 J
Nickel	6100	3300
Selenium	88 J	94 U
Silver	47 J	17 J
Zinc	24000	9100

SB197-12	10/25/2012 (0-2) ft BGS ug/kg	10/25/2012 (11-13) ft BGS ug/kg
VOCs		
Ethylbenzene	12 J	55 U/82
Methylene chloride	110 U	34 J/110 U
Trichloroethene	980 (bc)	4300 J (bcdfg)/1100 J (bcd)
Xylenes (total)	71 J	350/43 J
SVOCs		
2-Methylnaphthalene	130	49 J/57 J
Benzo(a)anthracene	1300	1100/1400
Benzo(a)pyrene	710	770/870
Benzo(b)fluoranthene	990	1100/1200
Carbazole	890 U	920 U/920 U
Dibenz(a,h)anthracene	180 U	180 U/140 J
Fluoranthene	3400	2800/3600
Naphthalene	120	45 J/54 J
Phenanthrene	1500	1200/1900
Metals		
Antimony	1100	4000 J/590 J
Arsenic	1900	1900/1900
Barium	46000	38000/38000
Cadmium	150	120/95
Chromium	9000	11000/12000
Cobalt	1900	2000/2400
Copper	8100	8900/9100
Iron	5900000	5600000/7600000
Lead	150000	73000/72000
Manganese	1400000	1500000/170000
Molybdenum	730 J	1300/1300
Nickel	5800	6200/6800
Selenium	160	63 J/93 U
Silver	55	44 J/48
Zinc	35000	30000/28000

SB194-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (11-13) ft BGS ug/kg
VOCs		
Ethylbenzene	54 U	53 U
Methylene chloride	110 U	110 U
Trichloroethene	54 U	53 U
Xylenes (total)	160 U	160 U
SVOCs		
2-Methylnaphthalene	110	21
Benzo(a)anthracene	1400	75
Benzo(a)pyrene	950	48
Benzo(b)fluoranthene	1300	87
Carbazole	260 J	19 J
Dibenz(a,h)anthracene	170 J	21 J
Fluoranthene	2400	120
Naphthalene	64 J	11 J
Phenanthrene	3000 (d)	93
Metals		
Antimony	320	110
Arsenic	2000	3000
Barium	32000 J	16000 J
Cadmium	140	47
Chromium	8400	8200
Cobalt	2200	2300
Copper	6900	6100
Iron	4400000	8000000
Lead	35000	4900
Manganese	130000	260000
Molybdenum	420 J	1100
Nickel	6800	6000
Selenium	36 J	92 U
Silver	35 J	21 J
Zinc	31000	22000

SB196-12	10/25/2012 (0-2) ft BGS ug/kg	10/25/2012 (11-13) ft BGS ug/kg
VOCs		
Ethylbenzene	110	60 U
Methylene chloride	69 J	120 U
Trichloroethene	13 J	60 U
Xylenes (total)	520	180 U
SVOCs		
2-Methylnaphthalene	620	3.7 J
Benzo(a)anthracene	2800	75 U
Benzo(a)pyrene	1900	55
Benzo(b)fluoranthene	2900	82
Carbazole	610 J	17 J
Dibenz(a,h)anthracene	370	40 U
Fluoranthene	6900 (d)	160
Naphthalene	350	4.1 J
Phenanthrene	7600 (d)	130
Metals		
Antimony	1200	82 J
Arsenic	2500	1600
Barium	66000	6400
Cadmium	130	24 J
Chromium	11000	3100
Cobalt	2500	1200
Copper	15000	3300
Iron	8100000	4100000
Lead	120000	2700
Manganese	180000	130000
Molybdenum	1700 (b)	140 J
Nickel	7400	3400
Selenium	100	100 U
Silver	75	16 J
Zinc	44000	13000

SB195-12	10/26/2012 (0-2) ft BGS ug/kg	10/26/2012 (11-13) ft BGS ug/kg
VOCs		
Ethylbenzene	480 (d)	23 J
Methylene chloride	120 U	120 U
Trichloroethene	59 U	59 U
Xylenes (total)	2100 (d)	96 J
SVOCs		
2-Methylnaphthalene	360	960 J
Benzo(a)anthracene	3100	24000 (p)
Benzo(a)pyrene	2100 (p)	17000 (pq)
Benzo(b)fluoranthene	3000	22000 (p)
Carbazole	520 J	7700 J (d)
Dibenz(a,h)anthracene	390	3100 J (p)
Fluoranthene	5600 (d)	48000 (d)
Naphthalene	270	520 J
Phenanthrene	6400 (d)	37000 (d)
Metals		
Antimony	840	290
Arsenic	2400	2100
Barium	63000	29000
Cadmium	190	68
Chromium	12000	15000
Cobalt	2800	2400
Copper	9100	6400
Iron	6200000	7300000
Lead	99000	8400
Manganese	190000	150000
Molybdenum	810 J	830 J
Nickel	8000	7000
Selenium	88 J	100 U
Silver	63	48 J
Zinc	38000	26000

SB192-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (12-14) ft BGS ug/kg
VOCs		
Ethylbenzene	54 U	57 U
Methylene chloride	110 U	110 U
Trichloroethene	54 U	57 U
Xylenes (total)	160 U	170 U
SVOCs		
2-Methylnaphthalene	90 U	17 U
Benzo(a)anthracene	120	17 U
Benzo(a)pyrene	100	17 U
Benzo(b)fluoranthene	160	17 U
Carbazole	900 U	170 U
Dibenz(a,h)anthracene	18 J	35 U
Fluoranthene	190	17 U
Naphthalene	90 U	17 U
Phenanthrene	120	17 U
Metals		
Antimony	170	130
Arsenic	1600	3700
Barium	19000 J	7400 J
Cadmium	180	32 J
Chromium	7500	7800
Cobalt	2100	3200
Copper	8000	7000
Iron	4900000	7000000
Lead	8300	3600
Manganese	140000	290000
Molybdenum	580 J	330 J
Nickel	5900	7500
Selenium	130	94 U
Silver	24 J	29 J
Zinc	19000	23000

SB191-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (12-14) ft BGS ug/kg
VOCs		
Ethylbenzene	51 U	52 U
Methylene chloride	100 U	100 U
Trichloroethene	51 U	52 U
Xylenes (total)	150 U	160 U
SVOCs		
2-Methylnaphthalene	160	17 U
Benzo(a)anthracene	1200	14 J
Benzo(a)pyrene	830	7.2 J
Benzo(b)fluoranthene	1300	14 J
Carbazole	270 J	14 J
Dibenz(a,h)anthracene	160 J	11 J
Fluoranthene	2400	12 J
Naphthalene	120	17 U
Phenanthrene	2600 (d)	5.8 J
Metals		
Antimony	380	59 J
Arsenic	1900	1800
Barium	44000 J	3900 J
Cadmium	120	17 J
Chromium	13000	4800
Cobalt	3100	1500
Copper	7200	3300
Iron	5700000	3800000
Lead	44000	2200
Manganese	180000	120000
Molybdenum	460 J	150 J
Nickel	8400	4100
Selenium	97 J	100 U
Silver	120	14 J
Zinc	31000	11000

SB220-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (14.5-16.5) ft BGS ug/kg
VOCs		
Ethylbenzene	50 U	57 U
Methylene chloride	100 U	110 U
Trichloroethene	50 U	57 U
Xylenes (total)	150 U	170 U
SVOCs		
2-Methylnaphthalene	100 J	2.5 J
Benzo(a)anthracene	990	45 J
Benzo(a)pyrene	670 J	34 J
Benzo(b)fluoranthene	1100	53 J
Dibenz(a,h)anthracene	130 J	13 J
Fluoranthene	2200	65 J
Naphthalene	69 J	2.1 J
Phenanthrene	2300 (d)	34 J
Metals		
Antimony	280	27 J
Arsenic	1600	230
Barium	35000 J	3100 J
Cadmium	77	38 J
Chromium	6600	2700
Cobalt	2000	1100
Copper	7600	2300
Iron	5100000	1500000
Lead	37000	1100
Manganese	1400000	13000
Molybdenum	380 J	35 J
Nickel	5200	2700
Selenium	44 J	100 U
Silver	33 J	13 J
Zinc	24000	7300

SB216-12	11/1/2012 (0-2) ft BGS ug/kg	11/1/2012 (14.5-16.5) ft BGS ug/kg
VOCs		
Ethylbenzene	56 U	58 U
Methylene chloride	120 U	120 U
Trichloroethene	7400 (bcdfg)	58 U
Xylenes (total)	170 U	170 U
SVOCs		
2-Methylnaphthalene	240 J	350 U
Benzo(a)anthracene	1200 J	3.2 J
Benzo(a)pyrene	1400 J	2.5 J
Benzo(b)fluoranthene	4400	6.1 J
Dibenz(a,h)anthracene	390 J	350 U
Fluoranthene	3400	12 J
Naphthalene	180 J	1.1 J
Phenanthrene	2800 (d)	8.3 J
Metals		
Antimony	48000 (bc)	57 J
Arsenic	8800 (bcdg)	180
Barium	830000 (d)	3500
Cadmium	19000 (bcd)	11 J
Chromium	920000 (bcdno)	2900
Cobalt	75000 (bcd)	790 J
Copper	1300000 (d)	1200
Iron	150000000 (bc)	2200000
Lead	11000000 J (bcdpq)	2300 J
Manganese	3300000 (bcdo)	15000
Molybdenum	340000 (bcd)	200 J
Nickel	750000 (bcd)	2200
Selenium	240	41 J
Silver	82000 (bcd)	9.7 J
Zinc	1300000 (d)	6500

SB217-12	11/1/2012 (0-2) ft BGS ug/kg	11/1/2012 (14.5-16.5) ft BGS ug/kg
VOCs		
Ethylbenzene	54 U	59 U
Methylene chloride	110 U	120 U
Trichloroethene	170 (bc)	59 U
Xylenes (total)	160 U	180 U
SVOCs		
2-Methylnaphthalene	130 J	360 U
Benzo(a)anthracene	1500 J	360 U
Benzo(a)pyrene	1200 J	360 U
Benzo(b)fluoranthene	1500 J	360 U
Dibenz(a,h)anthracene	93 J	360 U
Fluoranthene	3600	360 U
Naphthalene	74 J	360 U
Phenanthrene	2900 (d)	360 U
Metals		
Antimony	960	58 J
Arsenic	4400	700
Barium	37000	6200
Cadmium	230	38 J
Chromium	20000 (d)	8400
Cobalt	3100	1700
Copper	67000	3300
Iron	10000000	2600000
Lead	68000 J	2000 J
Manganese	200000	26000
Molybdenum	7200 (bc)	160 J
Nickel	16000	4500
Selenium	160	65 J
Silver	960	25 J
Zinc	51000	9100

SB218-12	11/1/2012 (0-2) ft BGS ug/kg	11/1/2012 (15.5-17.5) ft BGS ug/kg
VOCs		
Ethylbenzene	48 U	53 U
Methylene chloride	96 U	110 U
Trichloroethene	400 (bc)	53 U
Xylenes (total)	28 J	160 U
SVOCs		
2-Methylnaphthalene	66 J	2.2 J
Benzo(a)anthracene	860 J	26 J
Benzo(a)pyrene	660 J	17 J
Benzo(b)fluoranthene	1000 J	29 J
Dibenz(a,h)anthracene	1800 U	350 U
Fluoranthene	2500	62 J
Naphthalene	29 J	1.8 J
Phenanthrene	1900	35 J
Metals		
Antimony	2300	170
Arsenic	3400	430
Barium	53000	7300
Cadmium	480	130
Chromium	33000 (bcd)	7000
Cobalt	3300	5800
Copper	31000	4200
Iron	7100000	2800000
Lead	62000 J	3900 J
Manganese	220000	30000
Molybdenum	5800 (bc)	1100
Nickel	35000	9000
Selenium	260	140
Silver	220	88
Zinc	120000	13000

SB189-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (10.5-12.5) ft BGS ug/kg	10/31/2012 (14-16) ft BGS ug/kg
VOCs			
Ethylbenzene	52 U	300	56 U
Methylene chloride	100 U	170 (bc)	330 (bc)
Trichloroethene	52 U	54 U	56 U
Xylenes (total)	160 U	1500 (d)	170 U
SVOCs			
2-Methylnaphthalene	18 U	14000 (d)	21
Benzo(a)anthracene	18 U	610 J	9.2 J
Benzo(a)pyrene	18 U	420 J	6.3 J
Benzo(b)fluoranthene	18 U	460 J	5.5 J
Carbazole	180 U	7100 U	190 U
Dibenz(a,h)anthracene	35 U	1400 U	37 U
Fluoranthene	18 U	930	11 J
Naphthalene	18 U	4600 (d)	4.8 J
Phenanthrene	18 U	2700 (d)	18 J
Metals			
Antimony	140	44 J	32 J
Arsenic	1600	830	1100
Barium	17000 J	5600 J	7400 J
Cadmium	71	16 J	18 J
Chromium	5500	6100	4300
Cobalt	2000	1500	1400
Copper	6600	3100	3300
Iron	5700000	2600000	3800000
Lead	7200	2100	1500
Manganese	110000	19000	39000
Molybdenum	250 J	110 J	180 J
Nickel	4700	5000	3800
Selenium	100 U	100 U	190
Silver	28 J	16 J	17 J
Zinc	18000	8500	7400

SB190-12	11/1/2012 (0-2) ft BGS ug/kg	11/1/2012 (14-16) ft BGS ug/kg
VOCs		
Ethylbenzene	52 U	52 U
Methylene chloride	100 U	100 U
Trichloroethene	52 U	52 U
Xylenes (total)	160 U	160 U
SVOCs		
2-Methylnaphthalene	6.6 J	17 U
Benzo(a)anthracene	150	19
Benzo(a)pyrene	170	20
Benzo(b)fluoranthene	230	27
Carbazole	170 U	170 U
Dibenz(a,h)anthracene	29 J	4 J
Fluoranthene	190	26
Naphthalene	6.6 J	1.1 J
Phenanthrene	130	11 J
Metals		
Antimony	280	83 J
Arsenic	1800	1400
Barium	19000	6400
Cadmium	120	39 J
Chromium	6800	7400
Cobalt	1700	1800
Copper	20000	5200
Iron	5300000	4400000
Lead	17000	3100
Manganese	140000	120000
Molybdenum	1000	600 J
Nickel	5800	5700
Selenium	130	84 J
Silver	36 J	21 J
Zinc	25000	11000

SB213-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (13-15) ft BGS ug/kg
VOCs		
Ethylbenzene	54 U	48 U
Methylene chloride	110 U	96 U
Trichloroethene	54 U	48 U
Xylenes (total)	160 U	140 U
SVOCs		
2-Methylnaphthalene	90 U	18 U
Benzo(a)anthracene	160	18 U
Benzo(a)pyrene	110	18 U
Benzo(b)fluoranthene	180	18 U
Carbazole	900 U	180 U
Dibenz(a,h)anthracene	26 J	35 U
Fluoranthene	390	1.1 J
Naphthalene	3.7 J	18 U
Phenanthrene	290	1.1 J
Metals		
Antimony	96 J	110
Arsenic	1100	7300 (bcd)
Barium	21000 J	8600 J
Cadmium	36 J	41 J
Chromium	4900	6800
Cobalt	1600	3000
Copper	2800	8000
Iron	4900000	16000000 (bc)
Lead	10000	5000
Manganese	79000	250000
Molybdenum	120 J	510 J
Nickel	4300	8100
Selenium	91 J	160
Silver	19 J	26 J
Zinc	13000	26000

SB214-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (12-14) ft BGS ug/kg
VOCs		
Ethylbenzene	53 U	52 U
Methylene chloride	110 U	100 U
Trichloroethene	53 U	52 U
Xylenes (total)	160 U	160 U
SVOCs		
2-Methylnaphthalene	89 U	17 U
Benzo(a)anthracene	170	17 U
Benzo(a)pyrene	120	17 U
Benzo(b)fluoranthene	190	17 U
Carbazole	890 U	170 U
Dibenz(a,h)anthracene	37 J	35 U
Fluoranthene	320	17 U
Naphthalene	89 U	17 U
Phenanthrene	190	17 U
Metals		
Antimony	71 J	62 J
Arsenic	1100	2400
Barium	31000 J	6200 J
Cadmium	61	35 J
Chromium	6300	5900
Cobalt	1900	3000
Copper	3800	7400
Iron	4800000	6500000
Lead	7700	2100
Manganese	160000	190000
Molybdenum	180 J	270 J
Nickel	4900	7300
Selenium	100 U	100 U
Silver	18 J	22 J
Zinc	20000	20000

SB193-12	10/30/2012 (0-2) ft BGS ug/kg	10/30/2012 (12.5-14.5) ft BGS ug/kg
VOCs		
Ethylbenzene	53 U	52 U
Methylene chloride	110 U	100 U
Trichloroethene	53 U	52 U
Xylenes (total)	160 U	160 U
SVOCs		
2-Methylnaphthalene	88 U	18 U
Benzo(a)anthracene	230	13 J
Benzo(a)pyrene	260	6.6 J
Benzo(b)fluoranthene	370	13 J
Carbazole	880 U	15 J
Dibenz(a,h)anthracene	57 J	11 J
Fluoranthene	480	14 J
Naphthalene	88 U	18 U
Phenanthrene	260	5.1 J
Metals		
Antimony	250	140
Arsenic	1100	5400
Barium	21000 J	12000 J
Cadmium	370	46 J
Chromium	6700	9300
Cobalt	2200	3600
Copper	28000	9500
Iron	4000000	9500000
Lead	28000	5700
Manganese	83000	370000
Molybdenum	730 J	490 J
Nickel	9500	10000
Selenium	100 U	89 J
Silver	120	28 J
Zinc	63000	28000

No	Revision	Date	Initial

0 80 140ft

LEGEND

- SB214-12 STAGE III SITE-WIDE INVESTIGATION SOIL BORING LOCATIONS
- TW20-2 HISTORICAL SAMPLE LOCATION
- MW6-03 HISTORICAL MONITORING WELL LOCATION
- MW53-12 STAGE III SITE-WIDE INVESTIGATION SOIL BORING/MONITORING WELL LOCATION
- MW25-11 DESTROYED MONITORING WELL LOCATION
- APPROXIMATE SITE BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI
- EXCEEDS GENERIC CLEANUP CRITERIA, (ab) REFERENCES THE CRITERION EXCEEDED

NOTE: SEE TABLE 3 FOR APPLICABLE CRITERIA AND NOTES

KEY MAP

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

ANALYTICAL RESULTS OF SOIL SAMPLES EXCEEDING PART 201 CRITERIA

SITE-WIDE INVESTIGATION - STAGE III

FORMER GRAND RAPIDS METAL PLANT WYOMING, MICHIGAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
J.Q.	E.B.	FEBRUARY 2013	
Scale: 1:140	Project No: 017360-T05	Report No: MEMO063	Drawing No: PLAN 2

017360-T05(MEMO063)GN-DE016 FEB 12/2013

N/O	Revision	Date	Initial

SB73-11

LEGEND

- SB212-12 SOIL BORING LOCATION
- SB73-11 STAGE III SITE-WIDE INVESTIGATION SOIL BORING LOCATION
- SB78-11/ MW21-11 STAGE III SITE-WIDE INVESTIGATION SOIL BORING/MONITORING WELL LOCATION
- APPROXIMATE SITE BOUNDARY
- FENCE
- RAILROAD
- APPROXIMATE AOI
- EXCEEDS GENERIC CLEANUP CRITERIA, (ab) REFERENCES

NOTE: SEE TABLE 3 FOR APPLICABLE CRITERIA AND NOTES

0 5 10ft

KEY MAP

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

ANALYTICAL RESULTS OF SOIL SAMPLES EXCEEDING PART 201 CRITERIA IN BULK UNLOAD AREA

SITE-WIDE INVESTIGATION - STAGE III

FORMER GRAND RAPIDS METAL PLANT WYOMING, MICHIGAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference: SOURCE: EDI ENGINEERING & SCIENCE, JUNE 1987 AND JUNE 1988 AND EARTH TECH, SEPTEMBER 2001.

Project Manager:	Reviewed By:	Date:
J.Q.	E.B.	FEBRUARY 2013
Scale:	Project N°:	Report N°:
1:10	017360-T05	MEMO063

Drawing N°: PLAN 3

017360-T05(MEMO063)GN-DE017 FEB 12/2013

AOI 20.1

AOI 27

SB220-12

SB216-12

SB212-12

SB207-12

SB78-11/ MW27-11

SB146-11

SB145-11

SB107-11

SB106-11

SB108-11

SB109-11

SB110-11

SB111-11/ MW27-11

SB147-11

SB148-11

SB149-11

SB150-11

SB151-11

SB34-10

SB33-10

SB32-10

SB31-07

SB39-07

SB39-10

SB38-10

SB37-10

SB36-10

SB35-10

SB29-07

SB28-07

SB19-05

SB20-05

SB21-05

SB22-05

SB23-05

SB24-05

SB25-05

SB40-10

SB72-11

SB83-07

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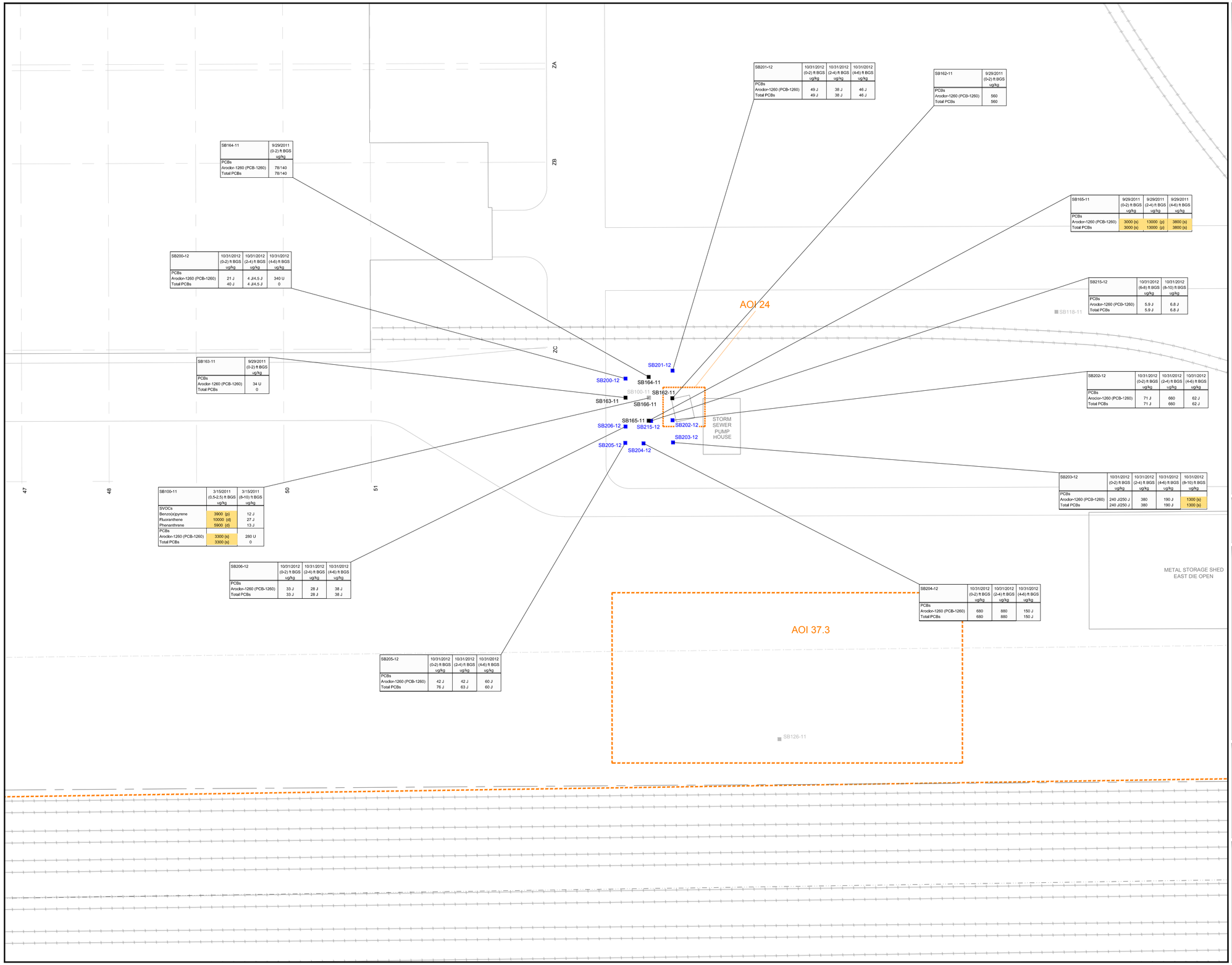
SB121-07

SB122-07



SB201-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	49 J	38 J	46 J
Total PCBs	49 J	38 J	46 J

SB162-11	9/29/2011 (0-2) ft BGS ug/kg
PCBs	
Aroclor-1260 (PCB-1260)	560
Total PCBs	560

SB164-11	9/29/2011 (0-2) ft BGS ug/kg
PCBs	
Aroclor-1260 (PCB-1260)	78/140
Total PCBs	78/140

SB165-11	9/29/2011 (0-2) ft BGS ug/kg	9/29/2011 (2-4) ft BGS ug/kg	9/29/2011 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	3000 (a)	13000 (p)	3800 (a)
Total PCBs	3000 (a)	13000 (p)	3800 (a)

SB200-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	21 J	4 J/4.5 J	340 U
Total PCBs	40 J	4 J/4.5 J	0

SB215-12	10/31/2012 (6-8) ft BGS ug/kg	10/31/2012 (8-10) ft BGS ug/kg
PCBs		
Aroclor-1260 (PCB-1260)	5.9 J	6.8 J
Total PCBs	5.9 J	6.8 J

SB163-11	9/29/2011 (0-2) ft BGS ug/kg
PCBs	
Aroclor-1260 (PCB-1260)	34 U
Total PCBs	0

SB202-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	71 J	660	62 J
Total PCBs	71 J	660	62 J

SB100-11	3/15/2011 (0.5-2.5) ft BGS ug/kg	3/15/2011 (8-10) ft BGS ug/kg
SVOCs		
Benzo(a)pyrene	3900 (p)	12 J
Fluoranthene	10000 (d)	27 J
Phenanthrene	5900 (d)	13 J
PCBs		
Aroclor-1260 (PCB-1260)	3300 (a)	280 U
Total PCBs	3300 (a)	0

SB203-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg	10/31/2012 (8-10) ft BGS ug/kg
PCBs				
Aroclor-1260 (PCB-1260)	240 J/250 J	380	190 J	1300 (s)
Total PCBs	240 J/250 J	380	190 J	1300 (s)

SB206-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	33 J	28 J	38 J
Total PCBs	33 J	28 J	38 J

SB205-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	42 J	42 J	60 J
Total PCBs	76 J	63 J	60 J

SB204-12	10/31/2012 (0-2) ft BGS ug/kg	10/31/2012 (2-4) ft BGS ug/kg	10/31/2012 (4-6) ft BGS ug/kg
PCBs			
Aroclor-1260 (PCB-1260)	680	880	150 J
Total PCBs	680	880	150 J

Nº	Revision	Date	Initial

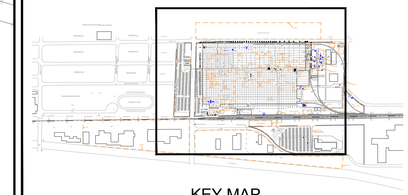
N

0 10 20ft

LEGEND

- SB214-12 — STAGE III SITE-WIDE INVESTIGATION SOIL BORING LOCATIONS
- TW20-2 — HISTORICAL SAMPLE LOCATION
- MW6-03 — HISTORICAL MONITORING WELL LOCATION
- MW53-12 — STAGE III SITE-WIDE INVESTIGATION SOIL BORING/MONITORING WELL LOCATION
- MW25-11 — DESTROYED MONITORING WELL LOCATION
- APPROXIMATE SITE BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI
- EXCEEDS GENERIC CLEANUP CRITERIA, (ab) REFERENCES THE CRITERION EXCEEDED

NOTE: SEE TABLE 3 FOR APPLICABLE CRITERIA AND NOTES



KEY MAP

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

ANALYTICAL RESULTS OF SOIL SAMPLES EXCEEDING PART 201 AND TSCA CRITERIA FORMER TAR HOUSE

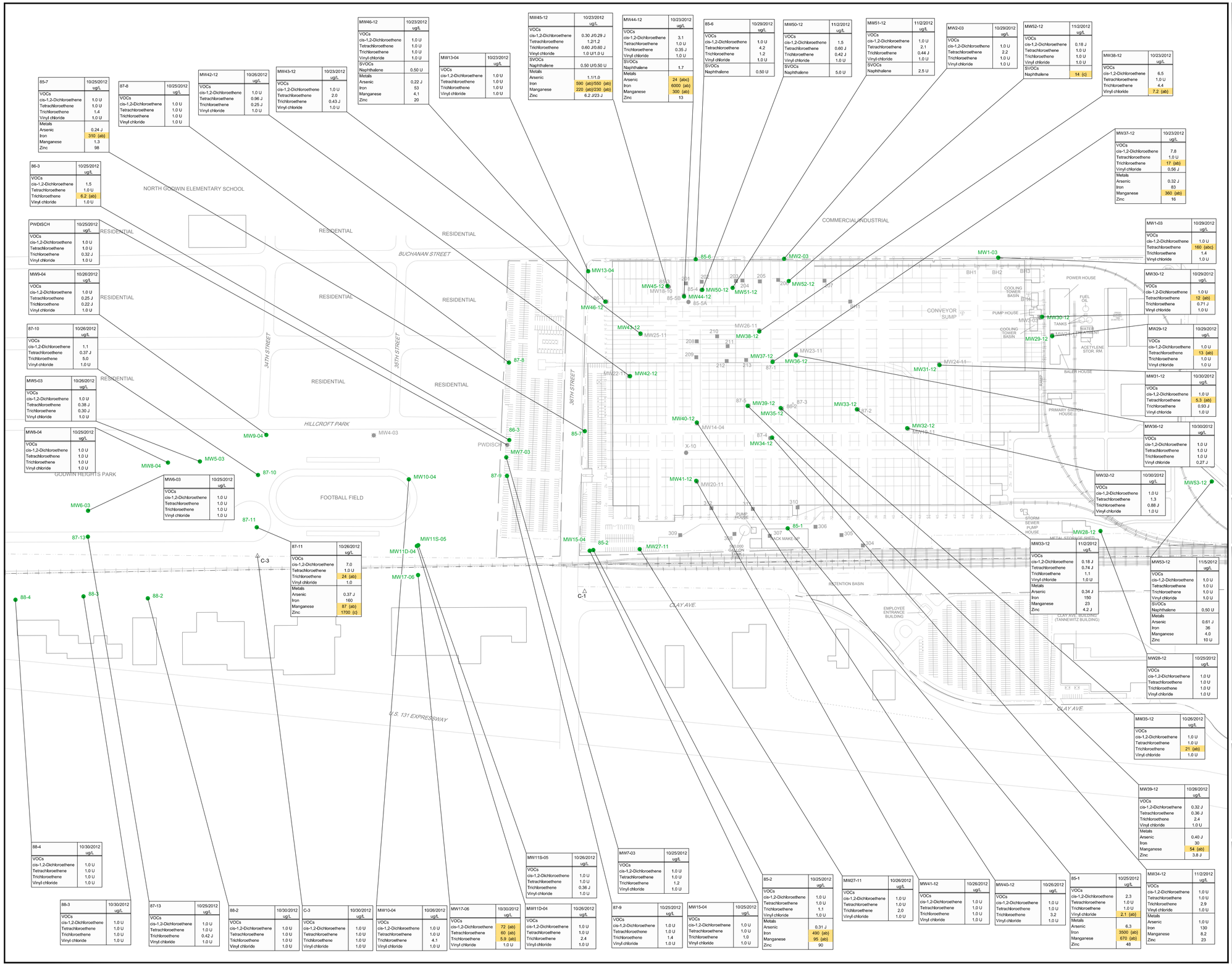
SITE-WIDE INVESTIGATION - STAGE III

FORMER GRAND RAPIDS METAL PLANT WYOMING, MICHIGAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference: SOURCE: EDI ENGINEERING & SCIENCE, JUNE 1987 AND JUNE 1988 AND EARTH TECH, SEPTEMBER 2001.

Project Manager:	Reviewed By:	Date:	
J.Q.	E.B.	DECEMBER 2012	
Scale: 1:20	Project Nº: 017360-T05	Report Nº: MEMO063	Drawing Nº: PLAN 4



85-7	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.4
Vinyl chloride	1.0 U
Metals	
Arsenic	0.24 J
Iron	310 (ab)
Manganese	1.3
Zinc	98

87-8	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW42-12	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	0.96 J
Trichloroethene	0.25 J
Vinyl chloride	1.0 U

MW43-12	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	2.0
Trichloroethene	0.43 J
Vinyl chloride	1.0 U

MW46-12	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	0.50 U
Metals	
Arsenic	0.22 J
Iron	53
Manganese	4.1
Zinc	20

MW13-04	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW45-12	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	0.30 J/0.29 J
Tetrachloroethene	1.2/1.2
Trichloroethene	0.60 J/0.60 J
Vinyl chloride	1.0 U/1.0 U
SVOCs	
Naphthalene	0.50 U/0.50 U
Metals	
Arsenic	1.1/1.0
Iron	590 (ab)/550 (ab)
Manganese	220 (ab)/230 (ab)
Zinc	6.2 J/23 J

MW44-12	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	3.1
Tetrachloroethene	1.0 U
Trichloroethene	0.35 J
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	1.7
Metals	
Arsenic	24 (abc)
Iron	6000 (ab)
Manganese	300 (ab)
Zinc	13

85-6	10/29/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	4.2
Trichloroethene	1.2
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	0.50 U

MW50-12	11/2/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.5
Tetrachloroethene	0.60 J
Trichloroethene	0.42 J
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	5.0 U

MW51-12	11/2/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	2.1
Trichloroethene	0.44 J
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	2.5 U

MW2-03	10/29/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	2.2
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW52-12	11/2/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	0.18 J
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	14 (c)

MW38-12	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	6.5
Tetrachloroethene	1.0 U
Trichloroethene	4.4
Vinyl chloride	7.2 (ab)

MW37-12	10/23/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	7.8
Tetrachloroethene	1.0 U
Trichloroethene	17 (ab)
Vinyl chloride	0.56 J
Metals	
Arsenic	0.32 J
Iron	83
Manganese	360 (ab)
Zinc	16

86-3	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.5
Tetrachloroethene	1.0 U
Trichloroethene	6.2 (ab)
Vinyl chloride	1.0 U

PWDISCH	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	0.32 J
Vinyl chloride	1.0 U

MW9-04	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	0.25 J
Trichloroethene	0.22 J
Vinyl chloride	1.0 U

87-10	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.1
Tetrachloroethene	0.37 J
Trichloroethene	5.0
Vinyl chloride	1.0 U

MW5-03	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	0.38 J
Trichloroethene	0.30 J
Vinyl chloride	1.0 U

MW8-04	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW6-03	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

87-11	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	7.0
Tetrachloroethene	1.0 U
Trichloroethene	24 (ab)
Vinyl chloride	1.0
Metals	
Arsenic	0.37 J
Iron	160
Manganese	87 (ab)
Zinc	1700 (c)

MW1-03	10/29/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	160 (abc)
Trichloroethene	1.4
Vinyl chloride	1.0 U

MW30-12	10/29/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	12 (ab)
Trichloroethene	0.71 J
Vinyl chloride	1.0 U

MW29-12	10/29/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	13 (ab)
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW31-12	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	5.3 (ab)
Trichloroethene	0.93 J
Vinyl chloride	1.0 U

MW36-12	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	0.27 J

MW32-12	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.3
Trichloroethene	0.88 J
Vinyl chloride	1.0 U

MW33-12	11/2/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	0.18 J
Tetrachloroethene	0.74 J
Trichloroethene	1.1
Vinyl chloride	1.0 U
Metals	
Arsenic	0.34 J
Iron	150
Manganese	23
Zinc	4.2 J

MW53-12	11/5/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U
SVOCs	
Naphthalene	0.50 U
Metals	
Arsenic	0.61 J
Iron	36
Manganese	4.0
Zinc	10 U

MW28-12	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW35-12	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	21 (ab)
Vinyl chloride	1.0 U

MW39-12	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	0.32 J
Tetrachloroethene	0.36 J
Trichloroethene	2.4
Vinyl chloride	1.0 U
Metals	
Arsenic	0.40 J
Iron	30
Manganese	54 (ab)
Zinc	3.8 J

MW34-12	11/2/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	2.9
Vinyl chloride	1.0 U
Metals	
Arsenic	1.0 U
Iron	130
Manganese	8.2
Zinc	23

85-1	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	2.3
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	2.1 (ab)
Metals	
Arsenic	6.3
Iron	3500 (ab)
Manganese	670 (ab)
Zinc	48

MW40-12	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	3.2
Vinyl chloride	1.0 U

MW41-12	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

MW27-11	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	2.0
Vinyl chloride	1.0 U

85-2	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.1
Vinyl chloride	1.0 U
Metals	
Arsenic	0.31 J
Iron	490 (ab)
Manganese	95 (ab)
Zinc	90

MW15-04	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0
Vinyl chloride	1.0 U

87-9	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.4
Vinyl chloride	1.0 U

MW7-03	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.2
Vinyl chloride	1.0 U

MW11S-05	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	0.38 J
Vinyl chloride	1.0 U

MW11D-04	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	2.4
Vinyl chloride	1.0 U

MW17-06	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	72 (ab)
Tetrachloroethene	60 (ab)
Trichloroethene	5.9 (ab)
Vinyl chloride	1.0 U

MW10-04	10/26/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	4.1
Vinyl chloride	1.0 U

C-3	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

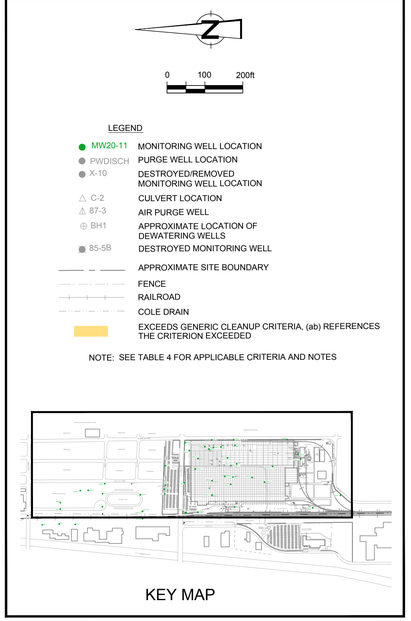
88-2	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

87-13	10/25/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	0.42 J
Vinyl chloride	1.0 U

88-3	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

88-4	10/30/2012 ug/L
VOCs	
cis-1,2-Dichloroethene	1.0 U
Tetrachloroethene	1.0 U
Trichloroethene	1.0 U
Vinyl chloride	1.0 U

NO	Revision	Date	Initial



LEGEND

- MW20-11 MONITORING WELL LOCATION
- PWDISCH PURGE WELL LOCATION
- X-10 DESTROYED/REMOVED MONITORING WELL LOCATION
- C-2 CULVERT LOCATION
- 87-3 AIR PURGE WELL
- BH1 APPROXIMATE LOCATION OF DEWATERING WELLS
- 85-5B DESTROYED MONITORING WELL
- APPROXIMATE SITE BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- EXCEEDS GENERIC CLEANUP CRITERIA, (ab) REFERENCES THE CRITERION EXCEEDED

NOTE: SEE TABLE 4 FOR APPLICABLE CRITERIA AND NOTES

KEY MAP

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES EXCEEDING PART 201 CRITERIA

SITE-WIDE INVESTIGATION - STAGE III

FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference: SOURCE: EDI ENGINEERING & SCIENCE, JUNE 1987 AND JUNE 1988 AND EARTH TECH, SEPTEMBER 2001.

Project Manager:	Reviewed By:	Date:	
J.Q.	E.B.	FEBRUARY 2013	
Scale: 1:200	Project NO: 017360-T05	Report NO: MEMO063	Drawing NO: PLAN 5

SB197-12	10/25/2012 (15.5) ft BGS ug/L
VOCs	
Tetrachloroethene	9.0 (ab)
SVOCs	
Benzo(a)anthracene	2.5 U
Benzo(a)pyrene	2.5 U
Benzo(b)fluoranthene	2.5 U
Benzo(g,h,i)perylene	2.5 U
Benzo(k)fluoranthene	2.5 U
Chrysene	2.5 U
Fluoranthene	2.5 U
Indeno(1,2,3-cd)pyrene	2.5 U
Metals	
Antimony (dissolved)	1.7
Chromium (dissolved)	0.46 J
Copper (dissolved)	6.3
Iron (dissolved)	520 J (ab)
Manganese (dissolved)	98 (ab)
Vanadium (dissolved)	2.0

SB195-12	10/26/2012 (16) ft BGS ug/L
VOCs	
Tetrachloroethene	1.0 U/1.0 U
SVOCs	
Benzo(a)anthracene	0.73/0.50 U
Benzo(a)pyrene	0.53/0.50 U
Benzo(b)fluoranthene	0.65/0.50 U
Benzo(g,h,i)perylene	0.50 U/0.50 U
Benzo(k)fluoranthene	0.50 U/0.50 U
Chrysene	0.60/0.50 U
Fluoranthene	0.72/0.66
Indeno(1,2,3-cd)pyrene	0.50 U/0.50 U
Metals	
Antimony (dissolved)	9.0 (ab)/8.9 (ab)
Chromium (dissolved)	38 (c)/37 (c)
Copper (dissolved)	33 (c)/34 (c)
Iron (dissolved)	22 J/37 J
Manganese (dissolved)	0.97 J/2.1 J
Vanadium (dissolved)	18 (a)/18 (a)

SB192-12	10/30/2012 (16) ft BGS ug/L
VOCs	
Tetrachloroethene	0.56 J
SVOCs	
Benzo(a)anthracene	0.50 U
Benzo(a)pyrene	0.50 U
Benzo(b)fluoranthene	0.50 U
Benzo(g,h,i)perylene	0.50 U
Benzo(k)fluoranthene	0.50 U
Chrysene	0.50 U
Fluoranthene	0.50 U
Indeno(1,2,3-cd)pyrene	0.50 U
Metals	
Antimony (dissolved)	0.47 J
Chromium (dissolved)	0.50 J
Copper (dissolved)	0.95 J
Iron (dissolved)	13 J
Manganese (dissolved)	190 (ab)
Vanadium (dissolved)	1.0 U

SB194-12	10/30/2012 (15) ft BGS ug/L
VOCs	
Tetrachloroethene	0.77 J
SVOCs	
Benzo(a)anthracene	0.50 U
Benzo(a)pyrene	0.50 U
Benzo(b)fluoranthene	0.50 U
Benzo(g,h,i)perylene	0.50 U
Benzo(k)fluoranthene	0.50 U
Chrysene	0.50 U
Fluoranthene	0.50 U
Indeno(1,2,3-cd)pyrene	0.50 U
Metals	
Antimony (dissolved)	0.18 J
Chromium (dissolved)	0.52 J
Copper (dissolved)	1.4
Iron (dissolved)	23
Manganese (dissolved)	250 (ab)
Vanadium (dissolved)	0.19 J

SB199-12	10/31/2012 (16) ft BGS ug/L	10/31/2012 (26) ft BGS ug/L	10/31/2012 (36) ft BGS ug/L
VOCs			
Tetrachloroethene	1.0 U	1.0 U	1.0 U

SB214-12	10/30/2012 (16) ft BGS ug/L
VOCs	
Tetrachloroethene	0.37 J
SVOCs	
Benzo(a)anthracene	2.8 (a)
Benzo(a)pyrene	2.8 (fg)
Benzo(b)fluoranthene	2.8 (abfg)
Benzo(g,h,i)perylene	1.9 (abfg)
Benzo(k)fluoranthene	2.2 (abfg)
Chrysene	3.0 (abfg)
Fluoranthene	3.9 (c)
Indeno(1,2,3-cd)pyrene	1.9 (g)
Metals	
Antimony (dissolved)	0.17 J
Chromium (dissolved)	0.55 J
Copper (dissolved)	1.3
Iron (dissolved)	97
Manganese (dissolved)	250 (ab)
Vanadium (dissolved)	1.0 U

SB189-12	10/31/2012 (17) ft BGS ug/L
VOCs	
Tetrachloroethene	1.0 U
SVOCs	
Benzo(a)anthracene	0.50 U
Benzo(a)pyrene	0.50 U
Benzo(b)fluoranthene	0.50 U
Benzo(g,h,i)perylene	0.50 U
Benzo(k)fluoranthene	0.50 U
Chrysene	0.50 U
Fluoranthene	0.50 U
Indeno(1,2,3-cd)pyrene	0.50 U
Metals	
Antimony (dissolved)	1.0 U
Chromium (dissolved)	0.29 J
Copper (dissolved)	15 (c)
Iron (dissolved)	77
Manganese (dissolved)	72 (ab)
Vanadium (dissolved)	1.0 U

SB190-12	11/1/2012 (17) ft BGS ug/L
VOCs	
Tetrachloroethene	12 (ab)
SVOCs	
Benzo(a)anthracene	0.50 U
Benzo(a)pyrene	0.50 U
Benzo(b)fluoranthene	0.50 U
Benzo(g,h,i)perylene	0.50 U
Benzo(k)fluoranthene	0.50 U
Chrysene	0.50 U
Fluoranthene	0.50 U
Indeno(1,2,3-cd)pyrene	0.50 U
Metals	
Antimony (dissolved)	0.32 J
Chromium (dissolved)	4.6
Copper (dissolved)	1.3
Iron (dissolved)	10 J
Manganese (dissolved)	66 (ab)
Vanadium (dissolved)	1.0 U

Nº	Revision	Date	Initial

0 80 140ft

LEGEND

- SB214-12 STAGE III SITE-WIDE INVESTIGATION SOIL BORING LOCATIONS
- TW20-2 HISTORICAL SAMPLE LOCATION
- MW6-03 HISTORICAL MONITORING WELL LOCATION
- MW53-12 STAGE III SITE-WIDE INVESTIGATION SOIL BORING/MONITORING WELL LOCATION
- MW25-11 DESTROYED MONITORING WELL LOCATION
- APPROXIMATE SITE BOUNDARY
- FENCE
- RAILROAD
- COLE DRAIN
- APPROXIMATE AOI
- EXCEEDS GENERIC CLEANUP CRITERIA, (ab) REFERENCES THE CRITERION EXCEEDED

NOTE: SEE TABLE 4 FOR APPLICABLE CRITERIA AND NOTES

KEY MAP

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

ANALYTICAL RESULTS OF BOREHOLE WATER SAMPLES EXCEEDING PART 201 CRITERIA

SITE-WIDE INVESTIGATION - STAGE III

FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
J.Q.	E.B.	FEBRUARY 2013	
Scale: 1:140	Project Nº: 017360-T05	Report Nº: MEMO063	Drawing Nº: PLAN 6

017360-T05(MEMO063)GN-DE020 MAR 05/2013

TABLE 1

SAMPLE SUMMARY
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Date	Sample Identification	Sample Location	Matrix	Sample Depth (ft bgs)	QC Sample	Analysis
10/25/2012	GW-17360-102512-EB-017	85-1	Water	15.5 to 20.5		VOCs, Metals
10/25/2012	GW-17360-102512-EB-019	85-2	Water	13.5 to 18.5		VOCs, Metals
10/29/2012	GW-17360-102912-DD-036	85-6	Water	19.5 to 24.5		VOCs, SVOCs
10/25/2012	GW-17360-102512-EB-018	85-7	Water	20.6 to 25.6		VOCs, Metals
10/25/2012	GW-17360-102512-JV-012	86-3	Water	41.5 to 46.5		VOCs
10/25/2012	GW-17360-102512-JV-014	87-8	Water	19.7 to 22.7		VOCs
10/25/2012	GW-17360-102512-JV-010	87-9	Water	50.5 to 53.5		VOCs
10/26/2012	GW-17360-102612-JV-027	87-10	Water	29 to 32		VOCs
10/26/2012	GW-17360-102612-JV-026	87-11	Water	30 to 33		VOCs, Metals
10/25/2012	GW-17360-102512-JV-015	87-13	Water	40 to 43		VOCs
10/30/2012	GW-17360-103012-JV-043	88-2	Water	26 to 29		VOCs
10/30/2012	GW-17360-103012-JV-042	88-3	Water	27 to 30		VOCs
10/30/2012	GW-17360-103012-JV-041	88-4	Water	18 to 21		VOCs
10/30/2012	SW-17360-103012-JV-048	C-1	Water	- to -		VOCs
10/30/2012	SW-17360-103012-JV-049	C-2	Water	- to -		VOCs
10/30/2012	SW-17360-103012-JV-050	C-3	Water	- to -		VOCs
10/29/2012	GW-17360-102912-DD-038	MW1-03	Water	30 to 35		VOCs
10/29/2012	GW-17360-102912-DD-037	MW2-03	Water	22 to 27		VOCs
10/26/2012	GW-17360-102612-JV-033	MW5-03	Water	30 to 35		VOCs
10/25/2012	GW-17360-102512-JV-020	MW6-03	Water	13 to 18		VOCs
10/25/2012	GW-17360-102512-JV-011	MW7-03	Water	36 to 41		VOCs
10/25/2012	GW-17360-102512-JV-021	MW8-04	Water	30 to 35		VOCs
10/26/2012	GW-17360-102612-JV-034	MW9-04	Water	43 to 48		VOCs
10/26/2012	GW-17360-102612-JV-025	MW10-04	Water	33 to 38		VOCs
10/26/2012	GW-17360-102612-JV-024	MW11D-04	Water	40 to 45		VOCs
10/26/2012	GW-17360-102612-JV-023	MW11S-05	Water	5 to 10		VOCs
10/23/2012	GW-17360-102312-DD-003	MW13-04	Water	25 to 30		VOCs
10/25/2012	GW-17360-102512-EB-022	MW15-04	Water	25 to 30		VOCs
10/30/2012	GW-17360-103012-JV-047	MW17-06	Water	51 to 56		VOCs
10/26/2012	GW-17360-102612-EB-028	MW27-11	Water	12.5 to 17.5		VOCs
10/25/2012	GW-17360-102512-EB-016	MW28-12	Water	14 to 19		VOCs
10/29/2012	GW-17360-102912-DD-040	MW29-12	Water	11.4 to 21.4		VOCs
10/29/2012	GW-17360-102912-DD-039	MW30-12	Water	25 to 30		VOCs
10/30/2012	GW-17360-103012-JV-045	MW31-12	Water	12.2 to 22.2		VOCs
10/30/2012	GW-17360-103012-JV-044	MW32-12	Water	13.9 to 23.9		VOCs
11/2/2012	GW-17360-110212-BW-051	MW33-12	Water	31 to 36		VOCs, Metals
11/2/2012	GW-17360-110212-BW-052	MW34-12	Water	14.4 to 24.4		VOCs, Metals
10/26/2012	GW-17360-102612-EB-035	MW35-12	Water	24.6 to 29.6		VOCs
10/30/2012	GW-17360-103012-JV-046	MW36-12	Water	19.5 to 29.5		VOCs
10/23/2012	GW-17360-102312-DD-009	MW37-12	Water	19.4 to 29.4		VOCs, Metals
10/23/2012	GW-17360-102312-DD-008	MW38-12	Water	20 to 30		VOCs
10/26/2012	GW-17360-102612-EB-032	MW39-12	Water	35.4 to 40.4		VOCs, Metals
10/26/2012	GW-17360-102612-EB-030	MW40-12	Water	45 to 50		VOCs
10/26/2012	GW-17360-102612-EB-029	MW41-12	Water	18.3 to 28.3		VOCs
10/26/2012	GW-17360-102612-EB-031	MW42-12	Water	21 to 31		VOCs
10/23/2012	GW-17360-102312-DD-004	MW43-12	Water	15 to 25		VOCs
10/23/2012	GW-17360-102312-DD-007	MW44-12	Water	18.5 to 28.5		VOCs, SVOCs, Metals
10/23/2012	GW-17360-102312-DD-005	MW45-12	Water	19.1 to 29.1		VOCs, SVOCs, Metals
10/23/2012	GW-17360-102312-DD-006	MW45-12	Water	19.1 to 29.1	Duplicate	VOCs, SVOCs, Metals
10/23/2012	GW-17360-102312-DD-001	MW46-12	Water	20.2 to 30.2	MS/MSD	VOCs, SVOCs, Metals
10/23/2012	GW-17360-102312-DD-002	MW46-12	Water	20.2 to 30.2	Duplicate	Hexavalent Chromium
11/2/2012	GW-17360-110212-BW-201	MW50-12	Water	17 to 27		VOCs, SVOCs, PCBs
11/2/2012	GW-17360-110212-BW-200	MW51-12	Water	17 to 27		VOCs, SVOCs, PCBs
11/2/2012	GW-17360-110212-BW-199	MW52-12	Water	16.7 to 26.7		VOCs, SVOCs, PCBs
11/5/2012	WG-17360-110512-EB-001	MW53-12	Water	13 to 23		VOCs, SVOCs, PCBs, Metals
10/25/2012	GW-17360-102512-JV-013	PWDISCH	Water	45 to 55		VOCs
10/31/2012	GW-17360-103112-DD-171	SB189-12	Water	17 to 17		VOCs, SVOCs, PCBs, Metals[(1)]
11/1/2012	GW-17360-110112-DD-198	SB190-12	Water	17 to 17		VOCs, SVOCs, PCBs, Metals[(1)]
10/30/2012	GW-17360-103012-DD-114	SB192-12	Water	16 to 16		VOCs, SVOCs, PCBs, Metals[(1)]
10/30/2012	GW-17360-103012-DD-119	SB194-12	Water	15 to 15		VOCs, SVOCs, PCBs, Metals[(1)]
10/26/2012	GW-17360-102612-DD-110	SB195-12	Water	16 to 16		VOCs, SVOCs, PCBs, Metals[(1)]
10/26/2012	GW-17360-102612-DD-111	SB195-12	Water	16 to 16	Duplicate	VOCs, SVOCs, PCBs, Metals[(1)]
10/25/2012	GW-17360-102512-DD-105	SB197-12	Water	15.5 to 15.5	MS/MSD	VOCs, SVOCs, PCBs, Metals[(1)]
10/31/2012	GW-17360-103112-DD-175	SB199-12	Water	16 to 16		VOCs
10/31/2012	GW-17360-103112-DD-176	SB199-12	Water	26 to 26		VOCs
10/31/2012	GW-17360-103112-DD-177	SB199-12	Water	36 to 36		VOCs
10/30/2012	GW-17360-103012-DD-126	SB214-12	Water	16 to 16		VOCs, SVOCs, PCBs, Metals[(1)]
10/31/2012	S-17360-103112-DD-169	SB189-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/31/2012	S-17360-103112-DD-170	SB189-12	Soil	10.5 to 12.5		VOCs, SVOCs, PCBs, Metals
10/31/2012	S-17360-103112-DD-172	SB189-12	Soil	14 to 16		VOCs, SVOCs, PCBs, Metals
11/1/2012	S-17360-110112-DD-196	SB190-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
11/1/2012	S-17360-110112-DD-197	SB190-12	Soil	14 to 16		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-115	SB191-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-116	SB191-12	Soil	12 to 14		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-112	SB192-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-113	SB192-12	Soil	12 to 14		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-120	SB193-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-121	SB193-12	Soil	12.5 to 14.5		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-117	SB194-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-118	SB194-12	Soil	11 to 13		VOCs, SVOCs, PCBs, Metals
10/26/2012	S-17360-102612-DD-108	SB195-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/26/2012	S-17360-102612-DD-109	SB195-12	Soil	11 to 13		VOCs, SVOCs, PCBs, Metals
10/25/2012	S-17360-102512-DD-106	SB196-12	Soil	0 to 2	MS/MSD	VOCs, SVOCs, PCBs, Metals
10/25/2012	S-17360-102512-DD-107	SB196-12	Soil	11 to 13		VOCs, SVOCs, PCBs, Metals
10/25/2012	S-17360-102512-DD-101	SB197-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/25/2012	S-17360-102512-DD-103	SB197-12	Soil	11 to 13		VOCs, SVOCs, PCBs, Metals

TABLE 1

SAMPLE SUMMARY
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Date	Sample Identification	Sample Location	Matrix	Sample Depth (ft bgs)	QC Sample	Analysis
10/25/2012	S-17360-102512-DD-104	SB197-12	Soil	11 to 13	Duplicate	VOCs, SVOCs, PCBs, Metals
10/25/2012	S-17360-102512-DD-100	SB198-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/25/2012	S-17360-102512-DD-102	SB198-12	Soil	11 to 13		VOCs, SVOCs, PCBs, Metals
10/31/2012	SO-17360-103112-EB-158	SB200-12	Soil	0 to 2		PCBs
10/31/2012	SO-17360-103112-EB-159	SB200-12	Soil	2 to 4		PCBs
10/31/2012	SO-17360-103112-EB-160	SB200-12	Soil	2 to 4	Duplicate	PCBs
10/31/2012	SO-17360-103112-EB-161	SB200-12	Soil	4 to 6		PCBs
10/31/2012	SO-17360-103112-EB-164	SB201-12	Soil	0 to 2	MS/MSD	PCBs
10/31/2012	SO-17360-103112-EB-165	SB201-12	Soil	2 to 4		PCBs
10/31/2012	SO-17360-103112-EB-166	SB201-12	Soil	4 to 6		PCBs
10/31/2012	SO-17360-103112-EB-150	SB202-12	Soil	0 to 2		PCBs
10/31/2012	SO-17360-103112-EB-151	SB202-12	Soil	2 to 4		PCBs
10/31/2012	SO-17360-103112-EB-152	SB202-12	Soil	4 to 6		PCBs
10/31/2012	SO-17360-103112-EB-144	SB203-12	Soil	0 to 2		PCBs
10/31/2012	SO-17360-103112-EB-145	SB203-12	Soil	0 to 2	Duplicate	PCBs
10/31/2012	SO-17360-103112-EB-146	SB203-12	Soil	2 to 4	MS/MSD	PCBs
10/31/2012	SO-17360-103112-EB-147	SB203-12	Soil	4 to 6		PCBs
10/31/2012	SO-17360-103112-EB-149	SB203-12	Soil	8 to 10		PCBs
10/31/2012	SO-17360-103112-EB-139	SB204-12	Soil	0 to 2		PCBs
10/31/2012	SO-17360-103112-EB-140	SB204-12	Soil	2 to 4		PCBs
10/31/2012	SO-17360-103112-EB-141	SB204-12	Soil	4 to 6		PCBs
10/31/2012	SO-17360-103112-EB-134	SB205-12	Soil	0 to 2		PCBs
10/31/2012	SO-17360-103112-EB-135	SB205-12	Soil	2 to 4		PCBs
10/31/2012	SO-17360-103112-EB-136	SB205-12	Soil	4 to 6		PCBs
10/31/2012	SO-17360-103112-EB-129	SB206-12	Soil	0 to 2		PCBs
10/31/2012	SO-17360-103112-EB-130	SB206-12	Soil	2 to 4		PCBs
10/31/2012	SO-17360-103112-EB-131	SB206-12	Soil	4 to 6		PCBs
11/1/2012	S-17360-110112-DD-185	SB207-12	Soil	0 to 2	MS/MSD	PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-186	SB207-12	Soil	2 to 4		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-187	SB207-12	Soil	4 to 6		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-188	SB207-12	Soil	4 to 6	Duplicate	PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-189	SB207-12	Soil	6 to 8		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-190	SB207-12	Soil	8 to 10		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-191	SB212-12	Soil	0 to 2		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-192	SB212-12	Soil	2 to 4		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-193	SB212-12	Soil	4 to 6		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-194	SB212-12	Soil	6 to 8		PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-195	SB212-12	Soil	8 to 10		PAHs, PCBs, Metals
10/30/2012	S-17360-103012-DD-122	SB213-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-123	SB213-12	Soil	13 to 15		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-124	SB214-12	Soil	0 to 2		VOCs, SVOCs, PCBs, Metals
10/30/2012	S-17360-103012-DD-125	SB214-12	Soil	12 to 14		VOCs, SVOCs, PCBs, Metals
10/31/2012	SO-17360-103112-EB-156	SB215-12	Soil	6 to 8		PCBs
10/31/2012	SO-17360-103112-EB-157	SB215-12	Soil	8 to 10		PCBs
11/1/2012	S-17360-110112-DD-179	SB216-12	Soil	0 to 2		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-180	SB216-12	Soil	14.5 to 16.5		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-181	SB217-12	Soil	0 to 2		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-182	SB217-12	Soil	14.5 to 16.5		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-183	SB218-12	Soil	0 to 2		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-184	SB218-12	Soil	15.5 to 17.5		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-173	SB219-12	Soil	0 to 2		VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-174	SB219-12	Soil	0 to 2	Duplicate	VOCs, PAHs, PCBs, Metals
11/1/2012	S-17360-110112-DD-178	SB219-12	Soil	15.5 to 17.5	MS/MSD	VOCs, PAHs, PCBs, Metals
10/30/2012	S-17360-103012-DD-127	SB220-12	Soil	0 to 2		VOCs, PAHs, PCBs, Metals
10/30/2012	S-17360-103012-DD-128	SB220-12	Soil	14.5 to 16.5		VOCs, PAHs, PCBs, Metals

Notes:
VOCs - Target Compound List Volatile Organic Compounds
SVOCs - Target Compound List Semi-Volatile Organic Compounds
PAHs - Polycyclic Aromatic Hydrocarbons
Metals - Antimony, Arsenic, Barium, Beryllium, Cadmium, total Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc
PCBs - Polychlorinated Biphenyls
QC - Quality Control
MS/MSD - Matrix Spike /Matrix Spike Duplicate
(1) - Borehole water samples were field filtered for dissolved metals

TABLE 2

GROUNDWATER ELEVATION DATA
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Location	*Measurement Date*	*Groundwater Elevation* [(1)]	*Depth Below Top of Riser*
85-1	10/22/2012	659.21	15.82
85-2	10/22/2012	658.05	13.58
85-6	10/22/2012	660.73	18.86
85-7	10/22/2012	658.00	19.84
86-3	10/22/2012	657.40	18.40
87-8	10/22/2012	657.44	19.34
87-9	10/22/2012	657.34	15.79
87-10	10/22/2012	655.73	12.03
87-11	10/22/2012	655.48	10.77
87-13	10/22/2012	652.91	10.66
88-2	10/22/2012	653.92	11.88
88-3	10/22/2012	653.24	11.12
88-4	10/22/2012	652.50	8.70
MW1-03	10/22/2012	662.75	15.93
MW2-03	10/22/2012	661.57	19.03
MW5-03	10/22/2012	655.39	20.43
MW6-03	10/22/2012	653.21	12.18
MW7-03	10/22/2012	657.60	17.19
MW8-04	10/22/2012	654.54	19.78
MW9-04	10/22/2012	656.13	22.16
MW10-04	10/22/2012	656.79	9.50
MW11D-04	10/22/2012	656.86	6.41
MW11S-05	10/22/2012	656.81	6.77
MW13-04	10/22/2012	659.15	19.11
MW15-04	10/22/2012	658.00	13.69
MW17-06	10/22/2012	657.37	7.34
MW27-11	10/22/2012	658.22	13.09
MW28-12	10/22/2012	662.04	14.50
MW29-12	10/22/2012	662.53	13.16
MW30-12	10/22/2012	662.55	14.11
MW31-12	10/22/2012	661.22	14.20
MW32-12	10/22/2012	660.62	15.15
MW33-12	10/22/2012	659.99	18.72
MW34-12	10/22/2012	658.97	15.61
MW35-12	10/22/2012	659.02	18.04
MW36-12	10/22/2012	659.47	20.52
MW37-12	10/22/2012	659.08	21.22
MW38-12	10/22/2012	658.92	21.59
MW39-12	10/22/2012	658.77	20.41
MW40-12	10/22/2012	658.61	22.65
MW41-12	10/22/2012	658.58	19.29
MW42-12	10/22/2012	658.43	22.51
MW43-12	10/22/2012	658.79	16.93
MW44-12	10/22/2012	660.02	19.47
MW45-12	10/22/2012	659.89	18.94
MW46-12	10/22/2012	658.94	21.31

Notes:

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

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location																			
Sample Identification		Statewide	Residential	Non-Residential	Groundwater	Groundwater	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Soil Saturation	Toxic
Sample Date		Default	Drinking Wate	Drinking Water	Surface Water	Contact	Soil Volatilization	Soil Volatilization	Infinite Source	Infinite Source	Finite VSIC for	Finite VSIC for	Finite VSIC for	Finite VSIC for	Particulate	Particulate	Direct	Direct	Concentration	Substances
Sample Depth		Background	Protection	Protection	Interface Protection [2]	Protection	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact	Contact	Screening	Control Act [3]
Sample Type							Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness						
	Units	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s
Volatile Organic Compounds (VOCs)																				
1,1,1-Trichloroethane	ug/kg	NA	4000	4000	1800	460000	250000	460000	3800000	4500000	12000000	15000000	28000000	31000000	67000000000	29000000000	460000	460000	460000	NA
1,1,2,2-Tetrachloroethane	ug/kg	NA	170	700	1600	94000	4300	23000	10000	34000	10000	34000	14000	34000	54000000	68000000	53000	240000	870000	NA
1,1,2-Trichloroethane	ug/kg	NA	100	100	6600	420000	4600	24000	17000	57000	21000	57000	44000	120000	190000000	250000000	180000	840000	920000	NA
1,1-Dichloroethane	ug/kg	NA	18000	50000	15000	890000	230000	430000	2100000	2500000	5900000	6000000	14000000	14000000	33000000000	15000000000	890000	890000	890000	NA
1,1-Dichloroethene	ug/kg	NA	140	140	2600	220000	62	330	1100	3700	5300	15000	13000	37000	62000000	78000000	200000	570000	570000	NA
1,2,4-Trichlorobenzene	ug/kg	NA	4200	4200	5900	1100000	1100000	1100000	28000000	34000000	28000000	34000000	28000000	34000000	25000000000	11000000000	990000	1100000	1100000	NA
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	NA	10	10	ID	1200	220	1200	260	900	260	900	260	900	560000	700000	1200	1200	1200	NA
1,2-Dibromoethane [4]	ug/kg	NA	20	20	110	500	670	3600	1700	5800	1700	5800	3300	9800	14000000	18000000	92	430	890000	NA
1,2-Dichlorobenzene	ug/kg	NA	14000	14000	280	210000	210000	210000	39000000	46000000	39000000	46000000	52000000	55000000	1000000000000	44000000000	210000	210000	210000	NA
1,2-Dichloroethane	ug/kg	NA	100	100	7200	380000	2100	11000	6200	21000	11000	33000	26000	74000	120000000	150000000	91000	420000	1200000	NA
1,2-Dichloropropane	ug/kg	NA	100	100	4600	320000	4000	7400	25000	30000	50000	51000	110000	120000	270000000	120000000	140000	550000	550000	NA
1,3-Dichlorobenzene	ug/kg	NA	170	480	680	51000	26000	48000	79000	94000	79000	94000	110000	110000	200000000	8800000	170000	170000	170000	NA
1,4-Dichlorobenzene	ug/kg	NA	1700	1700	360	140000	19000	100000	77000	260000	77000	260000	110000	340000	450000000	570000000	400000	1900000	NA	NA
2-Butanone (MEK) [5]	ug/kg	NA	260000	760000	44000	27000000	27000000	27000000	29000000	35000000	29000000	35000000	35000000	36000000	67000000000	29000000000	27000000	27000000	27000000	NA
2-Hexanone	ug/kg	NA	20000	58000	ID	2500000	990000	1800000	1100000	1300000	1100000	1300000	1400000	1500000	2700000000	1200000000	2500000	2500000	2500000	NA
4-Methyl-2-pentanone (MIBK) [6]	ug/kg	NA	36000	100000	ID	2700000	2700000	2700000	45000000	53000000	45000000	53000000	67000000	70000000	140000000000	60000000000	2700000	2700000	2700000	NA
Acetone	ug/kg	NA	15000	42000	34000	110000000	110000000	110000000	130000000	160000000	130000000	160000000	190000000	200000000	390000000000	170000000000	23000000	73000000	110000000	NA
Benzene	ug/kg	NA	100	100	4000	220000	1600	8400	13000	45000	34000	99000	79000	230000	380000000	470000000	180000	400000	400000	NA
Bromodichloromethane	ug/kg	NA	1600	1600	ID	280000	1200	6400	9100	31000	9700	31000	19000	57000	84000000	110000000	110000	490000	1500000	NA
Bromoform	ug/kg	NA	1600	1600	ID	870000	150000	770000	900000	3100000	900000	3100000	900000	3100000	2800000000	3600000000	820000	870000	870000	NA
Bromomethane (Methyl bromide)	ug/kg	NA	200	580	700	1400000	860	1600	11000	13000	57000	57000	140000	140000	330000000	150000000	320000	1000000	2200000	NA
Carbon disulfide	ug/kg	NA	16000	46000	ID	280000	76000	140000	1300000	1600000	7900000	8000000	19000000	19000000	47000000000	21000000000	280000	280000	280000	NA
Carbon tetrachloride	ug/kg	NA	100	100	900	92000	190	990	3500	12000	12000	34000	28000	79000	130000000	170000000	96000	390000	390000	NA
Chlorobenzene	ug/kg	NA	2000	2000	500	260000	120000	220000	770000	920000	990000	1100000	2100000	2100000	4700000000	2100000000	260000	260000	260000	NA
Chloroethane	ug/kg	NA	8600	34000	22000	950000	950000	950000	30000000	36000000	120000000	120000000	280000000	280000000	670000000000	290000000000	950000	950000	950000	NA
Chloroform (Trichloromethane)	ug/kg	NA	1600	1600	7000	1500000	7200	38000	45000	150000	120000	340000	270000	790000	1300000000	1600000000	1200000	1500000	1500000	NA
Chloromethane (Methyl chloride)	ug/kg	NA	5200	22000	ID	1100000	2300	10000	40000	120000	410000	1000000	1000000	2500000	4900000000	2600000000	1100000	1100000	1100000	NA
cis-1,2-Dichloroethene	ug/kg	NA	1400	1400	12000	640000	22000	41000	180000	210000	420000	430000	990000	1000000	2300000000	1000000000	640000	640000	640000	NA
cis-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/kg	NA	1600	1600	ID	360000	3900	21000	24000	80000	24000	80000	33000	98000	130000000	160000000	110000	500000	610000	NA
Dichlorodifluoromethane (CFC-12)	ug/kg	NA	95000	270000	ID	1000000	900000	1700000	53000000	63000000	550000000	550000000	1400000000	1400000000	3300000000000	1500000000000	1000000	1000000	1000000	NA
Ethylbenzene	ug/kg	NA	1500	1500	360	140000	87000	140000	720000	2400000	1000000	3100000	2200000	6500000	10000000000	13000000000	140000	140000	140000	NA
Isopropyl benzene	ug/kg	NA	91000	260000	3200	390000	390000	390000	1700000	2000000	1700000	2000000	2800000	3000000	5800000000	2600000000	390000	390000	390000	NA
Methyl acetate	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/kg	NA	800	800	140000	5900000	5900000	5900000	25000000	30000000	39000000	41000000	87000000	89000000	200000000000	88000000000	1500000	5900000	5900000	NA
Methylene chloride	ug/kg	NA	100	100	30000	2300000	45000	240000	210000	700000	590000	1700000	1400000	4000000	6600000000	8300000000	1300000	2300000	2300000	NA
Styrene	ug/kg	NA	2700	2700	2100	270000	250000	520000	970000	3300000	970000	3300000	1400000	4200000	5500000000	6900000000	400000	520000	520000	NA
Tetrachloroethene	ug/kg	NA	100	100	1200	88000	11000	21000	170000	210000	480000	490000	1100000	1100000	2700000000	1200000000	88000	88000	88000	NA
Toluene	ug/kg	NA	16000	16000	5400	250000	250000	250000	2800000	3300000	5100000	36000000	12000000	36000000	27000000000	12000000000	250000	250000	250000	NA
trans-1,2-Dichloroethene	ug/kg	NA	2000	2000	30000	1400000	23000	43000	280000	330000	830000	840000	2000000	2000000	4700000000	2100000000	1400000	1400000	1400000	NA
trans-1,3-Dichloropropene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/kg	NA	100	100	4000	440000	1000	1900	11000	14000	25000	25000	57000	58000	130000000	59000000	500000	500000	500000	NA
Trichlorofluoromethane (CFC-11)	ug/kg	NA	52000	150000	NA	560000	560000	560000	92000000	110000000	630000000	1400000000000	1500000000	1400000000000	3800000000000	1700000000000	560000	560000	560000	NA
Trifluorotrichloroethane (Freon 113)	ug/kg	NA	550000	550000	1700	550000	550000	550000	180000000	210000000	880000000	890000000	2100000000	2100000000	5100000000000	2300000000000	550000	550000	550000	NA
Vinyl chloride	ug/kg	NA	40	40	260	20000	270	2800	4200	29000	30000	170000	73000	420000	350000000	890000000	3800	34000	490000	NA
Xylenes (total)	ug/kg	NA	5600	5600	820	150000	150000	150000	46000000	54000000	61000000	65000000	130000000	130000000	290000000000	130000000000	150000	150000	150000	NA

Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria [1]

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location																			
							Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria [1]													
Sample Identification		Statewide	Residential	Non-Residential	Groundwater	Groundwater	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Soil Saturation	Toxic
Sample Date		Default	Drinking Wate	Drinking Water	Surface Water	Contact	Soil Volatilization	Soil Volatilization	Infinite Source	Infinite Source	Finite VSIC for	Finite VSIC for	Finite VSIC for	Finite VSIC for	Particulate	Particulate	Direct	Direct	Concentration	Substances
Sample Depth		Background	Protection	Protection	Interface Protection [2]	Protection	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact	Contact	Screening	Control Act [3]
Sample Type							Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness						
	Units	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s
Semi-Volatile Organic Compounds (SVOCs)																				
2,2'-Oxybis(1-chloropropane) [7]	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	ug/kg	NA	39000	110000	NA	9100000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	23000000000	10000000000	23000000	73000000	NA	NA
2,4,6-Trichlorophenol	ug/kg	NA	2400	9400	330	200000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1000000000	1300000000	710000	3300000	NA	NA
2,4-Dichlorophenol	ug/kg	NA	1500	4200	330	960000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	5100000000	2300000000	660000	1800000	1800000	NA
2,4-Dimethylphenol	ug/kg	NA	7400	20000	7600	10000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	4700000000	2100000000	11000000	36000000	NA	NA
2,4-Dinitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/kg	NA	430	640	NA	170000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	16000000	20000000	48000	220000	NA	NA
2,6-Dinitrotoluene	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/kg	NA	620000	1800000	NA	2300000	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	56000000	180000000	NA	NA
2-Chlorophenol	ug/kg	NA	900	2600	360	1900000	430000	800000	960000	1100000	960000	1100000	960000	1100000	1200000000	530000000	1400000	4500000	19000000	NA
2-Methylnaphthalene	ug/kg	NA	57000	170000	4200	5500000	2700000	4900000	1500000	1800000	1500000	1800000	1500000	1800000	670000000	290000000	8100000	26000000	NA	NA
2-Methylphenol	ug/kg	NA	7400	20000	1000	16000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000000	2900000000	11000000	36000000	NA	NA
2-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/kg	NA	400	1200	ID	1600000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	630000	2000000	NA	NA
3,3'-Dichlorobenzidine	ug/kg	NA	2000	2000	2000	4600	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6500000	8200000	6600	30000	NA	NA
3-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/kg	NA	830	830	NA	190000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000000	59000000	79000	260000	NA	NA
4-Bromophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/kg	NA	5800	16000	280	3000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	4500000	15000000	NA	NA
4-Chloroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/kg	NA	7400	20000	1000	16000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000000	2900000000	11000000	36000000	NA	NA
4-Nitroaniline	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/kg	NA	300000	880000	8700	970000	190000000	350000000	81000000	97000000	81000000	97000000	81000000	97000000	14000000000	6200000000	41000000	130000000	NA	NA
Acenaphthylene	ug/kg	NA	5900	17000	ID	440000	1600000	3000000	2200000	2700000	2200000	2700000	2200000	2700000	2300000000	1000000000	1600000	5200000	NA	NA
Acetophenone	ug/kg	NA	30000	88000	ID	1100000	1100000	1100000	44000000	52000000	44000000	52000000	44000000	52000000	33000000000	14000000000	1100000	1100000	1100000	NA
Anthracene	ug/kg	NA	41000	41000	ID	41000	1000000000	1000000000	1400000000	1600000000	1400000000	1600000000	1400000000	1600000000	67000000000	29000000000	230000000	730000000	NA	NA
Atrazine	ug/kg	NA	60	60	150	110000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	71000	330000	NA	NA
Benzaldehyde	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	20000	80000	NA	NA
Benzo(a)pyrene	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1500000	1900000	2000	8000	NA	NA
Benzo(b)fluoranthene	ug/kg	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	20000	80000	NA	NA
Benzo(g,h,i)perylene	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	800000000	350000000	2500000	7000000	NA	NA
Benzo(k)fluoranthene	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	200000	800000	NA	NA
Biphenyl (1,1-Biphenyl)	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/kg	NA	100	170	100	110000	8300	44000	3800	13000	3800	13000	3800	13000	9400000	12000000	13000	58000	2200000	NA
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	700000000	890000000	2800000	10000000	10000000	NA
Butyl benzylphthalate (BBP)	ug/kg	NA	310000	310000	120000	310000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	47000000000	21000000000	310000	310000	310000	NA
Caprolactam	ug/kg	NA	120000	340000	NA	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	670000000	290000000	53000000	310000000	NA	NA
Carbazole	ug/kg	NA	9400	39000	1100	820000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	62000000	78000000	530000	2400000	NA	NA
Chrysene	ug/kg	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	2000000	8000000	NA	NA
Dibenz(a,h)anthracene	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	2000	8000	NA	NA
Dibenzofuran	ug/kg	NA	ID	ID	1700	ID	2000000	3600000	130000	160000	130000	160000	130000	160000	6700000	2900000	ID	ID	NA	NA
Diethyl phthalate	ug/kg	NA	110000	320000	2200	740000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000000	1500000000	740000	740000	740000	NA
Dimethyl phthalate	ug/kg	NA	790000	790000	NA	790000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000000	1500000000	790000	790000	790000	NA
Di-n-butylphthalate (DBP)	ug/kg	NA	760000	760000	11000	760000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000000	1500000000	760000	760000	760000	NA
Di-n-octyl phthalate (DnOP)	ug/kg	NA	100000000	140000000	ID	140000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	31000000000	14000000000	6900000	20000000	140000000	NA
Fluoranthene	ug/kg	NA	730000	730000	5500	730000	1000000000	1000000000	740000000	890000000	740000000	880000000	740000000	880000000	9300000000	4100000000	46000000	130000000	NA	NA
Fluorene	ug/kg	NA	390000	890000	5300	890000	580000000	1000000000	130000000	150000000	130000000	150000000	130000000	150000000	9300000000	4100000000	27000000	87000000	NA	NA
Hexachlorobenzene	ug/kg	NA	1800	1800	350	8200	41000	220000	17000	56000	17000	56000	17000	56000	6800000	8500000	8900	37000	NA	NA
Hexachlorobutadiene	ug/kg	NA	26000	72000	91	350000	130000	350000	130000	460000	130000	460000	130000	460000	140000000	180000000	100000	350000	350000	NA
Hexachlorocyclopentadiene	ug/kg	NA	320000	320000	ID	720000	30000	56000	50000	60000	50000	60000	50000	60000	13000000	5900000	720000	720000	720000	NA
Hexachloroethane	ug/kg	NA	430	1200	1800	110000	40000	79000	550000	660000	930000	1400000	930000	1400000	230000000	100000000	230000	730000	NA	NA
Indeno(1,2,3-cd)pyrene	ug/kg	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	20000	80000	NA	NA
Isophorone	ug/kg	NA	15000	62000	26000	2400000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	120000000000	82000000000	2400000	2400000	2400000	NA
Naphthalene	ug/kg	NA	35000	100000	730	2100000	250000	470000	300000	350000	300000	350000	300000	350000	200000000	88000000	16000000	52000000	NA	NA
Nitrobenzene	ug/kg	NA	330	330	3600	220000	91000	170000	54000	64000	54000	64000	54000	64000	47000000	21000000	100000	340000	490000	NA
N-Nitrosodi-n-propylamine	ug/kg	NA	330	330	NA	7200	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1600000	2000000	1200	5400	1500000	NA
N-Nitrosodiphenylamine	ug/kg	NA	5400	22000	NA	700000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	2200000000	2800000000	1700000	7800000	NA	NA
Pentachlorophenol	ug/kg	NA	22	22	17000	4300	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	100000000	130000000	90000	320000	NA	NA
Phenanthrene	ug/kg	NA	56000	160000	2100	1100000	2800000	5100000	160000	190000	160000	190000	160000	190000	6700000	2900000	1600000	5200000	NA	NA
Phenol	ug/kg	NA	88000	260000	9000	12000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	400000000000	180000000000	12000000	12000000	12000000	NA
Pyrene	ug/kg	NA	480000	480000	ID	480000	1000000000	1000000000	650000000	780000000	650000000	780000000	650000000	780000000	67000000000	29000000000	29000000	84000000	NA	NA

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria* [1]																	
Sample Identification		Statewide	Residential	Non-Residential	Groundwater	Groundwater	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Residential	Non-Residential	Soil Saturation	Toxic
Sample Date		Default	Drinking Wate	Drinking Water	Surface Water	Contact	Soil Volatilization	Soil Volatilization	Infinite Source	Infinite Source	Finite VSIC for	Finite VSIC for	Finite VSIC for	Finite VSIC for	Particulate	Particulate	Direct	Direct	Concentration	Substances
Sample Depth		Background	Protection	Protection	Interface Protection [2]	Protection	to Indoor Air	to Indoor Air	Volatile Soil	Volatile Soil	5 Meter Source	5 Meter Source	2 Meter Source	2 Meter Source	Soil Inhalation	Soil Inhalation	Contact	Contact	Screening	Control Act [3]
Sample Type							Inhalation	Inhalation	Inhalation	Inhalation	Thickness	Thickness	Thickness	Thickness						
	Units	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s
PCBs																				
Aroclor-1016 (PCB-1016)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Aroclor-1221 (PCB-1221)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Aroclor-1232 (PCB-1232)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Aroclor-1242 (PCB-1242)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Aroclor-1248 (PCB-1248)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Aroclor-1254 (PCB-1254)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Aroclor-1260 (PCB-1260)	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Total PCBs	ug/kg	NA	NLL	NLL	NLL	NLL	3000000	16000000	240000	810000	7900000	28000000	7900000	28000000	5200000	6500000	4000	16000	NA	1000
Metals																				
Antimony	ug/kg	NA	4300	4300	94000	49000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000000	5900000	180000	670000	NA	NA
Arsenic	ug/kg	5800	4600	4600	4600	2000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	720000	910000	7600	37000	NA	NA
Barium	ug/kg	75000	1300000	1300000	440000	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	330000000	150000000	37000000	130000000	NA	NA
Beryllium	ug/kg	NA	51000	51000	84000	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1300000	590000	410000	1600000	NA	NA
Cadmium	ug/kg	1200	6000	6000	3000	230000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	1700000	2200000	550000	2100000	NA	NA
Chromium	ug/kg	18000	30000	30000	3300	140000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	260000	240000	2500000	9200000	NA	NA
Cobalt	ug/kg	6800	800	2000	2000	48000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000000	5900000	2600000	9000000	NA	NA
Copper	ug/kg	32000	5800000	5800000	75000	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000000	59000000	20000000	73000000	NA	NA
Iron	ug/kg	12000000	6000	6000	NA	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	160000000	580000000	NA	NA
Lead	ug/kg	21000	700000	700000	2500000	ID	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	100000000	44000000	400000	900000	NA	NA
Manganese	ug/kg	440000	1000	1000	26000	180000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	3300000	1500000	25000000	90000000	NA	NA
Mercury	ug/kg	130	1700	1700	50	47000	48000	89000	52000	62000	52000	62000	52000	62000	20000000	8800000	160000	580000	NA	NA
Molybdenum	ug/kg	NA	1500	4200	64000	19000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	2600000	9600000	NA	NA
Nickel	ug/kg	20000	100000	100000	76000	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000000	16000000	40000000	150000000	NA	NA
Selenium	ug/kg	410	4000	4000	400	78000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	130000000	59000000	2600000	9600000	NA	NA
Silver	ug/kg	1000	4500	13000	100	200000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	6700000	2900000	2500000	9000000	NA	NA
Thallium	ug/kg	NA	2300	2300	4200	15000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	13000000	5900000	35000	130000	NA	NA
Vanadium	ug/kg	NA	72000	990000	430000	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	750000	5500000	NA	NA
Zinc	ug/kg	47000	2400000	5000000	170000	1000000000	NLV	NLV	NLV	NLV	NLV	NLV	NLV	NLV	ID	ID	170000000	630000000	NA	NA
Total solids	%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Final Validated

Notes:
[1] Cleanup criteria identified by MDEQ RRD Op Memo No. 1, updated 9/28/2012, pursuant to 1994 PA 451 as amended.
[2] Carbonate Hardness of 344 mg/L was used to calculate Groundwater . Surface Water Interface Protection Criteria
[3] Toxic Substances Control Act (TSCA) Criterion for bulk PCB remediation waste in High Occupancy Areas (40 CFR 761.61(a)(4)(i))
[4] 1,2-Dibromoethane also known as Ethylene dibromide
[5] 2-Butanone also known as Methyl ethyl ketone (MEK)
[6] 4-Methyl-2-pentanone also known as Methyl isobutyl ketone (MIBK)
[7] 2,2'-Oxybis(1-chloropropane) also known as bis(2-Chloroisopropyl) ether
U - Not present at or above the associated value.
J - Estimated concentration.
UJ - Estimated reporting limit.
R - Rejected.
ID - means insufficient data to develop criterion.
NA - means a criterion or value is not available or, in the case of background 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.
-- Parameter was not analyzed.
- Exceeds Generic Cleanup Criteria.
Superscript letter notes the criterion exceeded.

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB189-12*	*SB189-12*	*SB189-12*	*SB190-12*	*SB190-12*	*SB191-12*	*SB191-12*	*SB192-12*	*SB192-12*	*SB193-12*	*SB193-12*	*SB194-12*	*SB194-12*
Sample Identification		*S-17360-103112-DD-169*	*S-17360-103112-DD-170*	*S-17360-103112-DD-172*	*S-17360-110112-DD-196*	*S-17360-110112-DD-197*	*S-17360-103012-DD-115*	*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*	*S-17360-103012-DD-117*	*S-17360-103012-DD-118*
Sample Date		*10/31/2012*	*10/31/2012*	*10/31/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*
Sample Depth		*(0-2) ft BGS*	*(10.5-12.5) ft BGS*	*(14-16) ft BGS*	*(0-2) ft BGS*	*(14-16) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(0-2) ft BGS*	*(12.5-14.5) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*
Sample Type														
	Units													
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,1,2,2-Tetrachloroethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,1,2-Trichloroethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,1-Dichloroethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,1-Dichloroethene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,2,4-Trichlorobenzene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	260 U	270 U	280 U	260 U	260 U	260 U	260 U	270 U	280 U	260 U	260 U	270 U	270 U
1,2-Dibromoethane [4]	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,2-Dichlorobenzene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,2-Dichloroethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,2-Dichloropropane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,3-Dichlorobenzene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
1,4-Dichlorobenzene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
2-Butanone (MEK) [5]	ug/kg	790 U	810 U	840 U	780 U	780 U	770 U	780 U	810 U	850 U	790 U	790 U	810 U	800 U
2-Hexanone	ug/kg	2600 U	2700 U	2800 U	2600 U	2600 U	2600 U	2600 U	2700 U	2800 U	2600 U	2600 U	2700 U	2700 U
4-Methyl-2-pentanone (MIBK) [6]	ug/kg	2600 U	2700 U	2800 U	2600 U	2600 U	2600 U	2600 U	2700 U	2800 U	2600 U	2600 U	2700 U	2700 U
Acetone	ug/kg	790 U	810 U	840 U	780 U	780 U	770 U	780 U	810 U	850 U	790 U	790 U	810 U	800 U
Benzene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Bromodichloromethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Bromoform	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Bromomethane (Methyl bromide)	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Carbon disulfide	ug/kg	260 U	28 J	280 U	260 U	260 U	260 U	260 U	270 U	280 U	260 U	260 U	270 U	270 U
Carbon tetrachloride	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Chlorobenzene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Chloroethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Chloroform (Trichloromethane)	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Chloromethane (Methyl chloride)	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
cis-1,2-Dichloroethene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
cis-1,3-Dichloropropene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Cyclohexane	ug/kg	260 U	270 U	280 U	260 U	260 U	260 U	260 U	270 U	280 U	260 U	260 U	270 U	270 U
Dibromochloromethane	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Dichlorodifluoromethane (CFC-12)	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Ethylbenzene	ug/kg	52 U	300	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Isopropyl benzene	ug/kg	52 U	930	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Methyl acetate	ug/kg	260 UJ	270 UJ	280 UJ	260 UJ	260 UJ	260 U	260 U	270 U	280 U	260 U	260 U	270 U	270 U
Methyl cyclohexane	ug/kg	260 U	97 J	280 U	260 U	260 U	260 U	260 U	270 U	280 U	260 U	260 U	270 U	270 U
Methyl tert butyl ether (MTBE)	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Methylene chloride	ug/kg	100 U	**170** [X]	**330** [X]	100 U	130 U	100 U	100 U	110 U	110 U	110 U	100 U	110 U	110 U
Styrene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Tetrachloroethene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Toluene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
trans-1,2-Dichloroethene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
trans-1,3-Dichloropropene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Trichloroethene	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	14 J	53 U
Trichlorofluoromethane (CFC-11)	ug/kg	52 U	54 U	26 J	52 U	22 J	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Trifluorotrichloroethane (Freon 113)	ug/kg	52 U	54 U	56 U	52 U	52 U	51 U	52 U	54 U	57 U	53 U	52 U	54 U	53 U
Vinyl chloride	ug/kg	42 U	43 U	45 U	42 U	42 U	41 U	42 U	43 U	45 U	42 U	42 U	43 U	43 U
Xylenes (total)	ug/kg	160 U	**1500** [X]	170 U	160 U	160 U	150 U	160 U	160 U	170 U	160 U	160 U	160 U	160 U

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB189-12*	*SB189-12*	*SB189-12*	*SB190-12*	*SB190-12*	*SB191-12*	*SB191-12*	*SB192-12*	*SB192-12*	*SB193-12*	*SB193-12*	*SB194-12*	*SB194-12*
Sample Identification		*S-17360-103112-DD-169*	*S-17360-103112-DD-170*	*S-17360-103112-DD-172*	*S-17360-110112-DD-196*	*S-17360-110112-DD-197*	*S-17360-103012-DD-115*	*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*	*S-17360-103012-DD-117*	*S-17360-103012-DD-118*
Sample Date		*10/31/2012*	*10/31/2012*	*10/31/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*
Sample Depth		*(0-2) ft BGS*	*(10.5-12.5) ft BGS*	*(14-16) ft BGS*	*(0-2) ft BGS*	*(14-16) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(0-2) ft BGS*	*(12.5-14.5) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*
Sample Type														
	Units													
Semi-Volatile Organic Compounds (SVOCs)														
2,2'-Oxybis(1-chloropropane) [7]	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2,4,5-Trichlorophenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2,4,6-Trichlorophenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2,4-Dichlorophenol	ug/kg	35 U	1400 U	37 U	35 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U
2,4-Dimethylphenol	ug/kg	180 U	7100 U	190 U	170 U	170 U	920 U	170 U	900 U	170 U	880 U	180 U	910 U	180 U
2,4-Dinitrophenol	ug/kg	180 U	7100 U	190 U	170 U	170 U	920 U	170 U	900 U	170 U	880 U	180 U	910 U	180 U
2,4-Dinitrotoluene	ug/kg	35 U	1400 U	37 U	35 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U
2,6-Dinitrotoluene	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2-Chloronaphthalene	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2-Chlorophenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2-Methylnaphthalene	ug/kg	18 U	**14000[a]**	21	6.6 J	17 U	160	17 U	90 U	17 U	88 U	18 U	110	21
2-Methylphenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2-Nitroaniline	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
2-Nitrophenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
3,3'-Dichlorobenzidine	ug/kg	870 U	35000 U	930 U	870 U	870 U	4600 U	870 U	4500 U	870 U	4400 U	870 U	4500 U	890 U
3-Nitroaniline	ug/kg	35 U	1400 U	37 U	35 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U
4,6-Dinitro-2-methylphenol	ug/kg	21 J	7100 U	190 U	170 U	170 U	920 U	170 U	900 U	170 U	880 U	180 U	910 U	180 U
4-Bromophenyl phenyl ether	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
4-Chloro-3-methylphenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
4-Chloroaniline	ug/kg	70 U	2800 U	75 U	70 U	70 U	370 U	70 U	360 U	69 U	350 U	70 U	360 U	71 U
4-Chlorophenyl phenyl ether	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
4-Methylphenol	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
4-Nitroaniline	ug/kg	35 U	1400 U	37 U	35 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U
4-Nitrophenol	ug/kg	700 U	28000 U	750 U	700 U	700 U	3700 U	700 U	3600 U	690 U	3500 U	700 U	3600 U	710 U
Acenaphthene	ug/kg	18 U	710 U	1.5 J	10 J	17 U	300	17 U	12 J	17 U	13 J	18 U	300	9.4 J
Acenaphthylene	ug/kg	18 U	710 U	1.1 J	4 J	17 U	9.6 J	17 U	7.1 J	17 U	88 U	18 U	9.1 J	1 J
Acetophenone	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Anthracene	ug/kg	18 U	310 J	2.2 J	28	2.9 J	420	4.1 J	18 J	17 U	59 J	3.3 J	500	16 J
Atrazine	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Benzaldehyde	ug/kg	R	R	R	R	R	R	R	R	R	R	R	R	R
Benzo(a)anthracene	ug/kg	18 U	610 J	9.2 J	150	19	1200	14 J	120	17 U	230	13 J	1400	75
Benzo(a)pyrene	ug/kg	18 U	420 J	6.3 J	170	20	830	7.2 J	100	17 U	260	6.6 J	950	48
Benzo(b)fluoranthene	ug/kg	18 U	460 J	5.5 J	230	27	1300	14 J	160	17 U	370	13 J	1300	87
Benzo(g,h,i)perylene	ug/kg	35 U	180 J	9.6 J	80	17 J	530	12 J	120 J	35 U	250	12 J	560	42
Benzo(k)fluoranthene	ug/kg	18 U	210 J	2.9 J	120	12 J	530	12 J	64 J	17 U	150	12 J	480	36
Biphenyl (1,1-Biphenyl)	ug/kg	18 U	2400	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
bis(2-Chloroethoxy)methane	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
bis(2-Chloroethyl)ether	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	35 U	1400 U	37 U	35 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U	180 U	77 U
Butyl benzylphthalate (BBP)	ug/kg	35 U	1400 U	37 U	35 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U	180 U	35 U
Caprolactam	ug/kg	70 U	2800 U	75 U	70 U	70 U	370 U	70 U	360 U	69 U	350 U	70 U	360 U	71 U
Carbazole	ug/kg	180 U	7100 U	190 U	170 U	170 U	270 J	14 J	900 U	170 U	880 U	15 J	260 J	19 J
Chrysene	ug/kg	18 U	1500	5.9 J	170	22	1200	15 J	120	17 U	280	16 J	1300	67
Dibenz(a,h)anthracene	ug/kg	35 U	1400 U	37 U	29 J	4 J	160 J	11 J	18 J	35 U	57 J	11 J	170 J	21 J
Dibenzofuran	ug/kg	18 U	650 J	2.2 J	4.7 J	17 U	280	17 U	11 J	17 U	7.2 J	1.5 J	250	8.1 J
Diethyl phthalate	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	19 U	90 U	17 U	88 U	19 U	91 U	18 U
Dimethyl phthalate	ug/kg	18 U	710 U	19 U	17 U	17 U	13 J	17 U	21 J	17 U	88 U	18 U	91 U	18 U
Di-n-butylphthalate (DBP)	ug/kg	70 U	2800 U	75 U	70 U	70 U	370 U	86 U	360 U	69 U	350 U	70 U	360 U	71 U
Di-n-octyl phthalate (DnOP)	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	16 J	90 U	17 U	88 U	16 J	91 U	19
Fluoranthene	ug/kg	18 U	930	11 J	190	26	2400	12 J	190	17 U	480	14 J	2400	120
Fluorene	ug/kg	35 U	1000 J	2.9 J	11 J	35 U	220	1.7 J	11 J	35 U	16 J	1.8 J	230	8.4 J
Hexachlorobenzene	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Hexachlorobutadiene	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Hexachlorocyclopentadiene	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Hexachloroethane	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Indeno(1,2,3-cd)pyrene	ug/kg	35 U	150 J	5.5 J	76	13 J	470	11 J	89 J	35 U	200	11 J	510	42
Isophorone	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
Naphthalene	ug/kg	18 U	**4600[a]**	4.8 J	6.6 J	1.1 J	120	17 U	90 U	17 U	88 U	18 U	64 J	11 J
Nitrobenzene	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
N-Nitrosodi-n-propylamine	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	17 U	90 U	17 U	88 U	18 U	91 U	18 U
N-Nitrosodiphenylamine	ug/kg	18 U	710 U	19 U	17 U	17 U	92 U	2.7 J	90 U	17 U	88 U	18 U	91 U	18 U
Pentachlorophenol	ug/kg	180 U	7100 U	190 U	170 U	170 U	920 U	170 U	900 U	170 U	880 U	180 U	910 U	180 U
Phenanthrene	ug/kg	18 U	**2700[a]**	18 J	130	11 J	**2600[a]**	5.8 J	120	17 U	260	5.1 J	**3000[a]**	93
Phenol	ug/kg	180 U	7100 U	190 U	170 U	170 U	920 U	170 U	900 U	170 U	880 U	180 U	910 U	180 U
Pyrene	ug/kg	18 U	1500	12 J	290	28	2600	12 J	220	17 U	570	13 J	3100	110

TABLE 3

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SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB189-12*	*SB189-12*	*SB189-12*	*SB190-12*	*SB190-12*	*SB191-12*	*SB191-12*	*SB192-12*	*SB192-12*	*SB193-12*	*SB193-12*	*SB194-12*	*SB194-12*
Sample Identification		*S-17360-103112-DD-169*	*S-17360-103112-DD-170*	*S-17360-103112-DD-172*	*S-17360-110112-DD-196*	*S-17360-110112-DD-197*	*S-17360-103012-DD-115*	*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*	*S-17360-103012-DD-117*	*S-17360-103012-DD-118*
Sample Date		*10/31/2012*	*10/31/2012*	*10/31/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*
Sample Depth		*(0-2) ft BGS*	*(10.5-12.5) ft BGS*	*(14-16) ft BGS*	*(0-2) ft BGS*	*(14-16) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(0-2) ft BGS*	*(12.5-14.5) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*
Sample Type														
	Units													
PCBs														
Aroclor-1016 (PCB-1016)	ug/kg	350 U	350 UJ	370 U	340 U	350 U	360 U	340 U	360 U	340 U	350 U	350 U	360 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	350 UJ	370 U	340 U	350 U	360 U	340 U	360 U	340 U	350 U	350 U	360 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	350 UJ	370 U	340 U	350 U	360 U	340 U	360 U	340 U	350 U	350 U	360 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	350 UJ	370 U	340 U	350 U	46 J	340 U	360 U	340 U	350 U	350 U	27 J	350 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	350 UJ	370 U	340 U	350 U	360 U	340 U	360 U	340 U	350 U	350 U	360 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	350 UJ	370 U	340 U	350 U	37 J	340 U	360 U	340 U	350 U	350 U	35 J	350 U
Aroclor-1260 (PCB-1260)	ug/kg	170 J	34 J	4.7 J	8.5 J	350 U	21 J	340 U	150 J	340 U	350 U	350 U	21 J	3.5 J
Total PCBs	ug/kg	170 J	34 J	4.7 J	8.5 J	ND	104 J	ND	150 J	ND	ND	ND	83 J	3.5 J
Metals														
Antimony	ug/kg	140	44 J	32 J	280	83 J	380	59 J	170	130	250	140	320	110
Arsenic	ug/kg	1600	830	1100	1800	1400	1900	1800	1600	3700	1100	5400	2000	3000
Barium	ug/kg	17000 J	5600 J	7400 J	19000	6400	44000 J	3900 J	19000 J	7400 J	21000 J	12000 J	32000 J	16000 J
Beryllium	ug/kg	130 J	86 J	75 J	140 J	78 J	220 J	53 J	140 J	98 J	95 J	130 J	170 J	110 J
Cadmium	ug/kg	71	16 J	18 J	120	39 J	120	17 J	180	32 J	370	46 J	140	47
Chromium	ug/kg	5500	6100	4300	6800	7400	13000	4800	7500	7800	6700	9300	8400	8200
Cobalt	ug/kg	2000	1500	1400	1700	1800	3100	1500	2100	3200	2200	3600	2200	2300
Copper	ug/kg	6600	3100	3300	20000	5200	7200	3300	8000	7000	28000	9500	6900	6100
Iron	ug/kg	5700000	2600000	3800000	5300000	4400000	5700000	3800000	4900000	7000000	4000000	9500000	4400000	8000000
Lead	ug/kg	7200	2100	1500	17000	3100	44000	2200	8300	3600	28000	5700	35000	4900
Manganese	ug/kg	110000	19000	39000	140000	120000	180000	120000	140000	290000	83000	370000	130000	260000
Mercury	ug/kg	50 U	50 U	46 U	8.3 J	50 U	26 J	46 U	46 U	50 U	50 U	46 U	15 J	50 U
Molybdenum	ug/kg	250 J	110 J	180 J	1000	600 J	460 J	150 J	580 J	330 J	730 J	490 J	420 J	1100
Nickel	ug/kg	4700	5000	3800	5800	5700	8400	4100	5900	7500	9500	10000	6800	6000
Selenium	ug/kg	100 U	100 U	190	130	84 J	97 J	100 U	130	94 U	100 U	89 J	36 J	92 U
Silver	ug/kg	28 J	16 J	17 J	36 J	21 J	120	14 J	24 J	29 J	120	28 J	35 J	21 J
Thallium	ug/kg	40 J	22 J	25 J	40 J	39 J	38 J	17 J	41 J	59	24 J	65	35 J	49
Vanadium	ug/kg	8900	6600	6000	7600	7300	14000	5500	9300	16000	6500	13000	9400	10000
Zinc	ug/kg	18000	8500	7400	25000	11000	31000	11000	19000	23000	63000	26000	31000	22000
Total solids	%	95	93	89	96	96	91	96	93	96	94	95	92	94

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB195-12	SB195-12	SB196-12	SB196-12	SB197-12	SB197-12	SB197-12	SB198-12	SB198-12	SB200-12	SB200-12	SB200-12	SB200-12
Sample Identification		S-17360-102612-DD-108	S-17360-102612-DD-109	S-17360-102512-DD-106	S-17360-102512-DD-107	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	SO-17360-103112-EB-158	SO-17360-103112-EB-159	SO-17360-103112-EB-160	SO-17360-103112-EB-161
Sample Date		10/26/2012	10/26/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/25/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Depth		(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(11-13) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(2-4) ft BGS	(4-6) ft BGS
Sample Type								Duplicate					Duplicate	
	Units													
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,1,2-Trichloroethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,1-Dichloroethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,1-Dichloroethene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,2,4-Trichlorobenzene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	300 U	290 U	280 U	300 U	270 U	270 U	270 U	270 U	280 U	--	--	--	--
1,2-Dibromoethane [4]	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,2-Dichlorobenzene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,2-Dichloroethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,2-Dichloropropane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,3-Dichlorobenzene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
1,4-Dichlorobenzene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
2-Butanone (MEK) [5]	ug/kg	890 U	880 U	830 U	910 U	800 U	820 U	820 U	810 U	840 U	--	--	--	--
2-Hexanone	ug/kg	3000 U	2900 U	2800 U	3000 U	2700 U	2700 U	2700 U	2700 U	2800 U	--	--	--	--
4-Methyl-2-pentanone (MIBK) [6]	ug/kg	3000 U	2900 U	2800 U	3000 U	2700 U	2700 U	2700 U	2700 U	2800 U	--	--	--	--
Acetone	ug/kg	890 U	880 U	830 UJ	910 U	800 U	820 U	820 U	810 U	840 U	--	--	--	--
Benzene	ug/kg	59 U	41 J	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Bromodichloromethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Bromoform	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Bromomethane (Methyl bromide)	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Carbon disulfide	ug/kg	300 U	290 U	280 U	300 U	270 U	270 U	270 U	270 U	280 U	--	--	--	--
Carbon tetrachloride	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Chlorobenzene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Chloroethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Chloroform (Trichloromethane)	ug/kg	59 U	59 U	55 U	60 U	53 U	11 J	55 U	54 U	56 U	--	--	--	--
Chloromethane (Methyl chloride)	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
cis-1,2-Dichloroethene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
cis-1,3-Dichloropropene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Cyclohexane	ug/kg	300 U	290 U	280 U	300 U	270 U	270 U	270 U	270 U	280 U	--	--	--	--
Dibromochloromethane	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Ethylbenzene	ug/kg	**480 [a]**	23 J	110	60 U	12 J	55 U	82	54 U	56 U	--	--	--	--
Isopropyl benzene	ug/kg	59 U	33 J	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Methyl acetate	ug/kg	300 U	290 U	280 U	300 U	270 U	270 U	270 U	270 U	280 U	--	--	--	--
Methyl cyclohexane	ug/kg	300 U	33 J	22 J	300 U	49 J	75 J	45 J	270 U	280 U	--	--	--	--
Methyl tert butyl ether (MTBE)	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Methylene chloride	ug/kg	120 U	120 U	69 J	120 U	110 U	110 U	34 J	110 U	110 U	--	--	--	--
Styrene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Tetrachloroethene	ug/kg	59 U	59 U	55 U	40 J	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Toluene	ug/kg	59 U	130	19 J	60 U	15 J	17 J	21 J	54 U	56 U	--	--	--	--
trans-1,2-Dichloroethene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
trans-1,3-Dichloropropene	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Trichloroethene	ug/kg	59 U	59 U	13 J	60 U	**980 [a]**	**4300 J [acdg]**	**1100 J [a]**	54 U	56 U	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/kg	59 U	59 U	19 J	60 U	53 U	55 U	35 J	54 U	56 U	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/kg	59 U	59 U	55 U	60 U	53 U	55 U	55 U	54 U	56 U	--	--	--	--
Vinyl chloride	ug/kg	47 U	47 U	44 U	48 U	43 U	44 U	44 U	43 U	45 U	--	--	--	--
Xylenes (total)	ug/kg	**2100 [a]**	96 J	520	180 U	71 J	43 J	350	160 U	170 U	--	--	--	--

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB195-12*	*SB195-12*	*SB196-12*	*SB196-12*	*SB197-12*	*SB197-12*	*SB197-12*	*SB198-12*	*SB198-12*	*SB200-12*	*SB200-12*	*SB200-12*	*SB200-12*
Sample Identification		*S-17360-102612-DD-108*	*S-17360-102612-DD-109*	*S-17360-102512-DD-106*	*S-17360-102512-DD-107*	*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*	*SO-17360-103112-EB-158*	*SO-17360-103112-EB-159*	*SO-17360-103112-EB-160*	*SO-17360-103112-EB-161*
Sample Date		*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*
Sample Depth		*(0-2) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type								*Duplicate*					*Duplicate*	
	Units													
Semi-Volatile Organic Compounds (SVOCs)														
2,2'-Oxybis(1-chloropropane) [7]	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2,4,5-Trichlorophenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2,4,6-Trichlorophenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2,4-Dichlorophenol	ug/kg	360 U	3900 U	370 U	40 U	180 U	180 U	180 U	180 U	37 U	--	--	--	--
2,4-Dimethylphenol	ug/kg	1800 U	20000 U	1800 U	200 U	890 U	920 U	920 U	900 U	190 U	--	--	--	--
2,4-Dinitrophenol	ug/kg	1800 U	20000 U	1800 U	200 U	890 U	920 U	920 U	900 U	190 U	--	--	--	--
2,4-Dinitrotoluene	ug/kg	360 U	3900 U	370 U	40 U	180 U	180 U	180 U	180 U	37 U	--	--	--	--
2,6-Dinitrotoluene	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2-Chloronaphthalene	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2-Chlorophenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2-Methylnaphthalene	ug/kg	360	960 J	620	3.7 J	130	49 J	57 J	95	19 U	--	--	--	--
2-Methylphenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2-Nitroaniline	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
2-Nitrophenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
3,3'-Dichlorobenzidine	ug/kg	9100 U	98000 U	9200 U	1000 U	4400 U	4600 U	4600 U	4500 U	930 U	--	--	--	--
3-Nitroaniline	ug/kg	360 U	3900 U	370 U	40 U	180 U	180 U	180 U	180 U	37 U	--	--	--	--
4,6-Dinitro-2-methylphenol	ug/kg	1800 U	20000 U	1800 U	200 U	890 U	920 U	920 U	900 U	190 U	--	--	--	--
4-Bromophenyl phenyl ether	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
4-Chloro-3-methylphenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
4-Chloroaniline	ug/kg	730 U	7800 U	730 U	81 U	360 U	370 U	370 U	360 U	74 U	--	--	--	--
4-Chlorophenyl phenyl ether	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
4-Methylphenol	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
4-Nitroaniline	ug/kg	360 U	3900 U	370 U	40 U	180 U	180 U	180 U	180 U	37 U	--	--	--	--
4-Nitrophenol	ug/kg	7300 U	78000 U	7300 U	810 U	3600 U	3700 U	3700 U	3600 U	740 U	--	--	--	--
Acenaphthene	ug/kg	690	3800	860	14 J	200	130	210	230	19 U	--	--	--	--
Acenaphthylene	ug/kg	30 J	2000 U	35 J	20 U	11 J	7.6 J	9.2 J	11 J	19 U	--	--	--	--
Acetophenone	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Anthracene	ug/kg	780	9200	880	26	470	450	610	560	19 U	--	--	--	--
Atrazine	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Benzaldehyde	ug/kg	730 U	7800 U	730 U	81 U	360 U	370 U	370 U	360 U	74 U	--	--	--	--
Benzo(a)anthracene	ug/kg	3100	**24000[p]**	2800	75 U	1300	1100	1400	780	19 U	--	--	--	--
Benzo(a)pyrene	ug/kg	**2100[p]**	**17000[pq]**	1900	55	710	770	870	460	19 U	--	--	--	--
Benzo(b)fluoranthene	ug/kg	3000	**22000[p]**	2900	82	990	1100	1200	570	19 U	--	--	--	--
Benzo(g,h,i)perylene	ug/kg	1300	9500	1300	33 J	470	460	610	320	37 U	--	--	--	--
Benzo(k)fluoranthene	ug/kg	1600	6500	1100	39	600	540	570	390	19 U	--	--	--	--
Biphenyl (1,1-Biphenyl)	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
bis(2-Chloroethoxy)methane	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
bis(2-Chloroethyl)ether	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
bis(2-Ethylhexyl)phthalate (DEHP)	ug/kg	360 U	3900 U	370 U	40 U	180 U	180 U	180 U	180 U	37 U	--	--	--	--
Butyl benzylphthalate (BBP)	ug/kg	360 U	3900 U	370 U	40 U	280 U	180 U	180 U	180 U	37 U	--	--	--	--
Caprolactam	ug/kg	730 UJ	7800 UJ	730 UJ	81 UJ	360 UJ	370 UJ	370 UJ	360 UJ	74 UJ	--	--	--	--
Carbazole	ug/kg	520 J	**7700 J[a]**	610 J	17 J	890 U	920 U	920 U	140 J	190 U	--	--	--	--
Chrysene	ug/kg	3000	21000	2700	72	1300	1100	1400	830	19 U	--	--	--	--
Dibenz(a,h)anthracene	ug/kg	390	**3100 J[p]**	370	40 U	180 U	140 J	180 U	180 U	37 U	--	--	--	--
Dibenzofuran	ug/kg	680	1700 J	800	13 J	110	76 J	130	230	19 U	--	--	--	--
Diethyl phthalate	ug/kg	180 U	2000 U	180 U	20 U	89 U	120 U	100 U	96 U	19 U	--	--	--	--
Dimethyl phthalate	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Di-n-butylphthalate (DBP)	ug/kg	730 U	7800 U	730 U	81 U	360 U	370 U	370 U	360 U	74 U	--	--	--	--
Di-n-octyl phthalate (DnOP)	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Fluoranthene	ug/kg	**5600[a]**	**48000[a]**	**6900[a]**	160	3400	2800	3600	2400	19 U	--	--	--	--
Fluorene	ug/kg	530	3400 J	730	11 J	110 J	89 J	160 J	130 J	37 U	--	--	--	--
Hexachlorobenzene	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Hexachlorobutadiene	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Hexachloroethane	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	1200	9200	1100	40 U	410	470	500	250	37 U	--	--	--	--
Isophorone	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Naphthalene	ug/kg	270	520 J	350	4.1 J	120	45 J	64 J	84 J	19 U	--	--	--	--
Nitrobenzene	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	180 U	2000 U	180 U	20 U	89 U	92 U	92 U	90 U	19 U	--	--	--	--
Pentachlorophenol	ug/kg	1800 U	20000 U	1800 U	200 U	890 U	920 U	920 U	900 U	190 U	--	--	--	--
Phenanthrene	ug/kg	**6400[a]**	**37000[a]**	**7600[a]**	130	1500	1200	1900	1900	19 U	--	--	--	--
Phenol	ug/kg	1800 UJ	20000 UJ	1800 UJ	200 UJ	890 UJ	920 UJ	920 UJ	900 UJ	190 UJ	--	--	--	--
Pyrene	ug/kg	5800	43000	5900	160	4100	3000	4200	2300	19 U	--	--	--	--

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB195-12*	*SB195-12*	*SB196-12*	*SB196-12*	*SB197-12*	*SB197-12*	*SB197-12*	*SB198-12*	*SB198-12*	*SB200-12*	*SB200-12*	*SB200-12*	*SB200-12*
Sample Identification		*S-17360-102612-DD-108*	*S-17360-102612-DD-109*	*S-17360-102512-DD-106*	*S-17360-102512-DD-107*	*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*	*SO-17360-103112-EB-158*	*SO-17360-103112-EB-159*	*SO-17360-103112-EB-160*	*SO-17360-103112-EB-161*
Sample Date		*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*
Sample Depth		*(0-2) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(11-13) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*
Sample Type								*Duplicate*					*Duplicate*	
	Units													
PCBs														
Aroclor-1016 (PCB-1016)	ug/kg	360 U	390 U	360 U	400 U	350 U	360 U	360 U	360 U	370 U	340 U	340 U	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	360 U	390 U	360 U	400 U	350 U	360 U	360 U	360 U	370 U	340 U	340 U	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	360 U	390 U	360 U	400 U	350 U	360 U	360 U	360 U	370 U	340 U	340 U	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	360 U	390 U	41 J	400 U	37 J	20 J	22 J	8.5 J	370 U	340 U	340 U	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	360 U	390 U	360 U	400 U	350 U	360 U	360 U	360 U	370 U	340 U	340 U	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	65 J	26 J	92 J	400 U	63 J	37 J	36 J	23 J	370 U	19 J	340 U	340 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	30 J	100 J	47 J	400 U	32 J	19 J	21 J	23 J	370 U	21 J	4.5 J	4 J	340 U
Total PCBs	ug/kg	95 J	126 J	180 J	ND	132 J	76 J	79 J	54.5 J	ND	40 J	4.5 J	4 J	ND
Metals														
Antimony	ug/kg	840	290	1200	82 J	1100	4000 J	590 J	290	50 J	--	--	--	--
Arsenic	ug/kg	2400	2100	2500	1600	1900	1900	1900	2600	1500	--	--	--	--
Barium	ug/kg	63000	29000	66000	6400	46000	38000	38000	35000	3900	--	--	--	--
Beryllium	ug/kg	270 J	180 J	250 J	84 J	270 J	180 J	190 J	170 J	61 J	--	--	--	--
Cadmium	ug/kg	190	68	130	24 J	150	120	95	110	23 J	--	--	--	--
Chromium	ug/kg	12000	15000	11000	3100	9000	11000	12000	8300	3600	--	--	--	--
Cobalt	ug/kg	2800	2400	2500	1200	1900	2000	2400	2400	1400	--	--	--	--
Copper	ug/kg	9100	6400	15000	3300	8100	8900	9100	9000	3300	--	--	--	--
Iron	ug/kg	6200000	7300000	8100000	4100000	5900000	5600000	7600000	6600000	3100000	--	--	--	--
Lead	ug/kg	99000	8400	120000	2700	150000	73000	72000	56000	1900	--	--	--	--
Manganese	ug/kg	190000	150000	180000	130000	140000	150000	170000	150000	84000	--	--	--	--
Mercury	ug/kg	12 J	46 U	17 J	47 U	26 J	15 J	15 J	8.4 J	50 U	--	--	--	--
Molybdenum	ug/kg	810 J	830 J	**1700**[a]	140 J	730 J	1300	1300	870 J	260 J	--	--	--	--
Nickel	ug/kg	8000	7000	7400	3400	5800	6200	6800	6100	3300	--	--	--	--
Selenium	ug/kg	88 J	100 U	100	100 U	160	63 J	93 U	88 J	94 U	--	--	--	--
Silver	ug/kg	63	48 J	75	16 J	55	44 J	48	47 J	17 J	--	--	--	--
Thallium	ug/kg	38 J	25 J	38 J	29 J	40 J	40 J	42 J	43 J	19 J	--	--	--	--
Vanadium	ug/kg	13000	9400	13000	4200	9200	9300	10000	9300	4100	--	--	--	--
Zinc	ug/kg	38000	26000	44000	13000	35000	28000	30000	24000	9100	--	--	--	--
Total solids	%	92	85	91	83	94	91	91	93	90	97	97	97	97

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB201-12*	*SB201-12*	*SB201-12*	*SB202-12*	*SB202-12*	*SB202-12*	*SB203-12*	*SB203-12*	*SB203-12*	*SB203-12*	*SB203-12*	*SB204-12*	*SB204-12*
Sample Identification		*SO-17360-103112-EB-164*	*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*	*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*	*SO-17360-103112-EB-139*	*SO-17360-103112-EB-140*
Sample Date		*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*
Sample Depth		*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(8-10) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*
Sample Type									*Duplicate*					
	Units													
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 [4]	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 (MEK) [5]	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK) [6]	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	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB201-12*	*SB201-12*	*SB201-12*	*SB202-12*	*SB202-12*	*SB202-12*	*SB203-12*	*SB203-12*	*SB203-12*	*SB203-12*	*SB203-12*	*SB204-12*	*SB204-12*
Sample Identification		*SO-17360-103112-EB-164*	*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*	*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*	*SO-17360-103112-EB-139*	*SO-17360-103112-EB-140*
Sample Date		*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*
Sample Depth		*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(0-2) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(8-10) ft BGS*	*(0-2) ft BGS*	*(2-4) ft BGS*
Sample Type									*Duplicate*					
	Units													
Semi-Volatile Organic Compounds (SVOCs)														
2,2'-Oxybis(1-chloropropane) [7]	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	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB201-12	SB201-12	SB201-12	SB202-12	SB202-12	SB202-12	SB203-12	SB203-12	SB203-12	SB203-12	SB203-12	SB204-12	SB204-12
Sample Identification		SO-17360-103112-EB-164	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	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	SO-17360-103112-EB-139	SO-17360-103112-EB-140
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS
Sample Type									Duplicate					
	Units													
PCBs														
Aroclor-1016 (PCB-1016)	ug/kg	340 U	350 U	350 U	340 U	340 U	350 U	340 U	340 U	340 U	340 U	350 U	340 U	340 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	350 U	350 U	340 U	340 U	350 U	340 U	340 U	340 U	340 U	350 U	340 U	340 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	350 U	350 U	340 U	340 U	350 U	340 U	340 U	340 U	340 U	350 U	340 U	340 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	350 U	350 U	340 U	340 U	350 U	340 U	340 U	340 U	340 U	350 U	340 U	340 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	350 U	350 U	340 U	340 U	350 U	340 U	340 U	340 U	340 U	350 U	340 U	340 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	350 U	350 U	340 U	340 U	350 U	340 U	340 U	340 U	340 U	350 U	340 U	340 U
Aroclor-1260 (PCB-1260)	ug/kg	49 J	38 J	46 J	71 J	660	62 J	250 J	240 J	380	190 J	1300	680	880
Total PCBs	ug/kg	49 J	38 J	46 J	71 J	660	62 J	250 J	240 J	380	190 J	**1300**[a]	680	880
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	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Total solids	%	96	95	95	96	97	95	97	97	98	97	95	97	97

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB204-12	SB205-12	SB205-12	SB205-12	SB206-12	SB206-12	SB206-12	SB207-12	SB207-12	SB207-12	SB207-12	SB207-12	SB207-12
Sample Identification		SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135	SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	S-17360-110112-DD-185	S-17360-110112-DD-186	S-17360-110112-DD-187	S-17360-110112-DD-188	S-17360-110112-DD-189	S-17360-110112-DD-190
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type												Duplicate		
	Units													
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 [4]	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 (MEK) [5]	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK) [6]	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	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB204-12	SB205-12	SB205-12	SB205-12	SB206-12	SB206-12	SB206-12	SB207-12	SB207-12	SB207-12	SB207-12	SB207-12	SB207-12
Sample Identification		SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135	SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	S-17360-110112-DD-185	S-17360-110112-DD-186	S-17360-110112-DD-187	S-17360-110112-DD-188	S-17360-110112-DD-189	S-17360-110112-DD-190
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type												Duplicate		
	Units													
Semi-Volatile Organic Compounds (SVOCs)														
2,2'-Oxybis(1-chloropropane) [7]	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	--	--	--	--	--	--	--	15000 U	1800 U	50 J	50 J	1900 U	580 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	--	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	94 J	15 J	17 J	2000 U	16 J	580 U
Acenaphthylene	ug/kg	--	--	--	--	--	--	--	15000 U	1800 U	2000 U	2000 U	1900 U	580 U
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	--	--	--	--	--	--	--	250 J	93 J	50 J	25 J	39 J	1.7 J
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/kg	--	--	--	--	--	--	--	1900 J	1500 J	440 J	300 J	220 J	11 J
Benzo(a)pyrene	ug/kg	--	--	--	--	--	--	--	**2200 J[P]**	1600 J	440 J	320 J	200 J	12 J
Benzo(b)fluoranthene	ug/kg	--	--	--	--	--	--	--	4000 J	2600	850 J	630 J	280 J	19 J
Benzo(g,h,i)perylene	ug/kg	--	--	--	--	--	--	--	15000 U	380 J	2000 U	2000 U	1900 U	580 U
Benzo(k)fluoranthene	ug/kg	--	--	--	--	--	--	--	1400 J	1500 J	360 J	220 J	140 J	6.4 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	--	--	--	--	--	--	--	2600 J	1900	630 J	430 J	250 J	11 J
Dibenz(a,h)anthracene	ug/kg	--	--	--	--	--	--	--	15000 U	120 J	21 J	2000 U	1900 U	580 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	--	--	--	--	--	--	--	4700 J	2600	900 J	510 J	440 J	17 J
Fluorene	ug/kg	--	--	--	--	--	--	--	94 J	11 J	13 J	8.3 J	12 J	580 U
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	--	--	--	--	--	--	--	15000 U	510 J	79 J	66 J	1900 U	580 U
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	--	--	--	--	--	--	--	15000 U	1800 U	38 J	33 J	1900 U	1.7 J
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	--	--	--	--	--	--	--	1500 J	540 J	350 J	200 J	210 J	8.7 J
Phenol	ug/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	--	--	--	--	--	--	--	4200 J	2000	630 J	430 J	330 J	15 J

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB204-12	SB205-12	SB205-12	SB205-12	SB206-12	SB206-12	SB206-12	SB207-12	SB207-12	SB207-12	SB207-12	SB207-12	SB207-12
Sample Identification		SO-17360-103112-EB-141	SO-17360-103112-EB-134	SO-17360-103112-EB-135	SO-17360-103112-EB-136	SO-17360-103112-EB-129	SO-17360-103112-EB-130	SO-17360-103112-EB-131	S-17360-110112-DD-185	S-17360-110112-DD-186	S-17360-110112-DD-187	S-17360-110112-DD-188	S-17360-110112-DD-189	S-17360-110112-DD-190
Sample Date		10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	10/31/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012
Sample Depth		(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS
Sample Type												Duplicate		
	Units													
PCBs														
Aroclor-1016 (PCB-1016)	ug/kg	340 U	340 U	340 U	340 U	370 U	350 U	360 U	370 U	1400 U	630 U	780 U	370 U	580 U
Aroclor-1221 (PCB-1221)	ug/kg	340 U	340 U	340 U	340 U	370 U	350 U	360 U	370 U	1400 U	630 U	780 U	370 U	580 U
Aroclor-1232 (PCB-1232)	ug/kg	340 U	340 U	340 U	340 U	370 U	350 U	360 U	370 U	1400 U	630 U	780 U	370 U	580 U
Aroclor-1242 (PCB-1242)	ug/kg	340 U	340 U	340 U	340 U	370 U	350 U	360 U	370 U	1400 U	630 U	780 U	370 U	580 U
Aroclor-1248 (PCB-1248)	ug/kg	340 U	340 U	340 U	340 U	370 U	350 U	360 U	370 U	1400 U	630 U	780 U	370 U	580 U
Aroclor-1254 (PCB-1254)	ug/kg	340 U	34 J	21 J	340 U	370 U	350 U	360 U	370 U	1400 U	630 U	780 U	370 U	580 U
Aroclor-1260 (PCB-1260)	ug/kg	150 J	42 J	42 J	60 J	33 J	28 J	38 J	240 J	23000	6100	12000	200 J	9.7 J
Total PCBs	ug/kg	150 J	76 J	63 J	60 J	33 J	28 J	38 J	240 J	**23000[ps]**	**6100[ps]**	**12000[ps]**	200 J	9.7 J
Metals														
Antimony	ug/kg	--	--	--	--	--	--	--	900	880	**9700[sc]**	**11000[sc]**	290	700
Arsenic	ug/kg	--	--	--	--	--	--	--	4900	3400	**8300[scap]**	**10000[scap]**	2300	**7400[sca]**
Barium	ug/kg	--	--	--	--	--	--	--	78000	28000	180000	180000	26000	120000
Beryllium	ug/kg	--	--	--	--	--	--	--	280 J	160 J	550	500	140 J	150 J
Cadmium	ug/kg	--	--	--	--	--	--	--	890	1200	**7500[sca]**	**6300[sca]**	450	450
Chromium	ug/kg	--	--	--	--	--	--	--	**32000[sca]**	8900	**37000[sca]**	**40000[sca]**	5800	15000
Cobalt	ug/kg	--	--	--	--	--	--	--	4200	2200	**8200[sca]**	**9600[sca]**	1800	1600
Copper	ug/kg	--	--	--	--	--	--	--	72000	31000	**350000[a]**	**570000[a]**	7000	17000
Iron	ug/kg	--	--	--	--	--	--	--	**16000000[ps]**	9000000	**52000000[ps]**	**48000000[ps]**	5300000	8900000
Lead	ug/kg	--	--	--	--	--	--	--	91000 J	47000 J	**470000 J[p]**	**530000 J[p]**	10000 J	4400 J
Manganese	ug/kg	--	--	--	--	--	--	--	370000	170000	270000	340000	120000	130000
Mercury	ug/kg	--	--	--	--	--	--	--	26 J	50 U	120	**150[a]**	13 J	14 J
Molybdenum	ug/kg	--	--	--	--	--	--	--	**3600[b]**	1000	**11000[sc]**	**12000[sc]**	360 J	**2200[b]**
Nickel	ug/kg	--	--	--	--	--	--	--	18000	7100	46000	64000	6100	8100
Selenium	ug/kg	--	--	--	--	--	--	--	300	96 J	**490[a]**	320	150	**3400[a]**
Silver	ug/kg	--	--	--	--	--	--	--	120	65	840	**1800[a]**	30 J	48 J
Thallium	ug/kg	--	--	--	--	--	--	--	69	55	87	78	40 J	98
Vanadium	ug/kg	--	--	--	--	--	--	--	19000	7600	19000	24000	7400	10000
Zinc	ug/kg	--	--	--	--	--	--	--	**750000[a]**	69000	**440000[a]**	**670000[a]**	64000	42000
Total solids	%	96	97	97	96	89	94	93	88	93	83	84	89	57

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB212-12	SB212-12	SB212-12	SB212-12	SB212-12	SB213-12	SB213-12	SB214-12	SB214-12	SB215-12	SB215-12	SB216-12	SB216-12
Sample Identification		S-17360-110112-DD-191	S-17360-110112-DD-192	S-17360-110112-DD-193	S-17360-110112-DD-194	S-17360-110112-DD-195	S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125	SO-17360-103112-EB-156	SO-17360-103112-EB-157	S-17360-110112-DD-179	S-17360-110112-DD-180
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/31/2012	10/31/2012	11/1/2012	11/1/2012
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Sample Type														
	Units													
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,1,2,2-Tetrachloroethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,1,2-Trichloroethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,1-Dichloroethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,1-Dichloroethene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,2,4-Trichlorobenzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	--	--	--	--	--	270 U	240 U	270 U	260 U	--	--	280 U	290 U
1,2-Dibromoethane [4]	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,2-Dichlorobenzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,2-Dichloroethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,2-Dichloropropane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,3-Dichlorobenzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
1,4-Dichlorobenzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
2-Butanone (MEK) [5]	ug/kg	--	--	--	--	--	810 U	720 U	800 U	780 U	--	--	850 U	860 U
2-Hexanone	ug/kg	--	--	--	--	--	2700 U	2400 U	2700 U	2600 U	--	--	2800 U	2900 U
4-Methyl-2-pentanone (MIBK) [6]	ug/kg	--	--	--	--	--	2700 U	2400 U	2700 U	2600 U	--	--	2800 U	2900 U
Acetone	ug/kg	--	--	--	--	--	810 U	720 U	800 U	780 U	--	--	850 U	860 U
Benzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	15 J	58 U
Bromodichloromethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Bromoform	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Bromomethane (Methyl bromide)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Carbon disulfide	ug/kg	--	--	--	--	--	270 U	240 U	270 U	260 U	--	--	280 U	290 U
Carbon tetrachloride	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Chlorobenzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Chloroethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Chloroform (Trichloromethane)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Chloromethane (Methyl chloride)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
cis-1,2-Dichloroethene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
cis-1,3-Dichloropropene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Cyclohexane	ug/kg	--	--	--	--	--	270 U	240 U	270 U	260 U	--	--	280 U	290 U
Dibromochloromethane	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Dichlorodifluoromethane (CFC-12)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Ethylbenzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Isopropyl benzene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Methyl acetate	ug/kg	--	--	--	--	--	270 U	240 U	270 U	260 U	--	--	280 UJ	290 UJ
Methyl cyclohexane	ug/kg	--	--	--	--	--	270 U	240 U	270 U	260 U	--	--	280 U	290 U
Methyl tert butyl ether (MTBE)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Methylene chloride	ug/kg	--	--	--	--	--	110 U	96 U	110 U	100 U	--	--	120 U	120 U
Styrene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Tetrachloroethene	ug/kg	--	--	--	--	--	54 U	26 J	53 U	52 U	--	--	56 U	58 U
Toluene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
trans-1,2-Dichloroethene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
trans-1,3-Dichloropropene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Trichloroethene	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	**7400** [Exarg]	58 U
Trichlorofluoromethane (CFC-11)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	24 J	58 U
Trifluorotrichloroethane (Freon 113)	ug/kg	--	--	--	--	--	54 U	48 U	53 U	52 U	--	--	56 U	58 U
Vinyl chloride	ug/kg	--	--	--	--	--	43 U	39 U	43 U	42 U	--	--	45 U	46 U
Xylenes (total)	ug/kg	--	--	--	--	--	160 U	140 U	160 U	160 U	--	--	170 U	170 U

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		SB212-12	SB212-12	SB212-12	SB212-12	SB212-12	SB213-12	SB213-12	SB214-12	SB214-12	SB215-12	SB215-12	SB216-12	SB216-12
Sample Identification		S-17360-110112-DD-191	S-17360-110112-DD-192	S-17360-110112-DD-193	S-17360-110112-DD-194	S-17360-110112-DD-195	S-17360-103012-DD-122	S-17360-103012-DD-123	S-17360-103012-DD-124	S-17360-103012-DD-125	SO-17360-103112-EB-156	SO-17360-103112-EB-157	S-17360-110112-DD-179	S-17360-110112-DD-180
Sample Date		11/1/2012	11/1/2012	11/1/2012	11/1/2012	11/1/2012	10/30/2012	10/30/2012	10/30/2012	10/30/2012	10/31/2012	10/31/2012	11/1/2012	11/1/2012
Sample Depth		(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(13-15) ft BGS	(0-2) ft BGS	(12-14) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(14.5-16.5) ft BGS
Sample Type														
	Units													
Semi-Volatile Organic Compounds (SVOCs)														
2,2'-Oxybis(1-chloropropane) [7]	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	14000 U	360 U	900 U	30 J	2.5 J	90 U	18 U	89 U	17 U	--	--	240 J	350 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	--	--	--	--
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	14000 U	360 U	900 U	19 J	410 U	29 J	18 U	14 J	17 U	--	--	330 J	350 U
Acenaphthylene	ug/kg	14000 U	360 U	900 U	1900 U	410 U	90 U	18 U	5.3 J	17 U	--	--	1900 U	350 U
Acetophenone	ug/kg	--	--	--	--	--	90 U	18 U	89 U	17 U	--	--	--	--
Anthracene	ug/kg	110 J	2.4 J	11 J	64 J	410 U	90 U	18 U	35 J	17 U	--	--	420 J	350 U
Atrazine	ug/kg	--	--	--	--	--	90 U	18 U	89 U	17 U	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	R	R	R	R	--	--	--	--
Benzo(a)anthracene	ug/kg	1100 J	26 J	110 J	530 J	2.9 J	160	18 U	170	17 U	--	--	1200 J	3.2 J
Benzo(a)pyrene	ug/kg	1100 J	29 J	93 J	450 J	2.5 J	110	18 U	120	17 U	--	--	1400 J	2.5 J
Benzo(b)fluoranthene	ug/kg	1800 J	57 J	170 J	780 J	2.9 J	180	18 U	190	17 U	--	--	4400	6.1 J
Benzo(g,h,i)perylene	ug/kg	14000 U	360 U	900 U	1900 U	410 U	62 J	35 U	89 J	35 U	--	--	1100 J	350 U
Benzo(k)fluoranthene	ug/kg	650 J	23 J	85 J	190 J	410 U	61 J	18 U	62 J	17 U	--	--	1600 J	350 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	1400 J	34 J	130 J	620 J	2.9 J	160	1.5 J	160	17 U	--	--	2300	5.8 J
Dibenz(a,h)anthracene	ug/kg	14000 U	360 U	900 U	30 J	410 U	26 J	35 U	37 J	35 U	--	--	390 J	350 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	2400 J	45 J	240 J	1400 J	5 J	390	1.1 J	320	17 U	--	--	3400	12 J
Fluorene	ug/kg	14000 U	0.7 J	900 U	15 J	410 U	17 J	35 U	12 J	35 U	--	--	180 J	350 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	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	14000 U	360 U	900 U	60 J	410 U	53 J	35 U	80 J	35 U	--	--	950 J	350 U
Isophorone	ug/kg	--	--	--	--	--	90 U	18 U	89 U	17 U	--	--	--	--
Naphthalene	ug/kg	14000 U	1 J	900 U	15 J	2.1 J	3.7 J	18 U	89 U	17 U	--	--	180 J	1.1 J
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	730 J	15 J	82 J	490 J	3.8 J	290	1.1 J	190	17 U	--	--	**2800** [7]	8.3 J
Phenol	ug/kg	--	--	--	--	--	900 U	180 U	890 U	170 U	--	--	--	--
Pyrene	ug/kg	1900 J	38 J	200 J	1000 J	4.2 J	390	18 U	340	17 U	--	--	4300	10 J

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB212-12*	*SB212-12*	*SB212-12*	*SB212-12*	*SB212-12*	*SB213-12*	*SB213-12*	*SB214-12*	*SB214-12*	*SB215-12*	*SB215-12*	*SB216-12*	*SB216-12*
Sample Identification		*S-17360-110112-DD-191*	*S-17360-110112-DD-192*	*S-17360-110112-DD-193*	*S-17360-110112-DD-194*	*S-17360-110112-DD-195*	*S-17360-103012-DD-122*	*S-17360-103012-DD-123*	*S-17360-103012-DD-124*	*S-17360-103012-DD-125*	*SO-17360-103112-EB-156*	*SO-17360-103112-EB-157*	*S-17360-110112-DD-179*	*S-17360-110112-DD-180*
Sample Date		*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/31/2012*	*10/31/2012*	*11/1/2012*	*11/1/2012*
Sample Depth		*(0-2) ft BGS*	*(2-4) ft BGS*	*(4-6) ft BGS*	*(6-8) ft BGS*	*(8-10) ft BGS*	*(0-2) ft BGS*	*(13-15) ft BGS*	*(0-2) ft BGS*	*(12-14) ft BGS*	*(6-8) ft BGS*	*(8-10) ft BGS*	*(0-2) ft BGS*	*(14.5-16.5) ft BGS*
Sample Type														
	Units													
PCBs														
Aroclor-1016 (PCB-1016)	ug/kg	350 U	360 U	360 U	380 U	410 U	360 U	350 U	350 U	340 U	340 U	340 U	370 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	350 U	360 U	360 U	380 U	410 U	360 U	350 U	350 U	340 U	340 U	340 U	370 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	350 U	360 U	360 U	380 U	410 U	360 U	350 U	350 U	340 U	340 U	340 U	370 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	350 U	360 U	360 U	380 U	410 U	360 U	350 U	350 U	340 U	340 U	340 U	370 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	350 U	360 U	360 U	380 U	410 U	360 U	350 U	350 U	340 U	340 U	340 U	370 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	350 U	360 U	360 U	380 U	410 U	11 J	350 U	6.4 J	340 U	340 U	340 U	21 J	350 U
Aroclor-1260 (PCB-1260)	ug/kg	39 J	8.1 J	360 U	19 J	410 U	7.8 J	350 U	5.6 J	340 U	5.9 J	6.8 J	22 J	350 U
Total PCBs	ug/kg	39 J	8.1 J	ND	19 J	ND	18.8 J	ND	12 J	ND	5.9 J	6.8 J	43 J	ND
Metals														
Antimony	ug/kg	840	420	220	700	140	96 J	110	71 J	62 J	--	--	**48000[ac]**	57 J
Arsenic	ug/kg	2200	1400	1200	**6200[aca]**	1500	1100	**7300[aca]**	1100	2400	--	--	**8800[acap]**	180
Barium	ug/kg	27000	21000	16000	34000	14000	21000 J	8600 J	31000 J	6200 J	--	--	**830000[a]**	3500
Beryllium	ug/kg	180 J	140 J	140 J	230 J	140 J	160 J	120 J	160 J	120 J	--	--	280 J	41 J
Cadmium	ug/kg	2000	440	190	250	88	36 J	41 J	61	35 J	--	--	**19000[aca]**	11 J
Chromium	ug/kg	13000	4800	5100	4600	5500	4900	6800	6300	5900	--	--	**920000[acmo]**	2900
Cobalt	ug/kg	2500	1600	1400	1800	1500	1600	3000	1900	3000	--	--	**75000[aca]**	790 J
Copper	ug/kg	**440000[a]**	13000	5200	8800	4400	2800	8000	3800	7400	--	--	**1300000[a]**	1200
Iron	ug/kg	6400000	4100000	3900000	10000000	3600000	4900000	**16000000[ac]**	4800000	6500000	--	--	**150000000[ac]**	2200000
Lead	ug/kg	47000 J	9100 J	5000 J	9900 J	3300 J	10000	5000	7700	2100	--	--	**11000000 J[acapq]**	2300 J
Manganese	ug/kg	160000	100000	74000	84000	23000	79000	250000	160000	190000	--	--	**3300000[acap]**	15000
Mercury	ug/kg	7.8 J	50 U	7.1 J	8 J	15 J	6.8 J	47 U	50 U	46 U	--	--	24 J	50 U
Molybdenum	ug/kg	**1700[a]**	260 J	470 J	790 J	320 J	120 J	510 J	180 J	270 J	--	--	**340000[aca]**	200 J
Nickel	ug/kg	9300	4900	3600	4700	3900	4300	8100	4900	7300	--	--	**750000[aca]**	2200
Selenium	ug/kg	260	150	130	260	**570[a]**	91 J	160	100 U	100 U	--	--	240	41 J
Silver	ug/kg	99	53	23 J	28 J	28 J	19 J	26 J	18 J	22 J	--	--	**82000[aca]**	9.7 J
Thallium	ug/kg	50	33 J	49 J	140	67	33 J	49 J	51	29 J	--	--	110	15 J
Vanadium	ug/kg	8800	6700	6300	8100	10000	7500	13000	9100	11000	--	--	23000	3100
Zinc	ug/kg	**10000000[aca]**	20000	12000	32000	11000	13000	26000	20000	20000	--	--	**1300000[a]**	6500
Total solids	%	94	93	93	87	80	93	95	94	96	96	96	89	95

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB217-12*	*SB217-12*	*SB218-12*	*SB218-12*	*SB219-12*	*SB219-12*	*SB219-12*	*SB220-12*	*SB220-12*
Sample Identification		*S-17360-110112-DD-181*	*S-17360-110112-DD-182*	*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*	*S-17360-103012-DD-127*	*S-17360-103012-DD-128*
Sample Date		*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*
Sample Depth		*(0-2) ft BGS*	*(14.5-16.5) ft BGS*	*(0-2) ft BGS*	*(15.5-17.5) ft BGS*	*(0-2) ft BGS*	*(0-2) ft BGS*	*(15.5-17.5) ft BGS*	*(0-2) ft BGS*	*(14.5-16.5) ft BGS*
Sample Type							*Duplicate*			
	Units									
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,1,2,2-Tetrachloroethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,1,2-Trichloroethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,1-Dichloroethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,1-Dichloroethene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,2,4-Trichlorobenzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/kg	270 U	290 U	240 U	270 U	470 U	290 U	270 U	250 U	280 U
1,2-Dibromoethane [4]	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,2-Dichlorobenzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,2-Dichloroethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,2-Dichloropropane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,3-Dichlorobenzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
1,4-Dichlorobenzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
2-Butanone (MEK) [5]	ug/kg	810 U	880 U	720 U	800 U	1400 U	870 U	810 U	750 U	850 U
2-Hexanone	ug/kg	2700 U	2900 U	2400 U	2700 U	4700 U	2900 U	2700 U	2500 U	2800 U
4-Methyl-2-pentanone (MIBK) [6]	ug/kg	2700 U	2900 U	2400 U	2700 U	4700 U	2900 U	2700 U	2500 U	2800 U
Acetone	ug/kg	810 U	880 U	720 U	800 U	1400 U	870 U	810 U	750 U	850 U
Benzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Bromodichloromethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Bromoform	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Bromomethane (Methyl bromide)	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Carbon disulfide	ug/kg	270 U	290 U	240 U	270 U	470 U	290 U	270 U	250 U	280 U
Carbon tetrachloride	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Chlorobenzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Chloroethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Chloroform (Trichloromethane)	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Chloromethane (Methyl chloride)	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
cis-1,2-Dichloroethene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
cis-1,3-Dichloropropene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Cyclohexane	ug/kg	270 U	290 U	240 U	270 U	470 U	290 U	270 U	250 U	280 U
Dibromochloromethane	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Dichlorodifluoromethane (CFC-12)	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Ethylbenzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Isopropyl benzene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Methyl acetate	ug/kg	270 UJ	290 UJ	240 UJ	270 UJ	470 UJ	290 UJ	270 UJ	250 U	280 U
Methyl cyclohexane	ug/kg	270 U	290 U	43 J	270 U	470 U	290 U	270 U	250 U	280 U
Methyl tert butyl ether (MTBE)	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Methylene chloride	ug/kg	110 U	120 U	96 U	110 U	350 U	120 U	110 U	100 U	110 U
Styrene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Tetrachloroethene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Toluene	ug/kg	54 U	59 U	13 J	53 U	95 U	58 U	54 U	50 U	57 U
trans-1,2-Dichloroethene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
trans-1,3-Dichloropropene	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Trichloroethene	ug/kg	**170** [BX]	59 U	**400** [BX]	53 U	**490 J** [BX]	26 J	54 U	50 U	57 U
Trichlorofluoromethane (CFC-11)	ug/kg	54 U	17 J	48 U	53 U	65 J	58 U	54 U	50 U	57 U
Trifluorotrichloroethane (Freon 113)	ug/kg	54 U	59 U	48 U	53 U	95 U	58 U	54 U	50 U	57 U
Vinyl chloride	ug/kg	43 U	47 U	39 U	43 U	76 U	47 U	43 U	40 U	45 U
Xylenes (total)	ug/kg	160 U	180 U	28 J	160 U	280 U	170 U	160 U	150 U	170 U

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB217-12*	*SB217-12*	*SB218-12*	*SB218-12*	*SB219-12*	*SB219-12*	*SB219-12*	*SB220-12*	*SB220-12*
Sample Identification		*S-17360-110112-DD-181*	*S-17360-110112-DD-182*	*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*	*S-17360-103012-DD-127*	*S-17360-103012-DD-128*
Sample Date		*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*
Sample Depth		*(0-2) ft BGS*	*(14.5-16.5) ft BGS*	*(0-2) ft BGS*	*(15.5-17.5) ft BGS*	*(0-2) ft BGS*	*(0-2) ft BGS*	*(15.5-17.5) ft BGS*	*(0-2) ft BGS*	*(14.5-16.5) ft BGS*
Sample Type							*Duplicate*			
	Units									
Semi-Volatile Organic Compounds (SVOCs)										
2,2'-Oxybis(1-chloropropane) [7]	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 J	360 U	66 J	2.2 J	33 J	30 J	360 U	100 J	2.5 J
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	--	--	--	--	--	--	--	--	--
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 J	360 U	200 J	2.2 J	84 J	83 J	1.1 J	280 J	2.9 J
Acenaphthylene	ug/kg	1800 U	360 U	1800 U	350 U	1800 U	1800 U	360 U	7.5 J	1.1 J
Acetophenone	ug/kg	--	--	--	--	--	--	--	--	--
Anthracene	ug/kg	620 J	360 U	310 J	12 J	160 J	160 J	2.2 J	350 J	11 J
Atrazine	ug/kg	--	--	--	--	--	--	--	--	--
Benzaldehyde	ug/kg	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	ug/kg	1500 J	360 U	860 J	26 J	570 J	520 J	6.2 J	990	45 J
Benzo(a)pyrene	ug/kg	1200 J	360 U	660 J	17 J	440 J	410 J	4 J	670 J	34 J
Benzo(b)fluoranthene	ug/kg	1500 J	360 U	1000 J	29 J	590 J	580 J	5.8 J	1100	53 J
Benzo(g,h,i)perylene	ug/kg	280 J	360 U	84 J	350 U	44 J	19 J	360 U	360 J	31 J
Benzo(k)fluoranthene	ug/kg	700 J	360 U	410 J	13 J	330 J	250 J	360 U	430 J	24 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	1400 J	360 U	910 J	31 J	640 J	610 J	6.9 J	980	48 J
Dibenz(a,h)anthracene	ug/kg	93 J	360 U	1800 U	350 U	51 J	30 J	360 UJ	130 J	13 J
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	3600	360 U	2500	62 J	1500 J	1400 J	12 J	2200	65 J
Fluorene	ug/kg	220 J	360 U	110 J	2.5 J	51 J	53 J	1.5 J	200 J	3.2 J
Hexachlorobenzene	ug/kg	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	ug/kg	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	ug/kg	--	--	--	--	--	--	--	--	--
Hexachloroethane	ug/kg	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	ug/kg	360 J	360 U	180 J	350 U	140 J	130 J	360 U	360 J	28 J
Isophorone	ug/kg	--	--	--	--	--	--	--	--	--
Naphthalene	ug/kg	74 J	360 U	29 J	1.8 J	18 J	15 J	360 U	69 J	2.1 J
Nitrobenzene	ug/kg	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	ug/kg	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	ug/kg	--	--	--	--	--	--	--	--	--
Pentachlorophenol	ug/kg	--	--	--	--	--	--	--	--	--
Phenanthrene	ug/kg	**2900**[a]	360 U	1900	35 J	950 J	980 J	14 J	**2300**[a]	34 J
Phenol	ug/kg	--	--	--	--	--	--	--	--	--
Pyrene	ug/kg	2600	360 U	1700 J	48 J	1100 J	1000 J	10 J	2200	68 J

TABLE 3

SUMMARY OF ANALYTICAL RESULTS FOR SOIL SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB217-12*	*SB217-12*	*SB218-12*	*SB218-12*	*SB219-12*	*SB219-12*	*SB219-12*	*SB220-12*	*SB220-12*
Sample Identification		*S-17360-110112-DD-181*	*S-17360-110112-DD-182*	*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*	*S-17360-103012-DD-127*	*S-17360-103012-DD-128*
Sample Date		*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*10/30/2012*	*10/30/2012*
Sample Depth		*(0-2) ft BGS*	*(14.5-16.5) ft BGS*	*(0-2) ft BGS*	*(15.5-17.5) ft BGS*	*(0-2) ft BGS*	*(0-2) ft BGS*	*(15.5-17.5) ft BGS*	*(0-2) ft BGS*	*(14.5-16.5) ft BGS*
Sample Type							*Duplicate*			
	Units									
PCBs										
Aroclor-1016 (PCB-1016)	ug/kg	360 U	360 U	360 U	350 U	360 U	360 U	360 U	350 U	350 U
Aroclor-1221 (PCB-1221)	ug/kg	360 U	360 U	360 U	350 U	360 U	360 U	360 U	350 U	350 U
Aroclor-1232 (PCB-1232)	ug/kg	360 U	360 U	360 U	350 U	360 U	360 U	360 U	350 U	350 U
Aroclor-1242 (PCB-1242)	ug/kg	360 U	360 U	360 U	350 U	360 U	360 U	360 U	350 U	350 U
Aroclor-1248 (PCB-1248)	ug/kg	360 U	360 U	360 U	350 U	360 U	360 U	360 U	350 U	350 U
Aroclor-1254 (PCB-1254)	ug/kg	23 J	360 U	28 J	350 U	35 J	30 J	360 U	35 J	350 U
Aroclor-1260 (PCB-1260)	ug/kg	25 J	360 U	35 J	350 U	23 J	19 J	360 U	32 J	350 U
Total PCBs	ug/kg	48 J	ND	63 J	ND	58 J	49 J	ND	67 J	ND
Metals										
Antimony	ug/kg	960	58 J	2300	170	780	960	39 J	280	27 J
Arsenic	ug/kg	4400	700	3400	430	**12000**[acap]	**14000**[acap]	190	1600	230
Barium	ug/kg	37000	6200	53000	7300	51000	57000	4300	35000 J	3100 J
Beryllium	ug/kg	130 J	110 J	200 J	50 J	460 J	500	48 J	190 J	62 J
Cadmium	ug/kg	230	38 J	480	130	130	130	9.7 J	77	38 J
Chromium	ug/kg	**20000**[a]	8400	**33000**[acu]	7000	8900	8000	3700	6600	2700
Cobalt	ug/kg	3100	1700	3300	5800	3100	3200	1000	2000	1100
Copper	ug/kg	67000	3300	31000	4200	15000	13000	1300	7600	2300
Iron	ug/kg	10000000	2600000	7100000	2800000	5300000	5600000	1600000	5100000	1500000
Lead	ug/kg	68000 J	2000 J	62000 J	3900 J	48000 J	46000 J	1200 J	37000	1100
Manganese	ug/kg	200000	26000	220000	30000	90000	92000	21000	140000	13000
Mercury	ug/kg	11 J	50 U	18 J	50 U	30 J	29 J	50 U	12 J	50 U
Molybdenum	ug/kg	**7200**[ac]	160 J	**5800**[ac]	1100	**1800**[a]	1400	76 J	380 J	35 J
Nickel	ug/kg	16000	4500	35000	9000	8900	8900	2700	5200	2700
Selenium	ug/kg	160	65 J	260	140	**450**[a]	**490**[a]	92 U	44 J	100 U
Silver	ug/kg	960	25 J	220	86	75	70	11 J	33 J	13 J
Thallium	ug/kg	40 J	59	72	43 J	250	270	20 J	40 J	17 J
Vanadium	ug/kg	7700	7200	8600	5100	9900	9300	4200	9400	3800
Zinc	ug/kg	51000	9100	120000	13000	25000	29000	7100	24000	7300
Total solids	%	92	92	92	94	91	91	92	93	95

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria [1]								
Sample Identification		Residential	Non-Residential	Groundwater	Residential	Non-Residential	Groundwater	Water	Flammability and	Acute
Sample Date		Drinking	Drinking	Surface Water	Groundwater	Groundwater	Contact	Solubility	Explosivity	Inhalation
Sample Type		Water	Water	Interface [2]	Volatilization to	Volatilization to			Screening Levels	Screening Levels
Sample Depth					Indoor Air Inhalation	Indoor Air Inhalation				
	Units	a	b	c	d	e	f	g	h	i
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	ug/L	200	200	89	660000	1300000	1300000	1330000	ID	1300000
1,1,2,2-Tetrachloroethane	ug/L	8.5	35	78	12000	77000	4700	2970000	ID	ID
1,1,2-Trichloroethane	ug/L	5	5	330	17000	110000	21000	4420000	NA	ID
1,1-Dichloroethane	ug/L	880	2500	740	1000000	2300000	2400000	5060000	380000	ID
1,1-Dichloroethene	ug/L	7	7	130	200	1300	11000	2250000	97000	140000
1,2,4-Trichlorobenzene	ug/L	70	70	99	300000	300000	19000	300000	NA	300000
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2	0.2	NA	220	1200	390	1230	NA	ID
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05	0.05	5.7	2400	15000	25	4200000	ID	ID
1,2-Dichlorobenzene	ug/L	600	600	13	160000	160000	160000	156000	NA	160000
1,2-Dichloroethane	ug/L	5	5	360	9600	59000	19000	8520000	2500000	ID
1,2-Dichloropropane	ug/L	5	5	230	16000	36000	16000	2800000	550000	2800000
1,3-Dichlorobenzene	ug/L	6.6	19	28	18000	41000	2000	111000	ID	ID
1,4-Dichlorobenzene	ug/L	75	75	17	16000	74000	6400	73800	NA	ID
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13000	38000	2200	240000000	240000000	240000000	240000000	ID	240000000
2-Hexanone	ug/L	1000	2900	ID	4200000	8700000	5200000	16000000	NA	ID
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	1800	5200	ID	20000000	20000000	13000000	20000000	ID	20000000
Acetone	ug/L	730	2100	1700	1000000000	1000000000	31000000	1000000000	15000000	1000000000
Benzene	ug/L	5	5	200	5600	35000	11000	1750000	68000	67000
Bromodichloromethane	ug/L	80	80	ID	4800	37000	14000	6740000	ID	ID
Bromoform	ug/L	80	80	ID	470000	3100000	140000	3100000	ID	ID
Bromomethane (Methyl bromide)	ug/L	10	29	35	4000	9000	70000	14500000	ID	ID
Carbon disulfide	ug/L	800	2300	ID	250000	550000	1200000	1190000	13000	ID
Carbon tetrachloride	ug/L	5	5	45	370	2400	4600	793000	ID	96000
Chlorobenzene	ug/L	100	100	25	210000	470000	86000	472000	160000	ID
Chloroethane	ug/L	430	1700	1100	5700000	5700000	440000	5740000	110000	ID
Chloroform (Trichloromethane)	ug/L	80	80	350	28000	180000	150000	7920000	ID	ID
Chloromethane (Methyl chloride)	ug/L	260	1100	ID	8600	45000	490000	6340000	36000	210000
cis-1,2-Dichloroethene	ug/L	70	70	620	93000	210000	200000	3500000	530000	ID
cis-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	ug/L	80	80	ID	14000	110000	18000	2600000	ID	ID
Dichlorodifluoromethane (CFC-12)	ug/L	1700	4800	ID	220000	300000	300000	300000	ID	ID
Ethylbenzene	ug/L	74	74	18	110000	170000	170000	169000	43000	170000
Isopropyl benzene	ug/L	800	2300	28	56000	56000	56000	56000	29000	ID
Methyl acetate	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl cyclohexane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	ug/L	40	40	7100	47000000	47000000	610000	46800000	ID	ID
Methylene chloride	ug/L	5	5	1500	220000	1400000	220000	17000000	ID	ID
Styrene	ug/L	100	100	80	170000	310000	9700	310000	140000	310000
Tetrachloroethene	ug/L	5	5	60	25000	170000	12000	200000	ID	200000
Toluene	ug/L	790	790	270	530000	530000	530000	526000	61000	ID
trans-1,2-Dichloroethene	ug/L	100	100	1500	85000	200000	220000	6300000	230000	ID
trans-1,3-Dichloropropene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	ug/L	5	5	200	2200	4900	22000	1100000	ID	1100000
Trichlorofluoromethane (CFC-11)	ug/L	2600	7300	NA	1100000	1100000	1100000	1100000	ID	1100000
Trifluorotrichloroethane (Freon 113)	ug/L	170000	170000	32	170000	170000	170000	170000	ID	170000
Vinyl chloride	ug/L	2	2	13	1100	13000	1000	2760000	33000	ID
Xylenes (total)	ug/L	280	280	41	190000	190000	190000	186000	70000	190000

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria [1]								
Sample Identification		Residential	Non-Residential	Groundwater	Residential	Non-Residential	Groundwater	Water	Flammability and	Acute
Sample Date		Drinking	Drinking	Surface Water	Groundwater	Groundwater	Contact	Solubility	Explosivity	Inhalation
Sample Type		Water	Water	Interface [2]	Volatilization to	Volatilization to			Screening Levels	Screening Levels
Sample Depth					Indoor Air Inhalation	Indoor Air Inhalation				
	Units	a	b	c	d	e	f	g	h	i
Semi-Volatile Organic Compounds (SVOCs)										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L									
2,4,5-Trichlorophenol	ug/L	730	2100	NA	NLV	NLV	170000	1200000	ID	ID
2,4,6-Trichlorophenol	ug/L	120	470	5	NLV	NLV	10000	800000	ID	ID
2,4-Dichlorophenol	ug/L	73	210	11	NLV	NLV	48000	4500000	ID	ID
2,4-Dimethylphenol	ug/L	370	1000	380	NLV	NLV	520000	7870000	ID	ID
2,4-Dinitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	ug/L	7.7	32	NA	NLV	NLV	8600	270000	ID	ID
2,6-Dinitrotoluene	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	ug/L	1800	5200	NA	ID	ID	6700	6740	ID	ID
2-Chlorophenol	ug/L	45	130	18	ID	ID	94000	22000000	ID	ID
2-Methylnaphthalene	ug/L	260	750	19	25000	25000	25000	24600	ID	ID
2-Methylphenol	ug/L	370	1000	30	NLV	NLV	810000	28000000	NA	ID
2-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	ug/L	20	58	ID	NLV	NLV	79000	2500000	ID	ID
3,3'-Dichlorobenzidine	ug/L	1.1	4.3	0.3	NLV	NLV	180	3110	ID	ID
3-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	ug/L	20	20	NA	NLV	NLV	9500	200000	ID	ID
4-Bromophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	ug/L	150	420	7.4	NLV	NLV	79000	3900000	ID	ID
4-Chloroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	ug/L	370	1000	30	NLV	NLV	810000	28000000	NA	ID
4-Nitroaniline	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	ug/L	1300	3800	38	4200	4200	4200	4240	ID	ID
Acenaphthylene	ug/L	52	150	ID	3900	3900	3900	3930	ID	ID
Acetophenone	ug/L	1500	4400	NA	6100000	6100000	6100000	6100000	ID	ID
Anthracene	ug/L	43	43	ID	43	43	43	43.4	ID	ID
Atrazine	ug/L	3	3	7.3	NLV	NLV	5400	70000	ID	ID
Benzaldehyde	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	ug/L	2.1	8.5	ID	NLV	NLV	9.4	9.4	ID	ID
Benzo(a)pyrene	ug/L	5	5	ID	NLV	NLV	1	1.62	ID	ID
Benzo(b)fluoranthene	ug/L	1.5	1.5	ID	ID	ID	1.5	1.5	ID	ID
Benzo(g,h,i)perylene	ug/L	1	1	NA	NLV	NLV	1	0.26	ID	ID
Benzo(k)fluoranthene	ug/L	1	1	NA	NLV	NLV	1	0.8	ID	ID
Biphenyl (1,1-Biphenyl)	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	ug/L	2	8.3	1	38000	210000	5700	17200000	17000000	17000000
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	6	6	25	NLV	NLV	320	340	NA	340
Butyl benzylphthalate (BBP)	ug/L	1200	2700	67	NLV	NLV	2700	2690	ID	ID
Caprolactam	ug/L	5800	17000	NA	NLV	NLV	390000000	5250000000	NA	1000000000
Carbazole	ug/L	85	350	10	NLV	NLV	7400	7480	ID	ID
Chrysene	ug/L	1.6	1.6	ID	ID	ID	1.6	1.6	ID	ID
Dibenz(a,h)anthracene	ug/L	2	2	ID	NLV	NLV	2	2.49	ID	ID
Dibenzofuran	ug/L	ID	ID	4	10000	10000	ID	10000	ID	ID
Diethyl phthalate	ug/L	5500	16000	110	NLV	NLV	1100000	1080000	NA	ID
Dimethyl phthalate	ug/L	73000	210000	NA	NLV	NLV	4200000	4190000	NA	ID
Di-n-butylphthalate (DBP)	ug/L	880	2500	9.7	NLV	NLV	11000	11200	NA	ID
Di-n-octyl phthalate (DnOP)	ug/L	130	380	ID	NLV	NLV	400	3000	ID	ID
Fluoranthene	ug/L	210	210	1.6	210	210	210	206	ID	ID
Fluorene	ug/L	880	2000	12	2000	2000	2000	1980	ID	ID
Hexachlorobenzene	ug/L	1	1	0.2	440	3000	4.6	6200	ID	ID
Hexachlorobutadiene	ug/L	15	42	0.053	1600	3200	400	3230	ID	ID
Hexachlorocyclopentadiene	ug/L	50	50	ID	130	420	1600	1800	ID	ID
Hexachloroethane	ug/L	7.3	21	6.7	27000	50000	1900	50000	ID	ID
Indeno(1,2,3-cd)pyrene	ug/L	2	2	ID	NLV	NLV	2	0.022	ID	ID
Isophorone	ug/L	770	3100	1300	NLV	NLV	990000	12000000	NA	12000000
Naphthalene	ug/L	520	1500	11	31000	31000	31000	31000	NA	31000
Nitrobenzene	ug/L	3.4	9.6	180	280000	550000	11000	2090000	NA	ID
N-Nitrosodi-n-propylamine	ug/L	5	5	NA	NLV	NLV	360	9890000	ID	ID
N-Nitrosodiphenylamine	ug/L	270	1100	NA	NLV	NLV	35000	35100	ID	ID
Pentachlorophenol	ug/L	1	1	1.8	NLV	NLV	200	1850000	ID	ID
Phenanthrene	ug/L	52	150	2	1000	1000	1000	1000	ID	ID
Phenol	ug/L	4400	13000	450	NLV	NLV	29000000	82800000	NA	ID
Pyrene	ug/L	140	140	ID	140	140	140	135	ID	ID

TABLE 4

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SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels: Residential and Non-Residential Generic Cleanup Criteria [1]								
Sample Identification Sample Date Sample Type Sample Depth	***Units***	Residential Drinking Water a	Non-Residential Drinking Water b	Groundwater Surface Water Interface [2] c	Residential Groundwater Volatilization to Indoor Air Inhalation d	Non-Residential Groundwater Volatilization to Indoor Air Inhalation e	Groundwater Contact f	Water Solubility g	Flammability and Explosivity Screening Levels h	Acute Inhalation Screening Levels i
PCBs										
Aroclor-1016 (PCB-1016)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Aroclor-1221 (PCB-1221)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Aroclor-1232 (PCB-1232)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Aroclor-1242 (PCB-1242)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Aroclor-1248 (PCB-1248)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Aroclor-1254 (PCB-1254)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Aroclor-1260 (PCB-1260)	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Total PCBs	ug/L	0.5	0.5	0.2	45	45	3.3	44.7	ID	ID
Metals										
Antimony	ug/L	6	6	130	NLV	NLV	68000	NA	ID	ID
Arsenic	ug/L	10	10	10	NLV	NLV	4300	NA	ID	ID
Barium	ug/L	2000	2000	670	NLV	NLV	14000000	NA	ID	ID
Beryllium	ug/L	4	4	6.7	NLV	NLV	290000	NA	ID	ID
Cadmium	ug/L	5	5	2.5	NLV	NLV	190000	NA	ID	ID
Chromium	ug/L	100	100	11	NLV	NLV	460000	NA	ID	ID
Cobalt	ug/L	40	100	100	NLV	NLV	2400000	NA	ID	ID
Copper	ug/L	1000	1000	13	NLV	NLV	7400000	NA	ID	ID
Iron	ug/L	300	300	NA	NLV	NLV	58000000	NA	ID	ID
Lead	ug/L	4	4	14	NLV	NLV	ID	NA	ID	ID
Manganese	ug/L	50	50	1300	NLV	NLV	9100000	NA	ID	ID
Mercury	ug/L	2	2	0.0013	56	56	56	56	ID	ID
Molybdenum	ug/L	73	210	3200	NLV	NLV	970000	NA	ID	ID
Nickel	ug/L	100	100	73	NLV	NLV	74000000	NA	ID	ID
Selenium	ug/L	50	50	5	NLV	NLV	970000	NA	ID	ID
Silver	ug/L	34	98	0.2	NLV	NLV	1500000	NA	ID	ID
Thallium	ug/L	2	2	3.7	NLV	NLV	13000	NA	ID	ID
Vanadium	ug/L	4.5	62	27	NLV	NLV	970000	NA	ID	ID
Zinc	ug/L	2400	5000	170	NLV	NLV	110000000	NA	ID	ID
Antimony (dissolved)	ug/L	6	6	130	NLV	NLV	68000	NA	ID	ID
Arsenic (dissolved)	ug/L	10	10	10	NLV	NLV	4300	NA	ID	ID
Barium (dissolved)	ug/L	2000	2000	670	NLV	NLV	14000000	NA	ID	ID
Beryllium (dissolved)	ug/L	4	4	6.7	NLV	NLV	290000	NA	ID	ID
Cadmium (dissolved)	ug/L	5	5	2.5	NLV	NLV	190000	NA	ID	ID
Chromium (dissolved)	ug/L	100	100	11	NLV	NLV	460000	NA	ID	ID
Chromium VI (hexavalent) (dissolved)	ug/L	100	100	11	NLV	NLV	460000	NA	ID	ID
Cobalt (dissolved)	ug/L	40	100	100	NLV	NLV	2400000	NA	ID	ID
Copper (dissolved)	ug/L	1000	1000	13	NLV	NLV	7400000	NA	ID	ID
Iron (dissolved)	ug/L	300	300	NA	NLV	NLV	58000000	NA	ID	ID
Lead (dissolved)	ug/L	4	4	14	NLV	NLV	ID	NA	ID	ID
Manganese (dissolved)	ug/L	50	50	1300	NLV	NLV	9100000	NA	ID	ID
Mercury (dissolved)	ug/L	2	2	0.0013	56	56	56	56	ID	ID
Molybdenum (dissolved)	ug/L	73	210	3200	NLV	NLV	970000	NA	ID	ID
Nickel (dissolved)	ug/L	100	100	73	NLV	NLV	74000000	NA	ID	ID
Selenium (dissolved)	ug/L	50	50	5	NLV	NLV	970000	NA	ID	ID
Silver (dissolved)	ug/L	34	98	0.2	NLV	NLV	1500000	NA	ID	ID
Thallium (dissolved)	ug/L	2	2	3.7	NLV	NLV	13000	NA	ID	ID
Vanadium (dissolved)	ug/L	4.5	62	27	NLV	NLV	970000	NA	ID	ID
Zinc (dissolved)	ug/L	2400	5000	170	NLV	NLV	110000000	NA	ID	ID

Final Validated

Notes:
[1] Cleanup criteria identified by MDEQ RRD Op Memo No. 1, updated 9/28/2012, pursuant to 1994 PA 451 as amended.
[2] Carbonate Hardness of 344 mg/L was used to calculate Groundwater Surface Water Interface Protection Criteria.
-- Parameter was not analyzed.
U - Not present at or above the associated value.
J - Estimated concentration.
UJ - Estimated reporting limit.
R - Rejected.
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 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*85-1*	*85-2*	*85-6*	*85-7*	*86-3*	*87-8*	*87-9*	*87-10*	*87-11*	*87-13*	*88-2*	*88-3*
Sample Identification		*GW-17360-102512-EB-017*	*GW-17360-102512-EB-019*	*GW-17360-102912-DD-036*	*GW-17360-102512-EB-018*	*GW-17360-102512-JV-012*	*GW-17360-102512-JV-014*	*GW-17360-102512-JV-010*	*GW-17360-102612-JV-027*	*GW-17360-102612-JV-026*	*GW-17360-102512-JV-015*	*GW-17360-103012-JV-043*	*GW-17360-103012-JV-042*
Sample Date		*10/25/2012*	*10/25/2012*	*10/29/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/30/2012*	*10/30/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1.0 U	6.4	0.37 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	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	1.0 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	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.4	1.0 U	1.0 U	0.26 J	1.0 U	1.0 U	0.28 J	0.51 J	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	0.26 J	1.0 U	1.0 U	1.0 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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	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	5.0 U	5.0 U	5.0 U	5.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	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	5.0 U	5.0 U	5.0 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	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	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	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	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	0.28 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	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	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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.36 J	1.0 U	1.0 U	1.0 U	1.5	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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	2.3	1.0 U	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.1	7.0	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	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	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 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	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	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	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	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	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	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	1.0 U	1.0 U	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	4.2	1.0 U	1.0 U	1.0 U	1.0 U	0.37 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	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	0.84 J	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	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.1	1.2	1.4	**6.2**[AB]	1.0 U	1.4	5.0	**24**[AB]	0.42 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	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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	**2.1**[AB]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 UJ	3.0 UJ	3.0 U	3.0 UJ	3.0 UJ	3.0 UJ	3.0 UJ	3.0 U	3.0 U	3.0 UJ	3.0 U	3.0 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*85-1*	*85-2*	*85-6*	*85-7*	*86-3*	*87-8*	*87-9*	*87-10*	*87-11*	*87-13*	*88-2*	*88-3*
Sample Identification		*GW-17360-102512-EB-017*	*GW-17360-102512-EB-019*	*GW-17360-102912-DD-036*	*GW-17360-102512-EB-018*	*GW-17360-102512-JV-012*	*GW-17360-102512-JV-014*	*GW-17360-102512-JV-010*	*GW-17360-102612-JV-027*	*GW-17360-102612-JV-026*	*GW-17360-102512-JV-015*	*GW-17360-103012-JV-043*	*GW-17360-103012-JV-042*
Sample Date		*10/25/2012*	*10/25/2012*	*10/29/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/30/2012*	*10/30/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	Units												
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	--	--	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	--	--	0.94	--	--	--	--	--	--	--	--	--
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	--	--	0.66	--	--	--	--	--	--	--	--	--
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	--	--	0.56	--	--	--	--	--	--	--	--	--
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	--	--	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	--	--	0.50 U	--	--	--	--	--	--	--	--	--

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*85-1*	*85-2*	*85-6*	*85-7*	*86-3*	*87-8*	*87-9*	*87-10*	*87-11*	*87-13*	*88-2*	*88-3*
Sample Identification		*GW-17360-102512-EB-017*	*GW-17360-102512-EB-019*	*GW-17360-102912-DD-036*	*GW-17360-102512-EB-018*	*GW-17360-102512-JV-012*	*GW-17360-102512-JV-014*	*GW-17360-102512-JV-010*	*GW-17360-102612-JV-027*	*GW-17360-102612-JV-026*	*GW-17360-102512-JV-015*	*GW-17360-103012-JV-043*	*GW-17360-103012-JV-042*
Sample Date		*10/25/2012*	*10/25/2012*	*10/29/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/30/2012*	*10/30/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	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	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Antimony	ug/L	0.67 J	0.33 J	--	0.41 J	--	--	--	--	1.0 U	--	--	--
Arsenic	ug/L	6.3	0.31 J	--	0.24 J	--	--	--	--	0.37 J	--	--	--
Barium	ug/L	86	110	--	67	--	--	--	--	110	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	--	1.0 U	--	--	--	--	1.0 U	--	--	--
Cadmium	ug/L	0.074 J	0.055 J	--	0.15 J	--	--	--	--	0.49	--	--	--
Chromium	ug/L	0.31 J	0.27 J	--	1.1	--	--	--	--	1.0 U	--	--	--
Cobalt	ug/L	0.90 J	0.83 J	--	0.15 J	--	--	--	--	0.46 J	--	--	--
Copper	ug/L	0.50 J	4.0	--	1.8	--	--	--	--	1.4	--	--	--
Iron	ug/L	**3500**[SD]	**490**[SD]	--	**310**[SD]	--	--	--	--	160	--	--	--
Lead	ug/L	0.19 J	0.67 J	--	0.74 J	--	--	--	--	1.7	--	--	--
Manganese	ug/L	**670**[SD]	**95**[SD]	--	1.3	--	--	--	--	**87**[SD]	--	--	--
Mercury	ug/L	0.20 U	0.20 U	--	0.20 U	--	--	--	--	0.20 U	--	--	--
Molybdenum	ug/L	0.44 J	9.0	--	0.91 J	--	--	--	--	0.35 J	--	--	--
Nickel	ug/L	1.3	2.7	--	0.84 J	--	--	--	--	2.3	--	--	--
Selenium	ug/L	1.0 U	1.3 U	--	1.0 U	--	--	--	--	1.0 U	--	--	--
Silver	ug/L	0.20 U	0.20 U	--	0.20 U	--	--	--	--	0.20 U	--	--	--
Thallium	ug/L	1.0 U	1.0 U	--	1.0 U	--	--	--	--	1.0 U	--	--	--
Vanadium	ug/L	0.21 J	2.3	--	0.47 J	--	--	--	--	0.18 J	--	--	--
Zinc	ug/L	48	90	--	98	--	--	--	--	**1700**[C]	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*88-4*	*C-1*	*C-2*	*C-3*	*C-3*	*MW1-03*	*MW2-03*	*MW5-03*	*MW6-03*	*MW7-03*	*MW8-04*	*MW9-04*
Sample Identification		*GW-17360-103012-JV-041*	*SW-17360-103012-JV-048*	*SW-17360-103012-JV-049*	*SW-17360-103012-JV-050*	*SW-17360-110812-EB-009*	*GW-17360-102912-DD-038*	*GW-17360-102912-DD-037*	*GW-17360-102612-JV-033*	*GW-17360-102512-JV-020*	*GW-17360-102512-JV-011*	*GW-17360-102512-JV-021*	*GW-17360-102612-JV-034*
Sample Date		*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*11/8/2012*	*10/29/2012*	*10/29/2012*	*10/26/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/26/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	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	5.0 U	5.0 U	5.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	ug/L	5.0 U	7.1 U	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	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	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	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	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	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	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	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	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	0.28 J	1.0 U	1.0 U	--	1.0 U	0.19 J	30	1.0 U	1.0 U	4.1	10
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	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	0.87 J	1.1	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	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	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 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	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	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	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	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	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	1.0 U	1.0 U	1.0 U	1.0 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	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.7	0.80 J	1.0 U	--	**160**[nc]	2.2	0.38 J	1.0 U	1.0 U	1.0 U	0.25 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	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	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	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	0.55 J	0.47 J	1.0 U	--	1.4	1.0 U	0.30 J	1.0 U	1.2	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	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	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	0.26 J	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 UJ	3.0 UJ	3.0 UJ	3.0 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*88-4*	*C-1*	*C-2*	*C-3*	*C-3*	*MW1-03*	*MW2-03*	*MW5-03*	*MW6-03*	*MW7-03*	*MW8-04*	*MW9-04*
Sample Identification		*GW-17360-103012-JV-041*	*SW-17360-103012-JV-048*	*SW-17360-103012-JV-049*	*SW-17360-103012-JV-050*	*SW-17360-110812-EB-009*	*GW-17360-102912-DD-038*	*GW-17360-102912-DD-037*	*GW-17360-102612-JV-033*	*GW-17360-102512-JV-020*	*GW-17360-102512-JV-011*	*GW-17360-102512-JV-021*	*GW-17360-102612-JV-034*
Sample Date		*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*11/8/2012*	*10/29/2012*	*10/29/2012*	*10/26/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/26/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	Units												
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	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*88-4*	*C-1*	*C-2*	*C-3*	*C-3*	*MW1-03*	*MW2-03*	*MW5-03*	*MW6-03*	*MW7-03*	*MW8-04*	*MW9-04*
Sample Identification		*GW-17360-103012-JV-041*	*SW-17360-103012-JV-048*	*SW-17360-103012-JV-049*	*SW-17360-103012-JV-050*	*SW-17360-110812-EB-009*	*GW-17360-102912-DD-038*	*GW-17360-102912-DD-037*	*GW-17360-102612-JV-033*	*GW-17360-102512-JV-020*	*GW-17360-102512-JV-011*	*GW-17360-102512-JV-021*	*GW-17360-102612-JV-034*
Sample Date		*10/30/2012*	*10/30/2012*	*10/30/2012*	*10/30/2012*	*11/8/2012*	*10/29/2012*	*10/29/2012*	*10/26/2012*	*10/25/2012*	*10/25/2012*	*10/25/2012*	*10/26/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	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	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Antimony	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW10-04*	*MW11D-04*	*MW11S-05*	*MW13-04*	*MW15-04*	*MW17-06*	*MW27-11*	*MW28-12*	*MW29-12*	*MW30-12*	*MW31-12*	*MW32-12*
Sample Identification		*GW-17360-102612-JV-025*	*GW-17360-102612-JV-024*	*GW-17360-102612-JV-023*	*GW-17360-102312-DD-003*	*GW-17360-102512-EB-022*	*GW-17360-103012-JV-047*	*GW-17360-102612-EB-028*	*GW-17360-102512-EB-016*	*GW-17360-102912-DD-040*	*GW-17360-102912-DD-039*	*GW-17360-103012-JV-045*	*GW-17360-103012-JV-044*
Sample Date		*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/23/2012*	*10/25/2012*	*10/30/2012*	*10/26/2012*	*10/25/2012*	*10/29/2012*	*10/29/2012*	*10/30/2012*	*10/30/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	Units												
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	0.17 J	1.0 U	4.9	1.0 U	0.67 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 U	1.0 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	1.0 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	1.0 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	1.0 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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	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	5.0 U	5.0 U	5.0 U	5.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	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	11	5.0 U	5.0 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	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	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	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	0.83 J	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	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	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	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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	0.53 J	0.15 J	1.0 U	1.0 U	1.0 U	1.0 U	0.14 J	0.84 J	1.0 U	0.39 J	0.50 J	0.44 J
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	0.72 J	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	**72**[ab]	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	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	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 U	1.0 U	1.0 U	1.0 U	0.67 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	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	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	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	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	0.38 J	1.0 U	1.0 U	1.0 U	1.0 U	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	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	1.0 U	1.0 U	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	**60**[ab]	1.0 U	1.0 U	**13**[ab]	**12**[ab]	**5.3**[ab]	1.3
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	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	0.97 J	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	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	4.1	2.4	0.36 J	1.0 U	1.0	**5.9**[ab]	2.0	1.0 U	1.0 U	0.71 J	0.93 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	1.2	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	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	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	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U	3.0 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW10-04*	*MW11D-04*	*MW11S-05*	*MW13-04*	*MW15-04*	*MW17-06*	*MW27-11*	*MW28-12*	*MW29-12*	*MW30-12*	*MW31-12*	*MW32-12*
Sample Identification		*GW-17360-102612-JV-025*	*GW-17360-102612-JV-024*	*GW-17360-102612-JV-023*	*GW-17360-102312-DD-003*	*GW-17360-102512-EB-022*	*GW-17360-103012-JV-047*	*GW-17360-102612-EB-028*	*GW-17360-102512-EB-016*	*GW-17360-102912-DD-040*	*GW-17360-102912-DD-039*	*GW-17360-103012-JV-045*	*GW-17360-103012-JV-044*
Sample Date		*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/23/2012*	*10/25/2012*	*10/30/2012*	*10/26/2012*	*10/25/2012*	*10/29/2012*	*10/29/2012*	*10/30/2012*	*10/30/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	Units												
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	--	--	--	--	--	--	--	--	--	--	--	--
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	--	--	--	--	--	--	--	--	--	--	--	--

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SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW10-04*	*MW11D-04*	*MW11S-05*	*MW13-04*	*MW15-04*	*MW17-06*	*MW27-11*	*MW28-12*	*MW29-12*	*MW30-12*	*MW31-12*	*MW32-12*
Sample Identification		*GW-17360-102612-JV-025*	*GW-17360-102612-JV-024*	*GW-17360-102612-JV-023*	*GW-17360-102312-DD-003*	*GW-17360-102512-EB-022*	*GW-17360-103012-JV-047*	*GW-17360-102612-EB-028*	*GW-17360-102512-EB-016*	*GW-17360-102912-DD-040*	*GW-17360-102912-DD-039*	*GW-17360-103012-JV-045*	*GW-17360-103012-JV-044*
Sample Date		*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/23/2012*	*10/25/2012*	*10/30/2012*	*10/26/2012*	*10/25/2012*	*10/29/2012*	*10/29/2012*	*10/30/2012*	*10/30/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	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	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Antimony	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW33-12*	*MW34-12*	*MW35-12*	*MW36-12*	*MW37-12*	*MW38-12*	*MW39-12*	*MW40-12*	*MW41-12*	*MW42-12*	*MW43-12*	*MW44-12*
Sample Identification		*GW-17360-110212-BW-051*	*GW-17360-110212-BW-052*	*GW-17360-102612-EB-035*	*GW-17360-103012-JV-046*	*GW-17360-102312-DD-009*	*GW-17360-102312-DD-008*	*GW-17360-102612-EB-032*	*GW-17360-102612-EB-030*	*GW-17360-102612-EB-029*	*GW-17360-102612-EB-031*	*GW-17360-102312-DD-004*	*GW-17360-102312-DD-007*
Sample Date		*11/2/2012*	*11/2/2012*	*10/26/2012*	*10/30/2012*	*10/23/2012*	*10/23/2012*	*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/23/2012*	*10/23/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	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	1.0 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	1.0 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	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	1.0 U	0.22 J	0.45 J	0.61 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	0.40 J	1.2	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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 U	1.0 U	1.0 U	0.35 J
2-Butanone (Methyl ethyl ketone) (MEK)	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	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	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	5.0 U	5.0 U	5.0 U	5.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	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	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	0.28 J	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	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	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	3.9	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	0.89 J	5.0 U	0.25 J	5.0 U	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	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	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	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	0.62 J	1.2	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	2.4	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.18 J	1.0 U	1.0 U	1.0 U	7.8	6.5	0.32 J	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	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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	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 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	0.55 J	1.0 U	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	1.0 U	1.0 U	1.0 U	2.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.2
Methyl acetate	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	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	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	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	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	1.0 U	1.0 U	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	0.74 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 J	1.0 U	1.0 U	0.96 J	2.0	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	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	1.8	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	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.1	2.9	**21**[ab]	1.0 U	**17**[ab]	4.4	2.4	3.2	1.0 U	0.25 J	0.43 J	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	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	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	0.27 J	0.56 J	**7.2**[ab]	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	2.1 J	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	1.9 J

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW33-12*	*MW34-12*	*MW35-12*	*MW36-12*	*MW37-12*	*MW38-12*	*MW39-12*	*MW40-12*	*MW41-12*	*MW42-12*	*MW43-12*	*MW44-12*
Sample Identification		*GW-17360-110212-BW-051*	*GW-17360-110212-BW-052*	*GW-17360-102612-EB-035*	*GW-17360-103012-JV-046*	*GW-17360-102312-DD-009*	*GW-17360-102312-DD-008*	*GW-17360-102612-EB-032*	*GW-17360-102612-EB-030*	*GW-17360-102612-EB-029*	*GW-17360-102612-EB-031*	*GW-17360-102312-DD-004*	*GW-17360-102312-DD-007*
Sample Date		*11/2/2012*	*11/2/2012*	*10/26/2012*	*10/30/2012*	*10/23/2012*	*10/23/2012*	*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/23/2012*	*10/23/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	Units												
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	--	--	--	--	--	--	--	--	--	--	--	0.70
2-Nitroaniline	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.50 U
2-Nitrophenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.50 U
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
Phenanthrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.50 U
Phenol	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.50 U
Pyrene	ug/L	--	--	--	--	--	--	--	--	--	--	--	0.50 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW33-12*	*MW34-12*	*MW35-12*	*MW36-12*	*MW37-12*	*MW38-12*	*MW39-12*	*MW40-12*	*MW41-12*	*MW42-12*	*MW43-12*	*MW44-12*
Sample Identification		*GW-17360-110212-BW-051*	*GW-17360-110212-BW-052*	*GW-17360-102612-EB-035*	*GW-17360-103012-JV-046*	*GW-17360-102312-DD-009*	*GW-17360-102312-DD-008*	*GW-17360-102612-EB-032*	*GW-17360-102612-EB-030*	*GW-17360-102612-EB-029*	*GW-17360-102612-EB-031*	*GW-17360-102312-DD-004*	*GW-17360-102312-DD-007*
Sample Date		*11/2/2012*	*11/2/2012*	*10/26/2012*	*10/30/2012*	*10/23/2012*	*10/23/2012*	*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/26/2012*	*10/23/2012*	*10/23/2012*
Sample Type													
Sample Depth		-	-	-	-	-	-	-	-	-	-	-	-
	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	--	--	--	--	--	--	--	--	--	--	--	--
Metals													
Antimony	ug/L	1.0 U	1.0 U	--	--	0.37 J	--	1.0 U	--	--	--	--	0.20 J
Arsenic	ug/L	0.34 J	1.0 U	--	--	0.32 J	--	0.40 J	--	--	--	--	**24**[abc]
Barium	ug/L	51	36	--	--	140	--	75	--	--	--	--	190
Beryllium	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--	--	--	--	1.0 U
Cadmium	ug/L	0.20 U	0.059 J	--	--	0.20 U	--	0.20 U	--	--	--	--	0.20 U
Chromium	ug/L	1.0 U	1.2 U	--	--	0.33 J	--	1.0 U	--	--	--	--	0.25 J
Cobalt	ug/L	1.6	0.50 J	--	--	1.3	--	4.4	--	--	--	--	2.8
Copper	ug/L	1.8	3.0	--	--	1.7	--	1.2	--	--	--	--	1.8
Iron	ug/L	150	130	--	--	83	--	30	--	--	--	--	**6000**[ab]
Lead	ug/L	0.22 J	2.4	--	--	0.65 J	--	1.0 U	--	--	--	--	0.46 J
Manganese	ug/L	23	8.2	--	--	**360**[ab]	--	**54**[ab]	--	--	--	--	**300**[ab]
Mercury	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--	--	--	--	0.20 U
Molybdenum	ug/L	0.41 J	0.46 J	--	--	0.79 J	--	6.3	--	--	--	--	1.4
Nickel	ug/L	1.6	2.7	--	--	2.1	--	3.2	--	--	--	--	8.4
Selenium	ug/L	0.97 J	3.8	--	--	1.0 U	--	1.0 U	--	--	--	--	0.45 J
Silver	ug/L	0.20 U	0.20 U	--	--	0.20 U	--	0.20 U	--	--	--	--	0.20 U
Thallium	ug/L	1.0 U	1.0 U	--	--	1.0 U	--	1.0 U	--	--	--	--	1.0 U
Vanadium	ug/L	1.2	1.2	--	--	0.91 J	--	0.79 J	--	--	--	--	0.51 J
Zinc	ug/L	4.2 J	23	--	--	16	--	3.8 J	--	--	--	--	13
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW45-12*	*MW45-12*	*MW46-12*	*MW46-12*	*MW50-12*	*MW51-12*	*MW52-12*	*MW53-12*	*PWDISCH*	*SB189-12*	*SB190-12*	*SB192-12*
Sample Identification		*GW-17360-102312-DD-005*	*GW-17360-102312-DD-006*	*GW-17360-102312-DD-001*	*GW-17360-102312-DD-002*	*GW-17360-110212-BW-201*	*GW-17360-110212-BW-200*	*GW-17360-110212-BW-199*	*WG-17360-110512-EB-001*	*GW-17360-102512-JV-013*	*GW-17360-103112-DD-171*	*GW-17360-110112-DD-198*	*GW-17360-103012-DD-114*
Sample Date		*10/23/2012*	*10/23/2012*	*10/23/2012*	*10/23/2012*	*11/2/2012*	*11/2/2012*	*11/2/2012*	*11/5/2012*	*10/25/2012*	*10/31/2012*	*11/1/2012*	*10/30/2012*
Sample Type			*Duplicate*		*Duplicate*								
Sample Depth		-	-	-	-	-	-	-	-	-	*(17-) ft BGS*	*(17-) ft BGS*	*(16-) 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 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	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	5.0 U	5.0 U	--	2.6 J	8.6	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 U	11	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	26	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	ug/L	5.0 U	5.0 U	5.0 U	--	12 U	61	190	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	0.24 J	0.81 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	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	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	1.2	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	0.27 J	0.57 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	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	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	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	--	3.1	6.3	0.58 J	2.5	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	--	0.34 J	0.45 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	0.30 J	0.29 J	1.0 U	--	1.5	1.0 U	0.18 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	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	5.0 U	5.0 U	5.0 U	--	5.0 U	0.31 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 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	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 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	--	0.54 J	0.89 J	0.94 J	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	--	4.6	1.0 U	4.8	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	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	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	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	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	3.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	ug/L	1.2	1.2	1.0 U	--	0.60 J	2.1	1.0 U	1.0 U	1.0 U	1.0 U	**12**[ab]	0.56 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	--	0.29 J	0.44 J	0.60 J	1.0 U	7.6	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	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	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	0.60 J	0.60 J	1.0 U	--	0.42 J	0.44 J	1.0 U	1.0 U	0.32 J	1.0 U	0.57 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	1.0 U	1.0 U	0.80 J
Trifluorotrichloroethane (Freon 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	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	1.0 U	1.0 U	1.0 U
Xylenes (total)	ug/L	3.0 U	3.0 U	3.0 U	--	15	10	9.2	3.0 U	3.0 UJ	3.0 U	3.0 U	3.0 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW45-12*	*MW45-12*	*MW46-12*	*MW46-12*	*MW50-12*	*MW51-12*	*MW52-12*	*MW53-12*	*PWDISCH*	*SB189-12*	*SB190-12*	*SB192-12*
Sample Identification		*GW-17360-102312-DD-005*	*GW-17360-102312-DD-006*	*GW-17360-102312-DD-001*	*GW-17360-102312-DD-002*	*GW-17360-110212-BW-201*	*GW-17360-110212-BW-200*	*GW-17360-110212-BW-199*	*WG-17360-110512-EB-001*	*GW-17360-102512-JV-013*	*GW-17360-103112-DD-171*	*GW-17360-110112-DD-198*	*GW-17360-103012-DD-114*
Sample Date		*10/23/2012*	*10/23/2012*	*10/23/2012*	*10/23/2012*	*11/2/2012*	*11/2/2012*	*11/2/2012*	*11/5/2012*	*10/25/2012*	*10/31/2012*	*11/1/2012*	*10/30/2012*
Sample Type			*Duplicate*		*Duplicate*								
Sample Depth		-	-	-	-	-	-	-	-	-	*(17-) ft BGS*	*(17-) ft BGS*	*(16-) ft BGS*
	Units												
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	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2,4,5-Trichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2,4,6-Trichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2,4-Dichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2,4-Dimethylphenol	ug/L	1.0 U	1.0 U	1.0 U	--	10 U	5.0 U	20 U	1.0 U	--	1.0 U	1.0 U	1.0 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	--	50 U	25 U	100 U	5.0 U	--	5.0 U	5.0 U	5.0 U
2,4-Dinitrotoluene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2,6-Dinitrotoluene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2-Chloronaphthalene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2-Chlorophenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2-Methylnaphthalene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2-Methylphenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2-Nitroaniline	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
2-Nitrophenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
3,3'-Dichlorobenzidine	ug/L	R	R	R	--	10 U	5.0 U	20 U	R	--	1.0 U	1.0 U	1.0 UJ
3-Nitroaniline	ug/L	R	R	R	--	10 U	5.0 U	20 U	1.0 U	--	1.0 U	1.0 U	1.0 UJ
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	--	50 U	25 U	100 U	5.0 U	--	5.0 U	5.0 U	5.0 U
4-Bromophenyl phenyl ether	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
4-Chloro-3-methylphenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
4-Chloroaniline	ug/L	1.0 U	1.0 U	1.0 U	--	10 U	5.0 U	20 U	1.0 U	--	1.0 U	1.0 U	1.0 UJ
4-Chlorophenyl phenyl ether	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
4-Methylphenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
4-Nitroaniline	ug/L	R	R	R	--	10 U	5.0 U	20 U	R	--	1.0 U	1.0 U	1.0 U
4-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	--	50 U	25 U	100 U	5.0 U	--	5.0 U	5.0 U	5.0 U
Acenaphthene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Acenaphthylene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Acetophenone	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	11	0.50 U	--	0.50 U	0.50 U	0.50 UJ
Anthracene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Atrazine	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Benzaldehyde	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	R
Benzo(a)anthracene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Benzo(a)pyrene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Benzo(b)fluoranthene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Benzo(g,h,i)perylene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Benzo(k)fluoranthene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Biphenyl (1,1-Biphenyl)	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
bis(2-Chloroethoxy)methane	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
bis(2-Chloroethyl)ether	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Butyl benzylphthalate (BBP)	ug/L	1.0 U	1.0 U	1.0 U	--	10 U	5.0 U	20 U	1.0 U	--	1.0 U	1.0 U	1.0 U
Caprolactam	ug/L	1.0 U	1.0 U	1.0 U	--	10 UJ	5.0 UJ	20 UJ	1.0 UJ	--	1.0 UJ	1.0 UJ	1.0 U
Carbazole	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Chrysene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Dibenz(a,h)anthracene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Dibenzofuran	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Diethyl phthalate	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.68
Dimethyl phthalate	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Di-n-butylphthalate (DBP)	ug/L	1.0 U	1.0 U	1.0 U	--	10 U	5.0 U	20 U	1.0 U	--	1.0 U	1.0 U	1.0 U
Di-n-octyl phthalate (DnOP)	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Fluoranthene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Fluorene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Hexachlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Hexachlorocyclopentadiene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Hexachloroethane	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Indeno(1,2,3-cd)pyrene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Isophorone	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	**14'**	0.50 U	--	0.50 U	0.50 U	0.50 U
Nitrobenzene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
N-Nitrosodi-n-propylamine	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
N-Nitrosodiphenylamine	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Pentachlorophenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Phenanthrene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U
Phenol	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	19	0.50 U	--	0.50 U	0.50 U	0.50 U
Pyrene	ug/L	0.50 U	0.50 U	0.50 U	--	5.0 U	2.5 U	10 U	0.50 U	--	0.50 U	0.50 U	0.50 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*MW45-12*	*MW45-12*	*MW46-12*	*MW46-12*	*MW50-12*	*MW51-12*	*MW52-12*	*MW53-12*	*PWDISCH*	*SB189-12*	*SB190-12*	*SB192-12*
Sample Identification		*GW-17360-102312-DD-005*	*GW-17360-102312-DD-006*	*GW-17360-102312-DD-001*	*GW-17360-102312-DD-002*	*GW-17360-110212-BW-201*	*GW-17360-110212-BW-200*	*GW-17360-110212-BW-199*	*WG-17360-110512-EB-001*	*GW-17360-102512-JV-013*	*GW-17360-103112-DD-171*	*GW-17360-110112-DD-198*	*GW-17360-103012-DD-114*
Sample Date		*10/23/2012*	*10/23/2012*	*10/23/2012*	*10/23/2012*	*11/2/2012*	*11/2/2012*	*11/2/2012*	*11/5/2012*	*10/25/2012*	*10/31/2012*	*11/1/2012*	*10/30/2012*
Sample Type			*Duplicate*		*Duplicate*								
Sample Depth		-	-	-	-	-	-	-	-	-	*(17-) ft BGS*	*(17-) ft BGS*	*(16-) ft BGS*
	Units												
PCBs													
Aroclor-1016 (PCB-1016)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Aroclor-1248 (PCB-1248)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Aroclor-1260 (PCB-1260)	ug/L	--	--	--	--	0.20 UJ	0.24 UJ	0.20 UJ	0.20 U	--	0.20 U	0.20 U	0.20 U
Total PCBs	ug/L	--	--	--	--	0	0	0	0	--	0	0	0
Metals													
Antimony	ug/L	0.36 J	1.0 U	0.72 J	--	--	--	--	1.0 U	--	--	--	--
Arsenic	ug/L	1.1	1.0	0.22 J	--	--	--	--	0.61 J	--	--	--	--
Barium	ug/L	80	83	44	--	--	--	--	24	--	--	--	--
Beryllium	ug/L	1.0 U	1.0 U	0.12 J	--	--	--	--	1.0 U	--	--	--	--
Cadmium	ug/L	0.20 U	0.20 U	0.051 J	--	--	--	--	0.20 U	--	--	--	--
Chromium	ug/L	1.0 U	1.0 U	1.2	--	--	--	--	0.31 J	--	--	--	--
Cobalt	ug/L	1.3	1.3	0.36 J	--	--	--	--	0.15 J	--	--	--	--
Copper	ug/L	0.98 J	1.2	1.7	--	--	--	--	1.4	--	--	--	--
Iron	ug/L	**590**[a,b]	**550**[a,b]	53	--	--	--	--	36	--	--	--	--
Lead	ug/L	0.22 J	0.38 J	0.28 J	--	--	--	--	1.0 U	--	--	--	--
Manganese	ug/L	**220**[a,b]	**230**[a,b]	4.1	--	--	--	--	4.0	--	--	--	--
Mercury	ug/L	0.20 U	0.20 U	0.20 U	--	--	--	--	0.20 U	--	--	--	--
Molybdenum	ug/L	0.33 J	0.34 J	0.33 J	--	--	--	--	0.72 J	--	--	--	--
Nickel	ug/L	3.1	3.3	2.0	--	--	--	--	0.72 J	--	--	--	--
Selenium	ug/L	1.0 U	1.0 U	1.4	--	--	--	--	0.33 J	--	--	--	--
Silver	ug/L	0.20 U	0.20 U	0.20 U	--	--	--	--	0.20 U	--	--	--	--
Thallium	ug/L	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	--	--	--	--
Vanadium	ug/L	0.40 J	0.40 J	0.48 J	--	--	--	--	0.57 J	--	--	--	--
Zinc	ug/L	6.2 J	23 J	20	--	--	--	--	10 U	--	--	--	--
Antimony (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	1.0 U	0.32 J	0.47 J
Arsenic (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	0.34 J	0.49 J	0.59 J
Barium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	9.0	53	27
Beryllium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U
Cadmium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U
Chromium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	0.29 J	4.6	0.50 J
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	1.1	1.2	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	1.3	1.1	1.8
Copper (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	**15**[c]	1.3	0.95 J
Iron (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	77	10 J	13 J
Lead (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	0.81 J	1.0 U	1.0 U
Manganese (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	**72**[a,b]	**66**[a,b]	**190**[a,b]
Mercury (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U
Molybdenum (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	2.9	6.7	7.3
Nickel (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	2.8	1.6	3.5
Selenium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	1.4	1.5	1.3
Silver (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U
Thallium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	0.041 J
Vanadium (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	1.0 U	1.0 U	1.0 U
Zinc (dissolved)	ug/L	--	--	--	--	--	--	--	--	--	9.6 J	6.3 J	8.6 J

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB194-12*	*SB195-12*	*SB195-12*	*SB197-12*	*SB199-12*	*SB199-12*	*SB199-12*	*SB214-12*
Sample Identification		*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*	*GW-17360-103112-DD-176*	*GW-17360-103112-DD-177*	*GW-17360-103012-DD-126*
Sample Date		*10/30/2012*	*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/30/2012*
Sample Type				*Duplicate*					
Sample Depth		*(15-) ft BGS*	*(16-) ft BGS*	*(16-) ft BGS*	*(15.5-) ft BGS*	*(16-) ft BGS*	*(26-) ft BGS*	*(36-) ft BGS*	*(16-) 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	1.0 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	1.0 U	1.0 U	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 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-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
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	5.0 U	5.0 U	5.0 U	1.5 J	25 U	25 U	25 U	5.0 U
2-Hexanone	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	50 U	50 U	50 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	50 U	50 U	50 U	5.0 U
Acetone	ug/L	5.0 U	9.1	8.9	8.8	50 U	1.9 J	50 U	5.0 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 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	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	1.4	1.2	1.0 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	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	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	9.3	14	30	1.0 U
Chloromethane (Methyl chloride)	ug/L	1.0 U	1.1	0.95 J	1.0 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	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	5.0 U	5.0 U	5.0 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	5.0 U	5.0 U	1.0 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	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	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	10 U	10 U	10 U	5.0 U
Methyl cyclohexane	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
Methyl tert butyl ether (MTBE)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	1.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	1.0 U	1.0 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	0.77 J	1.0 U	1.0 U	**9.0**[10]	1.0 U	1.0 U	1.0 U	0.37 J
Toluene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.70 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 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	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	0.83 J	5.8	6.1	2.0	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	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 UJ	3.0 U	3.0 U	3.0 U	3.0 U

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB194-12*	*SB195-12*	*SB195-12*	*SB197-12*	*SB199-12*	*SB199-12*	*SB199-12*	*SB214-12*
Sample Identification		*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*	*GW-17360-103112-DD-176*	*GW-17360-103112-DD-177*	*GW-17360-103012-DD-126*
Sample Date		*10/30/2012*	*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/30/2012*
Sample Type				*Duplicate*					
Sample Depth		*(15-) ft BGS*	*(16-) ft BGS*	*(16-) ft BGS*	*(15.5-) ft BGS*	*(16-) ft BGS*	*(26-) ft BGS*	*(36-) ft BGS*	*(16-) ft BGS*
	Units								
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	2.5 U	--	--	--	0.50 U
2,4,5-Trichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2,4,6-Trichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2,4-Dichlorophenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2,4-Dimethylphenol	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	--	--	--	1.0 U
2,4-Dinitrophenol	ug/L	5.0 U	5.0 U	5.0 U	25 U	--	--	--	5.0 U
2,4-Dinitrotoluene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2,6-Dinitrotoluene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2-Chloronaphthalene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2-Chlorophenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2-Methylnaphthalene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2-Methylphenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2-Nitroaniline	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
2-Nitrophenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
3,3'-Dichlorobenzidine	ug/L	10 UJ	1.0 UJ	1.0 UJ	5.0 UJ	--	--	--	1.0 UJ
3-Nitroaniline	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	--	--	--	1.0 UJ
4,6-Dinitro-2-methylphenol	ug/L	5.0 U	5.0 U	5.0 U	25 U	--	--	--	5.0 U
4-Bromophenyl phenyl ether	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
4-Chloro-3-methylphenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
4-Chloroaniline	ug/L	1.0 UJ	1.0 UJ	1.0 UJ	5.0 UJ	--	--	--	1.0 UJ
4-Chlorophenyl phenyl ether	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
4-Methylphenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
4-Nitroaniline	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	--	--	--	1.0 U
4-Nitrophenol	ug/L	5.0 U	5.0 U	5.0 U	25 U	--	--	--	5.0 U
Acenaphthene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Acenaphthylene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Acetophenone	ug/L	0.50 UJ	0.50 UJ	0.50 UJ	2.5 UJ	--	--	--	0.50 UJ
Anthracene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Atrazine	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Benzaldehyde	ug/L	R	R	R	R	--	--	--	R
Benzo(a)anthracene	ug/L	0.50 U	0.73	0.50 U	2.5 U	--	--	--	**2.8**[a]
Benzo(a)pyrene	ug/L	0.50 U	0.53	0.50 U	2.5 U	--	--	--	**2.8**[a,g]
Benzo(b)fluoranthene	ug/L	0.50 U	0.65	0.50 U	2.5 U	--	--	--	**2.8**[a,b,g]
Benzo(g,h,i)perylene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	**1.9**[a,b,g]
Benzo(k)fluoranthene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	**2.2**[a,b,g]
Biphenyl (1,1-Biphenyl)	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
bis(2-Chloroethoxy)methane	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
bis(2-Chloroethyl)ether	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	0.52	0.50 U	0.50 U	2.5 U	--	--	--	0.62
Butyl benzylphthalate (BBP)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	--	--	--	1.0 U
Caprolactam	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	--	--	--	1.0 U
Carbazole	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Chrysene	ug/L	0.50 U	0.60	0.50 U	2.5 U	--	--	--	**3.0**[a,b,g]
Dibenz(a,h)anthracene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.66
Dibenzofuran	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Diethyl phthalate	ug/L	0.50 U	0.90	1.0	3.6	--	--	--	0.93
Dimethyl phthalate	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Di-n-butylphthalate (DBP)	ug/L	1.0 U	1.0 U	1.0 U	5.0 U	--	--	--	1.0 U
Di-n-octyl phthalate (DnOP)	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Fluoranthene	ug/L	0.50 U	0.72	0.66	2.5 U	--	--	--	**3.9**[a]
Fluorene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Hexachlorobenzene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Hexachlorobutadiene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Hexachlorocyclopentadiene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Hexachloroethane	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Indeno(1,2,3-cd)pyrene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	**1.9**[a,b]
Isophorone	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Naphthalene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Nitrobenzene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
N-Nitrosodi-n-propylamine	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
N-Nitrosodiphenylamine	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Pentachlorophenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Phenanthrene	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Phenol	ug/L	0.50 U	0.50 U	0.50 U	2.5 U	--	--	--	0.50 U
Pyrene	ug/L	0.50 U	1.1	0.83	2.5 U	--	--	--	3.5

TABLE 4

SUMMARY OF ANALYTICAL RESULTS FOR GROUNDWATER AND SURFACE WATER SAMPLES
SITE-WIDE INVESTIGATION DATA PACKAGE - STAGE III
FORMER GRAND RAPIDS METAL PLANT
WYOMING, MICHIGAN

Sample Location		*SB194-12*	*SB195-12*	*SB195-12*	*SB197-12*	*SB199-12*	*SB199-12*	*SB199-12*	*SB214-12*
Sample Identification		*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*	*GW-17360-103112-DD-176*	*GW-17360-103112-DD-177*	*GW-17360-103012-DD-126*
Sample Date		*10/30/2012*	*10/26/2012*	*10/26/2012*	*10/25/2012*	*10/31/2012*	*10/31/2012*	*10/31/2012*	*10/30/2012*
Sample Type				*Duplicate*					
Sample Depth		*(15-) ft BGS*	*(16-) ft BGS*	*(16-) ft BGS*	*(15.5-) ft BGS*	*(16-) ft BGS*	*(26-) ft BGS*	*(36-) ft BGS*	*(16-) ft BGS*
	Units								
PCBs									
Aroclor-1016 (PCB-1016)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Aroclor-1221 (PCB-1221)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Aroclor-1232 (PCB-1232)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Aroclor-1242 (PCB-1242)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Aroclor-1248 (PCB-1248)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Aroclor-1254 (PCB-1254)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Aroclor-1260 (PCB-1260)	ug/L	0.20 U	0.20 UJ	0.20 UJ	0.20 U	--	--	--	0.20 U
Total PCBs	ug/L	0	0	0	0	--	--	--	0
Metals									
Antimony	ug/L	--	--	--	--	--	--	--	--
Arsenic	ug/L	--	--	--	--	--	--	--	--
Barium	ug/L	--	--	--	--	--	--	--	--
Beryllium	ug/L	--	--	--	--	--	--	--	--
Cadmium	ug/L	--	--	--	--	--	--	--	--
Chromium	ug/L	--	--	--	--	--	--	--	--
Cobalt	ug/L	--	--	--	--	--	--	--	--
Copper	ug/L	--	--	--	--	--	--	--	--
Iron	ug/L	--	--	--	--	--	--	--	--
Lead	ug/L	--	--	--	--	--	--	--	--
Manganese	ug/L	--	--	--	--	--	--	--	--
Mercury	ug/L	--	--	--	--	--	--	--	--
Molybdenum	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--
Selenium	ug/L	--	--	--	--	--	--	--	--
Silver	ug/L	--	--	--	--	--	--	--	--
Thallium	ug/L	--	--	--	--	--	--	--	--
Vanadium	ug/L	--	--	--	--	--	--	--	--
Zinc	ug/L	--	--	--	--	--	--	--	--
Antimony (dissolved)	ug/L	0.18 J	**8.9[ab]**	**9.0[ab]**	1.7	--	--	--	0.17 J
Arsenic (dissolved)	ug/L	0.55 J	7.0	7.0	1.6	--	--	--	0.61 J
Barium (dissolved)	ug/L	28	11	11	29	--	--	--	29
Beryllium (dissolved)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U
Cadmium (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	0.059 J	--	--	--	0.20 U
Chromium (dissolved)	ug/L	0.52 J	**37[c]**	**38[c]**	0.46 J	--	--	--	0.55 J
Chromium VI (hexavalent) (dissolved)	ug/L	--	--	--	--	--	--	--	--
Cobalt (dissolved)	ug/L	2.2	3.5	3.5	4.6	--	--	--	3.1
Copper (dissolved)	ug/L	1.4	**34[c]**	**33[c]**	6.3	--	--	--	1.3
Iron (dissolved)	ug/L	23	37 J	22 J	**520 J[ab]**	--	--	--	97
Lead (dissolved)	ug/L	1.0 U	0.61 J	0.62 J	0.85 J	--	--	--	1.0 U
Manganese (dissolved)	ug/L	**250[ab]**	2.1 J	0.97 J	**98[ab]**	--	--	--	**250[ab]**
Mercury (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	0.20 U
Molybdenum (dissolved)	ug/L	5.7	13	13	9.9	--	--	--	8.6
Nickel (dissolved)	ug/L	7.4	6.8	6.3	10	--	--	--	8.0
Selenium (dissolved)	ug/L	2.4	0.96 J	1.0 U	0.79 J	--	--	--	3.9
Silver (dissolved)	ug/L	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	0.20 U
Thallium (dissolved)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	--	--	--	0.035 J
Vanadium (dissolved)	ug/L	0.19 J	**18[a]**	**18[a]**	2.0	--	--	--	1.0 U
Zinc (dissolved)	ug/L	18	18	11	14	--	--	--	8.5 J

ATTACHMENT A

STRATIGRAPHIC SOIL BORING LOGS AND WELL CONSTRUCTION DETAILS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

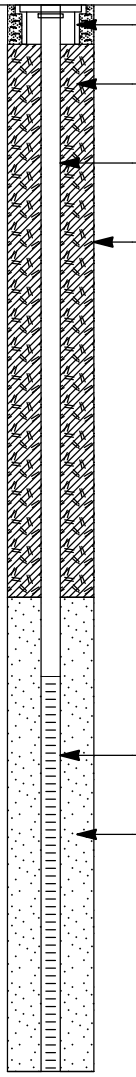
HOLE DESIGNATION: MW50-12
DATE COMPLETED: October 25, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

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
4	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	
8	- fine grained sand, trace fine grained gravel, trace brick debris at 7.5ft BGS - gravelly sand, faint odor at 8.5ft BGS	
12	- 5" concrete at 10.5ft BGS - gravelly sand, faint odor at 10.9ft BGS	
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
20	- wet at 19.0ft BGS	
24	SP-SAND, trace silt, compact, very fine grained, poorly graded, light brown, wet	655.48
26	END OF BOREHOLE @ 27.0ft BGS	653.48
28		
30		
32		
34		

MONITORING WELL



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

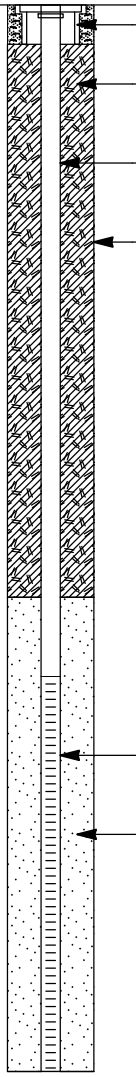
HOLE DESIGNATION: MW51-12
DATE COMPLETED: October 24, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

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	
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	670.98
12	CONCRETE	668.98
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	
27	END OF BOREHOLE @ 27.0ft BGS	652.98

MONITORING WELL: CONCRETE; BENTONITE CHIPS; 2" PVC WELL CASING; 6" BOREHOLE; 2" PVC WELL SCREEN; SAND PACK

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

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

HOLE DESIGNATION: SB189-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 511204.5
EASTING: 12772799.1

GROUND SURFACE 675.70

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	CONCRETE	675.20
2	SP-SAND (FILL), trace silt, trace fine gravel, loose, fine grained, poorly graded, light brown, damp, faint petroleum-type odor	
4	SP-SAND (FILL), with slag, resembles foundry sand, loose, fine grained, poorly graded, dark gray, damp, faint petroleum-type odor	672.20 671.70
6	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, light brown, damp, faint petroleum-type odor	
8		
10	PT-PEAT (native), trace to with sand, loose, black, moist, faint petroleum-type odor	666.70 665.90
12	SP-SAND (natural), trace silt, compact, fine grained, poorly graded, gray, moist, strong petroleum-type odor - brown at 12.8ft BGS	
14		
16	- wet at 16.0ft BGS - fine to medium grained at 17.0ft BGS	
18		
20	END OF BOREHOLE @ 20.0ft BGS	655.70
22		
24		
26		
28		
30		
32		
34		

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -169				1.4
1DP		80		
				1.2
				0.6
2DP		80		
				12.4
10.5-12.5' -170				52.5
3DP		80		
				12.4
				0.0
4DP		80		
				0.6

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB190-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510530.5
EASTING: 12773234.2

GROUND SURFACE 677.50

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
	CONCRETE	676.70
2	SP-SAND (FILL), trace silt, very loose, fine grained, poorly graded, brown, moist	
4		
6	- fine grained sand, with fine grained gravel (pebble size) at 6.0ft BGS	
8		669.50
	SP-SAND (native), trace silt, compact, medium grained sand, poorly graded, brown, moist	
10	- gravelly sand, fine grained pebble size gravel at 9.0ft BGS	
12		
14	- medium grained sand, with fine grained gravel at 13.0ft BGS	
16	- wet at 16.0ft BGS	
18		
20	END OF BOREHOLE @ 20.0ft BGS	657.50
22		
24		
26		
28		
30		
32		
34		

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -196				0.0
1DP		56		
				0.0
				0.0
2DP		70		
				0.0
				0.0
3DP		80		
				0.0
14-16' -197				
				0.0
17' -198 4DP		80		
				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB191-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510191.3
EASTING: 12773776.1

GROUND SURFACE 678.10

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SP-SAND (FILL), trace silt, trace brick and concrete debris, loose, fine grained, poorly graded, light brown, moist		BACKFILLED WITH BENTONITE CHIPS	0-2' -115				0.0
2				1DP		80		
4								0.0
6								0.0
8				2DP		100		
10								0.0
12	SP-GRAVELLY SAND (native), compact, fine to medium grained sand, fine grained subrounded gravel up to 1/4", poorly graded, brown, moist	666.10						0.0
14	- wet at 14.0ft BGS			3DP 12-14' -116		100		0.0
16	END OF BOREHOLE @ 15.0ft BGS	663.10						
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB192-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510226.9
EASTING: 12773806

GROUND SURFACE 678.10

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, light brown, moist, trace concrete and brick debris	
10	SP-GRAVELLY SAND (native), compact, fine to medium grained sand, fine grained gravel up to 1/4", poorly graded, light brown, moist	669.10
14	- wet at 14.0ft BGS	
18	SP-SAND, loose, soft, compact, very fine grained, poorly graded, light brown, wet	660.10
20	END OF BOREHOLE @ 20.0ft BGS	658.10

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -111				0.0
1DP		80		0.0
				0.0
2DP		90		0.0
				0.0
3DP 12-14' -112		90		0.0
				0.0
17' -113 4DP		60		0.0
				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB193-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510220.3
EASTING: 12773691.1

GROUND SURFACE 677.70

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SP-SAND (FILL), trace silt, trace brick and concrete debris, loose, fine grained, poorly graded, brown, moist			0-2' -119				
2				1DP		80		0.0
4			BACKFILLED WITH BENTONITE CHIPS					
6								
8				2DP		80		0.0
10								
12	SP/GP-SAND AND GRAVEL (native), compact, fine to medium grained sand, fine grained subrounded gravel up to 1/4", poorly graded, brown, moist	665.70		3DP		80		0.0
14	- wet at 14.5ft BGS			12.5-14.5' -120				
16	END OF BOREHOLE @ 15.0ft BGS	662.70						
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB194-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510230.3
EASTING: 12773745.6

GROUND SURFACE 677.60

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, light brown, moist, trace concrete and brick debris			0-2' -117				0.0
2				1DP		80		
4								0.0
6			BACKFILLED WITH BENTONITE CHIPS					0.0
8				2DP		90		
10								0.0
12	SP-GRAVELLY SAND (native), compact, fine to medium grained sand, fine grained subrounded gravel up to 1/2", brown, moist	665.60						0.0
14	- wet at 13.0ft BGS			3DP		90		
16	- sand, with gravel at 17.0ft BGS			13-15' -118				0.0
18				16' -119				0.0
20	END OF BOREHOLE @ 20.0ft BGS	657.60		4DP		60		0.0
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB195-12
DATE COMPLETED: October 26, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 510323.3
EASTING: 12773881.9

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	678.50						
0	SP/GP-SAND AND GRAVEL (FILL), loose, fine grained sand, fine grained gravel, poorly graded, brown, moist			0-2' -108				0.0
2				1DP		100		
4								0.0
6	SP-SAND (FILL), with concrete and brick rubble 3-1/2" and larger, loose, fine sand, poorly graded, brown, moist	673.50	BACKFILLED WITH BENTONITE CHIPS	2DP		100		0.0
8								0.0
10	CONCRETE	669.50		3DP		64		
	SW/GW-SAND AND GRAVEL (FILL), compact, fine to medium grained sand, fine grained gravel, well graded, light brown, damp	668.50						0.0
12	CONCRETE	667.50		4DP 11-13' -109				0.0
	SP-SAND (FILL), few gravel, with concrete debris up to 2", compact, fine grained, poorly graded, brown, moist to very moist	666.50						
14	- wet at 13.0ft BGS							0.0
	SP-SAND (native), trace silt, compact, very fine grained, poorly graded, light brown, wet	663.50						
16				5DP		100		0.0
18	SP-GRAVELLY SAND, compact, medium grained sand, fine grained gravel, poorly graded, oxidized brown, wet	660.50						
		660.00						
20	ML-SANDY SILT, trace clay, compact, no plasticity, rapid dilatancy, light brown, wet	659.50						
	SM-SILTY SAND, compact, very fine grained, poorly graded, light brown, wet	658.50						
22	END OF BOREHOLE @ 20.0ft BGS							
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB196-12
DATE COMPLETED: October 25, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 510326.9
EASTING: 12773777.9

GROUND SURFACE 677.20

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SW/GW-SAND AND GRAVEL (FILL), few brick and concrete debris, trace metal, loose, fine to medium grained sand, fine to coarse grained subangular gravel and crushed concrete, brown, moist			0-2' -106 1DP		100		0.0
2								0.0
4	- increase in quantity and size of brick and concrete debris, gray at 3.5ft BGS							0.0
6			BACKFILLED WITH BENTONITE CHIPS	2DP		100		0.0
8	CONCRETE	670.20						0.0
10				3DP		100		0.0
12	SP-SAND (FILL), few gravel, compact, fine grained, poorly graded, very moist to wet	666.20		4DP 11-13' -107		100		0.0
14	- wet at 13.0ft BGS							0.0
16	SP-SAND (native), trace silt, compact, very fine grained, poorly graded, light brown, wet	662.20		5DP		100		0.0
18								0.0
20	END OF BOREHOLE @ 20.0ft BGS	657.20						
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB197-12
DATE COMPLETED: October 25, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 510336.9
EASTING: 12773702.1

GROUND SURFACE 676.20

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SW/GW-SAND AND GRAVEL (FILL), loose, fine to medium grained sand, fine to coarse grained subrounded gravel up to 5/8", well graded, brown, moist - trace metal and concrete debris at 1.0ft BGS			0-2' -101				0.0
2								
4	SP-SAND (FILL), few gravel, loose, fine to medium grained, poorly graded, brown, moist, trace concrete debris	672.70	BACKFILLED WITH BENTONITE CHIPS	1DP		73		0.0
6								0.0
8	CONCRETE	669.20		2DP		100		0.0
10								
12	SW/GW-SAND AND GRAVEL (FILL), compact, fine to medium grained sand, fine to coarse grained subangular gravel, well graded, brown, moist - wet at 13.0ft BGS	665.70		3DP 11-13' -103/ 104		100		0.0
14	SP-SAND (native), with gravel, compact, fine to medium grained sand, fine grained rounded gravel up to 1/2", poorly graded, brown, wet	662.20		13-15' -105				0.0
16				4DP		86		0.0
18	SP-SAND, trace silt, compact, fine to very fine grained, poorly graded, light brown, wet	659.20						0.0
20	END OF BOREHOLE @ 20.0ft BGS	656.20						
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

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: SB198-12
DATE COMPLETED: October 25, 2012
DRILLING METHOD: ROTOSONIC
FIELD PERSONNEL: D. DEITNER

NORTHING: 510331.3
EASTING: 1277633.8

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	676.10					
0	SP-SAND (FILL), with gravel, very loose, fine to medium grained sand, fine grained gravel up to 3/4", trace crushed concrete, poorly graded, brown,. moist	674.90	0-2' -100				0.0
4	SP-SAND (FILL), trace gravel, loose, fine grained sand, fine grained gravel (pebble size up to 1/2"), poorly graded, brown, moist		1DP		80		0.0
6							0.0
8	- fine grained sand, trace silt at 8.5ft BGS						0.0
10							0.0
12	SW/GW-SAND AND GRAVEL (native), loose, fine to medium grained sand, fine grained subrounded gravel up to 1/2", well graded, brown, moist	665.10 664.10	11-13' -102				0.0
14	SP-SAND, trace silt, loose, fine to very fine grained, light brown, very moist to wet	663.10	2DP		72		0.0
16	SP-GRAVELLY SAND, loose, medium grained sand, fine grained subrounded gravel up to 3/4", poorly graded, brown, wet						0.0
18							0.0
20	END OF BOREHOLE @ 20.0ft BGS	656.10					
22							
24							
26							
28							
30							
32							
34							

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG 017360-T05WIN.GPJ CRA_CORP.GDT 1/30/13

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

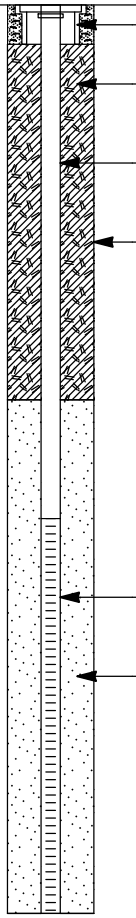
PROJECT NAME: FORMER GRAND RAPIDS METAL PLANT
PROJECT NUMBER: 017360
CLIENT: RACER TRUST
LOCATION: WYOMING, MI

HOLE DESIGNATION: SB199-12/MW53-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: 4-1/4" HSA/ SPLIT SPOON
FIELD PERSONNEL: D. DEITNER

NORTHING: 509689.2
EASTING: 12773076.6
GROUND SURFACE: 677.24
TOP OF CASING: 676.65

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
	CONCRETE	676.34
2	SW/GW-SAND AND GRAVEL (FILL), compact, fine to medium grained sand, fine grained angular gravel, well graded, brown, damp	674.74
4	SP-SAND (native), trace silt, compact, fine grained, poorly graded, light brown, dry - trace fine grained gravel (pebble size), loose at 4.0ft BGS	
6	- 1/4" lens oxidized at 6.5ft BGS - fine to medium grained sand, trace fine grained gravel, compact at 7.0ft BGS	
8		668.74
10	SP/GP-SAND AND GRAVEL, compact, medium grained sand, fine grained rounded gravel up to 1/4", poorly graded, brown, dry - gravel up to 1/2" at 10.0ft BGS	
12		
14		
	- wet at 15.0ft BGS	
16	SP-SAND, trace silt, compact, fine grained, poorly graded, light brown, wet - 1" lens gravelly sand at 16.5ft BGS	661.44
18	- loose at 18.0ft BGS	659.54
20	SP/GP-SAND AND GRAVEL, compact, fine grained sand, fine grained rounded gravel up to 1/4", poorly graded, brown, wet - compact at 20.0ft BGS	
22		
24		652.74
26	SP-SAND, with gravel, compact, fine to medium grained sand, fine grained rounded gravel (pebbles), poorly graded, brown, wet	651.24
	SP-SAND, trace silt, compact, fine grained, poorly graded, light brown, wet	650.14
28	ML-SANDY SILT, compact, no plasticity, brown, wet, rapid dilatancy	649.64
30	SP-SAND, trace silt, compact, fine to medium grained, poorly graded, brown, wet - gravelly sand at 28.0ft BGS - fine to medium grained sand at 28.5ft BGS	
32	- fine grained sand at 28.7ft BGS - 1" silty clay at 29.1ft BGS	
34	- fine grained sand at 29.2ft BGS - fine to medium grained sand, with gravel at 29.8ft BGS	644.24

MONITORING WELL



WELL DETAILS
Screened interval:
664.24 to 654.24ft
13.00 to 23.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVVC
Seal:
676.24 to 667.24ft
1.00 to 10.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:
667.24 to 654.24ft
10.00 to 23.00ft BGS
Material: SAND

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1SS		50	NR	0.0
2SS		75	13	0.0
3SS		50	8	0.0
4SS		75	10	0.0
5SS		75	12	0.0
6SS		75	32	0.0
7SS		90	14	0.0
8SS		60	10	0.0
16' -175				
9SS		100	9	0.0
10SS		85	6	0.0
11SS		60	18	0.0
12SS		75	7	0.6
13SS			--	--
26' -176				
14SS		100	17	0.0
15SS		100	20	0.0
16SS		80	2	0.0
17SS		85	6	0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

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: SB199-12/MW53-12
DATE COMPLETED: October 31, 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	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
36	- fine grained sand at 30.0ft BGS - trace fine grained gravel up to 1/4" at 31.3ft BGS - fine to medium grained sand at 32.0ft BGS	642.24		18SS			-	-
				36" -177				
				19SS		100	12	0.0
38	SP/GP-SAND AND GRAVEL, loose, fine grained sand, fine grained rounded gravel up to 1/4", poorly graded, brown, wet	639.54						
				20SS		100	49	0.0
40	SP-SAND, trace gravel, compact, fine to medium grained, poorly graded, brown, wet - gravelly sand at 37.2ft BGS - 1" highly oxidized at 37.6ft BGS - trace fine grained gravel, trace sand, hard, gray, moist at 38.0ft BGS	637.34		21SS		100	21	0.0
42		635.24						
44	CL-SILTY CLAY, firm, low plasticity, brown, moist							
46	SM-SAND, with silt, compact, very fine grained, poorly graded, light brown, wet - 1" silty clay, trace gravel at 41.2ft BGS							
48	END OF BOREHOLE @ 42.0ft BGS							
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

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: SB200-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510527
EASTING: 12772966.6

GROUND SURFACE 677.20

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	CONCRETE	676.70		0-2' -158				0.0
2	SP-SAND, trace fine gravel, compact, fine grained, poorly graded, brown, moist - trace coal fragments at 1.0ft BGS - trace coal fragments at 2.2ft BGS - trace coal fragments at 3.0ft BGS			1GP 2-4' -159/ 160'		50		0.0
4			BACKFILLED WITH BENTONITE CHIPS	4-6' -161				0.0
6	SP-SAND, trace fine to coarse gravel, trace fines, compact, fine to medium grained, poorly graded, dark brown - brown at 7.5ft BGS	671.20		6-8' -162 2GP		60		0.0
8				8-10' -163				0.0
10	END OF BOREHOLE @ 10.0ft BGS	667.20						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB201-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510506.9
EASTING: 12772970

GROUND SURFACE 677.10

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	CONCRETE	676.60		0-2' -164				0.0
2	SP-SAND, trace fine gravel, compact, fine grained, poorly graded, brown, moist - trace coal fragments at 1.2ft BGS - dark brown at 2.0ft BGS			1GP 2-4' -165		65		0.0
4	- light brown at 3.5ft BGS			4-6' -166				0.0
6	SP-SAND, with fine gravel, compact, fine grained, poorly graded, light brown, moist	672.10	BACKFILLED WITH BENTONITE CHIPS	6-8' -167 2GP		60		0.0
8	- trace coal fragments at 8.0ft BGS			8-10' -168				0.0
10	END OF BOREHOLE @ 10.0ft BGS	667.10						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB202-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510506.9
EASTING: 12772948.8

GROUND SURFACE 676.90

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
	CONCRETE	676.40
2	SP-SAND, trace fine to coarse gravel, compact, fine grained, poorly graded, brown, moist	
	- trace coal fragments at 2.0ft BGS	
4		
	- trace slag at 5.2ft BGS	
6		
	- trace slag and coal fragments at 6.5ft BGS	
	- trace coal fragments at 6.8ft BGS	
8		
	- trace slag at 8.5ft BGS	
	- trace slag at 9.0ft BGS	
10	END OF BOREHOLE @ 10.0ft BGS	666.90
12		
14		
16		
18		
20		
22		
24		
26		
28		
30		
32		
34		

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -150				0.0
1GP 2-4' -151		50		0.0
4-6' -152				0.0
6-8' -153/ 154 2GP		50		0.0
8-10' -155				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB203-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510506.7
EASTING: 12772939.3

GROUND SURFACE 676.90

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	676.65		0-2' -144/ 145				0.0
	CONCRETE	676.15						
	- dark brown at 1.0ft BGS			1GP 2-4' -146		65		0.0
2	SP-SAND, trace fine gravel, compact, fine grained, trace medium grained, poorly graded, brown, moist							
4	- trace coal/tar fragments, trace slag at 2.2ft BGS		BACKFILLED WITH BENTONITE CHIPS	4-6' -147				0.0
	- trace coal/tar fragments, trace slag at 4.5ft BGS							
6	- trace coal/tar fragments, trace slag at 6.0ft BGS			6-8' -148 2GP		70		0.0
8	- trace slag at 8.5ft BGS							
	- 2" seam black stained sand at 9.0ft BGS			8-10' -149				0.0
10	END OF BOREHOLE @ 10.0ft BGS	666.90						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB204-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510519.3
EASTING: 12772938.9

GROUND SURFACE 676.90

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	676.65		0-2' -139				0.0
	CONCRETE	676.15						
2	SP-SAND, trace fine gravel, compact, fine grained, trace medium grained, poorly graded, brown, moist			1GP 2-4' -140		35		0.0
4	- black smear at 1.5ft BGS		BACKFILLED WITH BENTONITE CHIPS	4-6' -141				0.0
6				6-8' -142 2GP		40		0.0
8	- light brown at 7.0ft BGS			8-10' -143				0.0
10	END OF BOREHOLE @ 10.0ft BGS	666.90						
12								
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB205-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510527.1
EASTING: 12772939.1

GROUND SURFACE 676.80

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	676.60						
	CONCRETE	676.10		0-2' -134				0.1
2	SP-SAND, trace fine to coarse gravel, compact, fine grained, trace medium grained, poorly graded, light brown, moist - brown to light brown banding at 2.3ft BGS			1GP 2-4' -135		60		0.0
4	- concrete debris at 2.5ft BGS							
	- dark brown at 2.7ft BGS	671.80	BACKFILLED WITH BENTONITE CHIPS	4-6' -136				0.0
6	- light brown at 2.9ft BGS - with fine gravel at 3.2ft BGS - trace coal/tar fragments 0.1" diameter at 4.7ft BGS			6-8' -137 2GP		60		0.1
8	SP-SAND, with fine to medium grained gravel, compact, medium to coarse sand, poorly graded, brown, moist			8-10' -138				0.0
10	- 1" seam oxidized sand, with fines at 7.0ft BGS	666.80						
	- brown to light brown at 7.5ft BGS							
12	END OF BOREHOLE @ 10.0ft BGS							
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB206-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510527.1
EASTING: 12772946.1

GROUND SURFACE 676.80

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	676.55		0-2' -129				0.0
2	SP-SAND, trace fine gravel, compact, fine grained, trace medium to coarse grained, poorly graded, brown, moist			1GP 2-4' -130		65		0.0
4	- black smear at 3.2ft BGS - trace coal/tar fragments, 1/4" diameter at 3.4ft BGS - trace medium grained sand at 4.8ft BGS		BACKFILLED WITH BENTONITE CHIPS	4-6' -131				0.0
6								
8	- concrete debris at 7.5ft BGS	669.30		6-8' -132 2GP		60		0.0
10	SP-SAND, with fine to coarse gravel, trace fines, compact, fine to coarse grained, poorly graded, light brown			8-10' -133				0.0
12	END OF BOREHOLE @ 10.0ft BGS	666.80						
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB207-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512168.3
EASTING: 12772780.6

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
	GROUND SURFACE	671.60
0	SP-SAND (FILL), and slag, loose, fine grained sand, slag to 1/4", dry	671.10
2	SP-SAND (FILL), trace gravel, loose, fine grained, poorly graded, brown, moist	670.10
	SP-SAND (FILL), and slag, loose, fine grained sand, slag up to 1/4", dry	668.60
4	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, brown, moist	667.60
6	SP-SAND (FILL), and slag, loose, fine grained, poorly graded, dark gray, moist - 3" lens rusty brown at 4.5ft BGS	665.60
8	SP-SAND (FILL), trace silt, trace concrete debris, loose, fine grained, poorly graded, brown, moist	663.60
	PT-PEAT FIBERS (native), with silt, trace sand, loose, brown, very moist	662.60
10	OL-ORGANIC SILT/MARL,very soft, white, with gray and brown lenses, wet	661.60
12	END OF BOREHOLE @ 10.0ft BGS	

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -185				0.0
1DP 2-4' -186		50		0.0
4-6' -187/ 188				0.0
6-8' -189 2DP		60		0.0
8-10' -190				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

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: SB212-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512025.8
EASTING: 12772784.8

GROUND SURFACE 671.90

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0	SP-SAND (FILL), and slag, fine grained, poorly graded, dark gray, dry	670.90		0-2' -191				0.0
2	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, light brown, moist			1DP 2-4' -192		50		0.0
4			BACKFILLED WITH BENTONITE CHIPS	4-6' -193				0.0
6	- trace slag at 6.0ft BGS			6-8' -194 2DP		60		0.0
8	- 6" sand and slag, dark gray at 8.0ft BGS	663.40						
	PT-PEAT (native), with clay, trace silt, loose, fiberous, dark brown, very moist	662.90		8-10' -195				0.0
10	SP-SAND (native), trace silt, compact, fine grained, poorly graded, brown, wet	661.90						
	- trace fine grained gravel at 9.8ft BGS							
12	END OF BOREHOLE @ 10.0ft BGS							
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB213-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510250.2
EASTING: 12773621.2

GROUND SURFACE 677.70

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP-SAND (FILL), trace silt, trace brick and concrete debris, loose, fine grained, poorly graded, brown, moist	
12	SP/GP-SAND AND GRAVEL (native), compact, fine to medium grained sand, fine grained subrounded gravel up to 1/2", poorly graded, brown, moist - wet at 14.9ft BGS	665.70
16	SP-SAND, with gravel, compact, fine to medium grained sand, fine grained subrounded gravel up to 1/2", poorly graded, brown, wet	661.70
20	END OF BOREHOLE @ 20.0ft BGS	657.70

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -122				0.0
1DP		80		0.0
				0.0
2DP		80		0.0
				0.0
				0.0
3DP		80		0.0
13-15' -123				0.0
4DP		80		0.0
				0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB214-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 510205.6
EASTING: 12773555.1

GROUND SURFACE 677.70

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP-SAND (FILL), trace gravel, trace silt, trace concrete debris, loose, fine grained, poorly graded, grayish brown, moist	
6	SP-SAND (native), with gravel, compact, fine grained, poorly graded, brown, moist	671.70
10	SP/GP-SAND AND GRAVEL, compact, fine to medium grained sand, fine grained gravel up to 1/2", poorly graded, brown, moist	667.70
14	- wet at 14.0ft BGS	
16	SP-SAND, trace silt, compact, fine grained, poorly graded, brown, wet	661.70
18	SP/GP-SAND AND GRAVEL, compact, fine to medium grained sand, fine grained gravel up to 1/2" poorly graded, brown, wet	659.20
20	END OF BOREHOLE @ 20.0ft BGS	657.70

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -124				0.0
1DP		90		0.0
				0.0
2DP		80		0.0
				0.0
3DP 12-14' -125		80		0.0
				0.0
16' -126				0.0
4DP		70		0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB215-12
DATE COMPLETED: October 31, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: E. BATENBURG

NORTHING: 510516.1
EASTING: 12772948.5

GROUND SURFACE 676.80

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	676.55						0.0
2	SP-SAND, trace fine gravel, compact, fine grained, poorly graded, dark brown, moist			1GP		40		0.0
	CONCRETE DEBRIS, weathered	674.30						
4	SP-SAND, trace fine gravel, compact, fine grained, poorly graded, dark brown, moist	673.80	BACKFILLED WITH BENTONITE CHIPS					0.0
6	- trace coal fragments at 6.0ft BGS - light brown at 6.5ft BGS			6-8' -156 2GP		50		0.0
8	- brown at 7.5ft BGS							
				8-10' -157				0.0
10	SP-SAND, trace fine to coarse gravel, compact, fine to coarse grained, poorly graded, light brown, moist	667.30 666.80						
12	END OF BOREHOLE @ 10.0ft BGS							
14								
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB216-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512113.3
EASTING: 12773013.4

GROUND SURFACE 676.10

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL (FILL), with crushed concrete, loose, fine grained sand, fine to coarse grained gravel, poorly graded, brown, moist	675.10
2	SP-SAND (FILL), with slag, resembles foundry type sand, loose, fine grained, poorly graded, black, moist	674.20
4	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, brown, with black lenses, moist	
6	CONCRETE	670.10
	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, brown, moist	669.70
8	PT-PEAT (native), with sand and silt, loose, black, moist	667.60
10	SP-SAND (native), trace silt, compact, fine grained, poorly graded, brown, moist	666.10
12		
14		
16	- wet at 16.5ft BGS	
18		
20	END OF BOREHOLE @ 20.0ft BGS	656.10
22		
24		
26		
28		
30		
32		
34		

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -179				0.5
1DP		60		
				0.5
				0.6
2DP		50		
				0.6
				1.2
3DP		40		
				1.5
14.5-16.5' -180				0.5
4DP		60		
				0.5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

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: SB217-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512114.6
EASTING: 12772997.6

GROUND SURFACE 676.10

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL (FILL), trace crushed concrete, loose, fine grained sand, fine grained gravel, poorly graded, brown, moist	675.10
4	SP-SAND (FILL), trace silt, trace concrete, wood and brick debris, loose, fine grained, poorly graded, brown, moist - 1" lens dark gray at 3.0ft BGS - 2" lens dark gray at 3.5ft BGS	671.10
6	SP-SAND (FILL), and slag, loose, black sand (resembles foundry sand/slag up to 1/2"), trace concrete rubble	670.40
8	- 1" silty sand at 5.5ft BGS SP-SAND (FILL), loose, fine grained, poorly graded, blackish brown, damp	
10	- 1" slag/sand mixture, dark gray at 6.0ft BGS	666.10
	- sand, trace silt, trace fine grained gravel, brown at 6.2ft BGS	665.50
12	PT-PEAT (native), with sand and silt, loose, black, moist, few fibers	
14	SP-SAND (native), trace silt, compact, fine grained, poorly graded, light brown, moist	
16	- wet at 16.5ft BGS	
18		
20	END OF BOREHOLE @ 20.0ft BGS	656.10

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -181				0.0
1DP		60		0.0
				0.0
2DP		40		0.0
				0.0
				0.0
3DP		60		0.0
14.5-16.5' -182				0.0
4DP		80		0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

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: SB218-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512075.2
EASTING: 12773015.1

GROUND SURFACE 676.40

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVEL (FILL), trace silt, loose, fine grained sand, fine and coarse grained gravel, crushed concrete, poorly graded, brown, moist	675.40
2	SP-SAND (FILL), trace gravel, trace concrete, loose, fine grained, poorly graded, light brown, moist	
4	- 3" sand and slag, black at 2.5ft BGS - 2" wood at 3.5ft BGS	
6	- 4" sand and slag, black at 6.1ft BGS - 1" wood at 6.5ft BGS - 1/4" crushed brick at 7.0ft BGS	
8	- 1/4" light gray at 7.2ft BGS	
10		665.40
12	OL-ORGANIC SILT/MARL (native), very soft, grayish white, wet, few fibers	664.90
	PT-PEAT (native), trace sand, trace silt, loose, brown, fiberous, very moist	662.90
14	SP-SAND (native), trace silt, compact, fine grained, poorly graded, brown, moist	
16		
18	- wet at 17.5ft BGS	
20	END OF BOREHOLE @ 20.0ft BGS	656.40
22		
24		
26		
28		
30		
32		
34		

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -183				0.0
1DP		70		0.0
				0.0
2DP		70		0.0
				0.0
				0.0
3DP		80		0.0
15.5-17.5' -184				0.0
4DP		80		0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB219-12
DATE COMPLETED: November 1, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512112.5
EASTING: 12773028.3

GROUND SURFACE 676.00

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP/GP-SAND AND GRAVE L(FILL), trace silt, with crushed concrete, loose, fine grained sand, fine to coarse gravel, poorly graded, brown, moist	675.00
2	SP-SAND (FILL), and slag, loose, fine sand, slag up to 1/2", poorly graded, black, dry, resembles foundry sand	673.50
4	SP-SAND (FILL), trace silt, loose, fine grained, poorly graded, light brown, moist - 1" dark gray sand, resembles foundry sand at 4.5ft BGS - 1" concrete rubble at 4.7ft BGS	
6		
8		
10		
12		
14	SP-SAND (native), trace silt, compact, fine grained, poorly graded, light brown, moist	662.00
16		
18	- wet at 17.5ft BGS	
20	END OF BOREHOLE @ 20.0ft BGS	656.00
22		
24		
26		
28		
30		
32		
34		

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -173/ 174				0.0
1DP		70		0.0
				1.0
2DP		40		1.0
				0.0
3DP		80		0.0
15.5-17.5' -178				0.0
4DP		80		0.0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ( )

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: SB220-12
DATE COMPLETED: October 30, 2012
DRILLING METHOD: DIRECT PUSH
FIELD PERSONNEL: D. DEITNER

NORTHING: 512151.5
EASTING: 12773013.2

GROUND SURFACE 675.70

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
0	SP-SAND (FILL), trace silt, trace concrete debris, loose, fine grained, poorly graded, brown, moist	
8		667.20
10	SP-SAND (FILL), loose, fine grained, poorly graded, dark gray, moist, resembles foundry sand	
12		664.70
14	SP-SAND (FILL), trace silt, compact, fine grained, poorly graded, light brown, moist	
16		662.70
16	SP-SAND (native), trace silt, compact, fine grained, poorly graded, light brown, moist - wet at 16.5ft BGS	
20	END OF BOREHOLE @ 20.0ft BGS	655.70

BOREHOLE: BACKFILLED WITH BENTONITE CHIPS

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
0-2' -127	0-2			0.0
1DP	2-4	80		0.0
	4-6			0.0
2DP	6-8	80		0.0
	8-10			0.0
3DP	10-12	80		0.0
	12-14			0.0
14.5-16.5' -128	14-16			0.0
4DP	16-18	80		0.0
	18-20			

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 017360-T05WIN.GPJ CRA_CORP.GDT 1/30/13

ATTACHMENT B

ANALYTICAL LABORATORY DATA

01-Nov-2012

Paul Wiseman
Conestoga-Rovers & Associates
14496 Sheldon Road
Suite 200
Plymouth, MI 48170

Re: **Former Grand Rapids Metal Plant (017360)** Work Order: **12101056**

Dear Paul,

ALS Environmental received 4 samples on 31-Oct-2012 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.

QC sample results for this data met 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,

Electronically approved by: Tom Beamish

Tom Beamish
Senior Project Manager

Certificate No: MN331938

ALS Group USA, Corp

Date: 01-Nov-12

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Work Order: **12101056**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
12101056-01	Trip Blank	Water		10/31/12	10/31/12 16:40	☐
12101056-02	GW-17360-103112-DD-175	Water		10/31/12 10:05	10/31/12 16:40	☐
12101056-03	GW-17360-103112-DD-176	Water		10/31/12 10:45	10/31/12 16:40	☐
12101056-04	GW-17360-103112-DD-177	Water		10/31/12 11:55	10/31/12 16:40	☐

ALS Group USA, Corp

Date: 01-Nov-12

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
WorkOrder: **12101056**

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 detected below quantitation 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

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
SD	Serial Dilution
TDL	Target Detection Limit

Units Reported	Description
µg/L	Micrograms per Liter

ALS Group USA, Corp

Date: *01-Nov-12*

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: Trip Blank
Collection Date: 10/31/12

Work Order: 12101056
Lab ID: 12101056-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
BatchID: R111954							
1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	10/31/12 19:54
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	10/31/12 19:54
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	10/31/12 19:54
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	10/31/12 19:54
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	10/31/12 19:54
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 19:54
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	10/31/12 19:54
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	10/31/12 19:54
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	10/31/12 19:54
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 19:54
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	10/31/12 19:54
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	10/31/12 19:54
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	10/31/12 19:54
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	10/31/12 19:54
2-Butanone	U		0.22	25	µg/L	1	10/31/12 19:54
2-Hexanone	U		0.12	50	µg/L	1	10/31/12 19:54
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	10/31/12 19:54
Acetone	U		0.33	50	µg/L	1	10/31/12 19:54
Benzene	U		0.18	1.0	µg/L	1	10/31/12 19:54
Bromodichloromethane	U		0.12	1.0	µg/L	1	10/31/12 19:54
Bromoform	U		0.15	1.0	µg/L	1	10/31/12 19:54
Bromomethane	U		0.21	5.0	µg/L	1	10/31/12 19:54
Carbon disulfide	U		0.17	5.0	µg/L	1	10/31/12 19:54
Carbon tetrachloride	U		0.12	1.0	µg/L	1	10/31/12 19:54
Chlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 19:54
Chloroethane	U		0.46	5.0	µg/L	1	10/31/12 19:54
Chloroform	U		0.15	1.0	µg/L	1	10/31/12 19:54
Chloromethane	U		0.16	5.0	µg/L	1	10/31/12 19:54
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	10/31/12 19:54
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	10/31/12 19:54
Cyclohexane	U		0.22	1.0	µg/L	1	10/31/12 19:54
Dibromochloromethane	U		0.13	5.0	µg/L	1	10/31/12 19:54
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	10/31/12 19:54
Ethylbenzene	U		0.13	1.0	µg/L	1	10/31/12 19:54
Isopropylbenzene	U		0.14	5.0	µg/L	1	10/31/12 19:54
Methyl acetate	U		0.19	10	µg/L	1	10/31/12 19:54
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	10/31/12 19:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *01-Nov-12*

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: Trip Blank
Collection Date: 10/31/12

Work Order: 12101056
Lab ID: 12101056-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.99	1.0	µg/L	1	10/31/12 19:54
Methylene chloride	U		0.19	5.0	µg/L	1	10/31/12 19:54
Styrene	U		0.11	1.0	µg/L	1	10/31/12 19:54
Tetrachloroethene	U		0.15	1.0	µg/L	1	10/31/12 19:54
Toluene	U		0.12	1.0	µg/L	1	10/31/12 19:54
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 19:54
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	10/31/12 19:54
Trichloroethene	U		0.14	1.0	µg/L	1	10/31/12 19:54
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	10/31/12 19:54
Vinyl chloride	U		0.17	1.0	µg/L	1	10/31/12 19:54
Xylenes, Total	U		0.29	3.0	µg/L	1	10/31/12 19:54
Surr: 1,2-Dichloroethane-d4	*104*			*70-120*	*%REC*	1	10/31/12 19:54
Surr: 4-Bromofluorobenzene	*97.4*			*75-120*	*%REC*	1	10/31/12 19:54
Surr: Dibromofluoromethane	*100*			*85-115*	*%REC*	1	10/31/12 19:54
Surr: Toluene-d8	*88.4*			*85-120*	*%REC*	1	10/31/12 19:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *01-Nov-12*

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: GW-17360-103112-DD-175
Collection Date: 10/31/12 10:05 AM

Work Order: 12101056
Lab ID: 12101056-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
BatchID: R111954							
1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	10/31/12 20:46
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	10/31/12 20:46
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	10/31/12 20:46
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	10/31/12 20:46
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	10/31/12 20:46
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 20:46
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	10/31/12 20:46
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	10/31/12 20:46
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	10/31/12 20:46
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 20:46
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	10/31/12 20:46
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	10/31/12 20:46
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	10/31/12 20:46
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	10/31/12 20:46
2-Butanone	U		0.22	25	µg/L	1	10/31/12 20:46
2-Hexanone	U		0.12	50	µg/L	1	10/31/12 20:46
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	10/31/12 20:46
Acetone	U		0.33	50	µg/L	1	10/31/12 20:46
Benzene	U		0.18	1.0	µg/L	1	10/31/12 20:46
Bromodichloromethane	U		0.12	1.0	µg/L	1	10/31/12 20:46
Bromoform	U		0.15	1.0	µg/L	1	10/31/12 20:46
Bromomethane	U		0.21	5.0	µg/L	1	10/31/12 20:46
Carbon disulfide	U		0.17	5.0	µg/L	1	10/31/12 20:46
Carbon tetrachloride	U		0.12	1.0	µg/L	1	10/31/12 20:46
Chlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 20:46
Chloroethane	U		0.46	5.0	µg/L	1	10/31/12 20:46
Chloroform	**9.3**		**0.15**	**1.0**	**µg/L**	1	10/31/12 20:46
Chloromethane	U		0.16	5.0	µg/L	1	10/31/12 20:46
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	10/31/12 20:46
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	10/31/12 20:46
Cyclohexane	U		0.22	1.0	µg/L	1	10/31/12 20:46
Dibromochloromethane	U		0.13	5.0	µg/L	1	10/31/12 20:46
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	10/31/12 20:46
Ethylbenzene	U		0.13	1.0	µg/L	1	10/31/12 20:46
Isopropylbenzene	U		0.14	5.0	µg/L	1	10/31/12 20:46
Methyl acetate	U		0.19	10	µg/L	1	10/31/12 20:46
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	10/31/12 20:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: GW-17360-103112-DD-175
Collection Date: 10/31/12 10:05 AM

Work Order: 12101056
Lab ID: 12101056-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.99	1.0	µg/L	1	10/31/12 20:46
Methylene chloride	U		0.19	5.0	µg/L	1	10/31/12 20:46
Styrene	U		0.11	1.0	µg/L	1	10/31/12 20:46
Tetrachloroethene	U		0.15	1.0	µg/L	1	10/31/12 20:46
Toluene	U		0.12	1.0	µg/L	1	10/31/12 20:46
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 20:46
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	10/31/12 20:46
Trichloroethene	U		0.14	1.0	µg/L	1	10/31/12 20:46
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	10/31/12 20:46
Vinyl chloride	U		0.17	1.0	µg/L	1	10/31/12 20:46
Xylenes, Total	U		0.29	3.0	µg/L	1	10/31/12 20:46
Surr: 1,2-Dichloroethane-d4	*104*			*70-120*	*%REC*	1	10/31/12 20:46
Surr: 4-Bromofluorobenzene	*93.1*			*75-120*	*%REC*	1	10/31/12 20:46
Surr: Dibromofluoromethane	*102*			*85-115*	*%REC*	1	10/31/12 20:46
Surr: Toluene-d8	*87.4*			*85-120*	*%REC*	1	10/31/12 20:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *01-Nov-12*

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: GW-17360-103112-DD-176
Collection Date: 10/31/12 10:45 AM

Work Order: 12101056
Lab ID: 12101056-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
BatchID: R111954							
1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	10/31/12 21:11
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	10/31/12 21:11
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	10/31/12 21:11
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	10/31/12 21:11
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	10/31/12 21:11
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 21:11
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	10/31/12 21:11
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	10/31/12 21:11
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	10/31/12 21:11
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 21:11
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	10/31/12 21:11
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	10/31/12 21:11
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	10/31/12 21:11
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	10/31/12 21:11
2-Butanone	U		0.22	25	µg/L	1	10/31/12 21:11
2-Hexanone	U		0.12	50	µg/L	1	10/31/12 21:11
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	10/31/12 21:11
Acetone	**1.9**	J	**0.33**	**50**	**µg/L**	1	10/31/12 21:11
Benzene	**0.42**	J	**0.18**	**1.0**	**µg/L**	1	10/31/12 21:11
Bromodichloromethane	U		0.12	1.0	µg/L	1	10/31/12 21:11
Bromoform	U		0.15	1.0	µg/L	1	10/31/12 21:11
Bromomethane	U		0.21	5.0	µg/L	1	10/31/12 21:11
Carbon disulfide	U		0.17	5.0	µg/L	1	10/31/12 21:11
Carbon tetrachloride	U		0.12	1.0	µg/L	1	10/31/12 21:11
Chlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 21:11
Chloroethane	U		0.46	5.0	µg/L	1	10/31/12 21:11
Chloroform	**14**		**0.15**	**1.0**	**µg/L**	1	10/31/12 21:11
Chloromethane	U		0.16	5.0	µg/L	1	10/31/12 21:11
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	10/31/12 21:11
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	10/31/12 21:11
Cyclohexane	U		0.22	1.0	µg/L	1	10/31/12 21:11
Dibromochloromethane	U		0.13	5.0	µg/L	1	10/31/12 21:11
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	10/31/12 21:11
Ethylbenzene	U		0.13	1.0	µg/L	1	10/31/12 21:11
Isopropylbenzene	U		0.14	5.0	µg/L	1	10/31/12 21:11
Methyl acetate	U		0.19	10	µg/L	1	10/31/12 21:11
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	10/31/12 21:11

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *01-Nov-12*

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: GW-17360-103112-DD-176
Collection Date: 10/31/12 10:45 AM

Work Order: 12101056
Lab ID: 12101056-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.99	1.0	µg/L	1	10/31/12 21:11
Methylene chloride	U		0.19	5.0	µg/L	1	10/31/12 21:11
Styrene	U		0.11	1.0	µg/L	1	10/31/12 21:11
Tetrachloroethene	U		0.15	1.0	µg/L	1	10/31/12 21:11
Toluene	**0.70**	J	**0.12**	**1.0**	**µg/L**	1	10/31/12 21:11
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 21:11
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	10/31/12 21:11
Trichloroethene	U		0.14	1.0	µg/L	1	10/31/12 21:11
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	10/31/12 21:11
Vinyl chloride	U		0.17	1.0	µg/L	1	10/31/12 21:11
Xylenes, Total	U		0.29	3.0	µg/L	1	10/31/12 21:11
Surr: 1,2-Dichloroethane-d4	*101*			*70-120*	*%REC*	1	10/31/12 21:11
Surr: 4-Bromofluorobenzene	*99.8*			*75-120*	*%REC*	1	10/31/12 21:11
Surr: Dibromofluoromethane	*95.8*			*85-115*	*%REC*	1	10/31/12 21:11
Surr: Toluene-d8	*89.2*			*85-120*	*%REC*	1	10/31/12 21:11

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *01-Nov-12*

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: GW-17360-103112-DD-177
Collection Date: 10/31/12 11:55 AM

Work Order: 12101056
Lab ID: 12101056-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			**SW8260**				Analyst: **RS**
BatchID: R111954							
1,1,1-Trichloroethane	U		0.14	1.0	µg/L	1	10/31/12 21:37
1,1,2,2-Tetrachloroethane	U		0.13	1.0	µg/L	1	10/31/12 21:37
1,1,2-Trichloroethane	U		0.084	1.0	µg/L	1	10/31/12 21:37
1,1,2-Trichlorotrifluoroethane	U		0.18	1.0	µg/L	1	10/31/12 21:37
1,1-Dichloroethane	U		0.11	1.0	µg/L	1	10/31/12 21:37
1,1-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 21:37
1,2,4-Trichlorobenzene	U		0.16	5.0	µg/L	1	10/31/12 21:37
1,2-Dibromo-3-chloropropane	U		0.31	1.0	µg/L	1	10/31/12 21:37
1,2-Dibromoethane	U		0.16	1.0	µg/L	1	10/31/12 21:37
1,2-Dichlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 21:37
1,2-Dichloroethane	U		0.15	1.0	µg/L	1	10/31/12 21:37
1,2-Dichloropropane	U		0.13	1.0	µg/L	1	10/31/12 21:37
1,3-Dichlorobenzene	U		0.16	1.0	µg/L	1	10/31/12 21:37
1,4-Dichlorobenzene	U		0.15	1.0	µg/L	1	10/31/12 21:37
2-Butanone	U		0.22	25	µg/L	1	10/31/12 21:37
2-Hexanone	U		0.12	50	µg/L	1	10/31/12 21:37
4-Methyl-2-pentanone	U		0.096	50	µg/L	1	10/31/12 21:37
Acetone	U		0.33	50	µg/L	1	10/31/12 21:37
Benzene	U		0.18	1.0	µg/L	1	10/31/12 21:37
Bromodichloromethane	U		0.12	1.0	µg/L	1	10/31/12 21:37
Bromoform	U		0.15	1.0	µg/L	1	10/31/12 21:37
Bromomethane	U		0.21	5.0	µg/L	1	10/31/12 21:37
Carbon disulfide	U		0.17	5.0	µg/L	1	10/31/12 21:37
Carbon tetrachloride	U		0.12	1.0	µg/L	1	10/31/12 21:37
Chlorobenzene	U		0.13	1.0	µg/L	1	10/31/12 21:37
Chloroethane	U		0.46	5.0	µg/L	1	10/31/12 21:37
Chloroform	**30**		**0.15**	**1.0**	**µg/L**	1	10/31/12 21:37
Chloromethane	U		0.16	5.0	µg/L	1	10/31/12 21:37
cis-1,2-Dichloroethene	U		0.11	1.0	µg/L	1	10/31/12 21:37
cis-1,3-Dichloropropene	U		0.081	1.0	µg/L	1	10/31/12 21:37
Cyclohexane	U		0.22	1.0	µg/L	1	10/31/12 21:37
Dibromochloromethane	U		0.13	5.0	µg/L	1	10/31/12 21:37
Dichlorodifluoromethane	U		0.20	5.0	µg/L	1	10/31/12 21:37
Ethylbenzene	U		0.13	1.0	µg/L	1	10/31/12 21:37
Isopropylbenzene	U		0.14	5.0	µg/L	1	10/31/12 21:37
Methyl acetate	U		0.19	10	µg/L	1	10/31/12 21:37
Methyl tert-butyl ether	U		0.070	5.0	µg/L	1	10/31/12 21:37

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Conestoga-Rovers & Associates
Project: Former Grand Rapids Metal Plant (017360)
Sample ID: GW-17360-103112-DD-177
Collection Date: 10/31/12 11:55 AM

Work Order: 12101056
Lab ID: 12101056-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.99	1.0	µg/L	1	10/31/12 21:37
Methylene chloride	U		0.19	5.0	µg/L	1	10/31/12 21:37
Styrene	U		0.11	1.0	µg/L	1	10/31/12 21:37
Tetrachloroethene	U		0.15	1.0	µg/L	1	10/31/12 21:37
Toluene	U		0.12	1.0	µg/L	1	10/31/12 21:37
trans-1,2-Dichloroethene	U		0.12	1.0	µg/L	1	10/31/12 21:37
trans-1,3-Dichloropropene	U		0.15	1.0	µg/L	1	10/31/12 21:37
Trichloroethene	U		0.14	1.0	µg/L	1	10/31/12 21:37
Trichlorofluoromethane	U		0.18	1.0	µg/L	1	10/31/12 21:37
Vinyl chloride	U		0.17	1.0	µg/L	1	10/31/12 21:37
Xylenes, Total	U		0.29	3.0	µg/L	1	10/31/12 21:37
Surr: 1,2-Dichloroethane-d4	*103*			*70-120*	*%REC*	1	10/31/12 21:37
Surr: 4-Bromofluorobenzene	*97.5*			*75-120*	*%REC*	1	10/31/12 21:37
Surr: Dibromofluoromethane	*103*			*85-115*	*%REC*	1	10/31/12 21:37
Surr: Toluene-d8	*88.2*			*85-120*	*%REC*	1	10/31/12 21:37

Note: See Qualifiers page for a list of qualifiers and their definitions.

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

MBLK Sample ID: **VBLKW2-121031-R111954A** Units: **µg/L** Analysis Date: **10/31/12 01:56 PM**

Client ID: Run ID: **VMS9_121031A** SeqNo: **2128882** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	2.0								
1,3-Dichlorobenzene	U	2.0								
1,4-Dichlorobenzene	U	2.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	20								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	2.5								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	5.0								
Methylene chloride	U	5.0								
Styrene	U	1.0								
Tetrachloroethene	U	2.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl chloride	U	1.0					
Xylenes, Total	U	3.0					
Surr: 1,2-Dichloroethane-d4	*20.21*	0	*20*	0	*101*	*70-120*	0
Surr: 4-Bromofluorobenzene	*19.65*	0	*20*	0	*98.2*	*75-120*	0
Surr: Dibromofluoromethane	*19.68*	0	*20*	0	*98.4*	*85-115*	0
Surr: Toluene-d8	*18.92*	0	*20*	0	*94.6*	*85-120*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 12101056
Project: Former Grand Rapids Metal Plant (017360)

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

LCS Sample ID: **VLCSW1-121031-R111954A** Units: **µg/L** Analysis Date: **10/31/12 01:05 PM**
Client ID: Run ID: **VMS9_121031A** SeqNo: **2127699** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	22.53	1.0	20	0	113	65-130	0			
1,1,2,2-Tetrachloroethane	18.85	1.0	20	0	94.2	65-130	0			
1,1,2-Trichloroethane	18.44	1.0	20	0	92.2	75-125	0			
1,1-Dichloroethane	24.56	1.0	20	0	123	70-135	0			
1,1-Dichloroethene	21.38	1.0	20	0	107	70-130	0			
1,2,4-Trichlorobenzene	20.16	1.0	20	0	101	65-135	0			
1,2-Dibromo-3-chloropropane	15.72	1.0	20	0	78.6	50-130	0			
1,2-Dibromoethane	19.46	1.0	20	0	97.3	80-120	0			
1,2-Dichlorobenzene	19.88	1.0	20	0	99.4	70-120	0			
1,2-Dichloroethane	19.57	1.0	20	0	97.8	70-130	0			
1,2-Dichloropropane	21.24	2.0	20	0	106	75-125	0			
1,3-Dichlorobenzene	19.84	2.0	20	0	99.2	75-125	0			
1,4-Dichlorobenzene	20.01	2.0	20	0	100	75-125	0			
2-Butanone	26.57	5.0	20	0	133	30-150	0			
2-Hexanone	21.07	5.0	20	0	105	55-130	0			
4-Methyl-2-pentanone	19.56	5.0	20	0	97.8	60-135	0			
Acetone	20.2	20	20	0	101	40-140	0			
Benzene	21.21	1.0	20	0	106	80-120	0			
Bromodichloromethane	21.96	1.0	20	0	110	75-120	0			
Bromoform	19.88	1.0	20	0	99.4	70-130	0			
Bromomethane	25.78	1.0	20	0	129	30-145	0			
Carbon disulfide	22.61	2.5	20	0	113	35-165	0			
Carbon tetrachloride	20.88	1.0	20	0	104	65-140	0			
Chlorobenzene	20.09	1.0	20	0	100	80-120	0			
Chloroethane	13.88	1.0	20	0	69.4	60-135	0			
Chloroform	20.79	1.0	20	0	104	65-135	0			
Chloromethane	20.03	1.0	20	0	100	70-125	0			
cis-1,2-Dichloroethene	24.58	1.0	20	0	123	70-125	0			
cis-1,3-Dichloropropene	21.73	1.0	20	0	109	70-130	0			
Dibromochloromethane	19.84	1.0	20	0	99.2	60-135	0			
Dichlorodifluoromethane	19.15	1.0	20	0	95.8	30-155	0			
Ethylbenzene	21.88	1.0	20	0	109	75-125	0			
Isopropylbenzene	19.77	1.0	20	0	98.8	75-125	0			
Methyl tert-butyl ether	23.56	5.0	20	0	118	65-125	0			
Methylene chloride	21.13	5.0	20	0	106	55-140	0			
Styrene	19.53	1.0	20	0	97.6	65-135	0			
Tetrachloroethene	20.64	2.0	20	0	103	45-150	0			
Toluene	20.69	1.0	20	0	103	75-120	0			
trans-1,2-Dichloroethene	22.65	1.0	20	0	113	60-140	0			
trans-1,3-Dichloropropene	18.1	1.0	20	0	90.5	55-140	0			
Trichloroethene	21.02	1.0	20	0	105	70-125	0			
Trichlorofluoromethane	20.58	1.0	20	0	103	60-145	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

Vinyl chloride	21.13	1.0	20	0	106	50-145	0
Xylenes, Total	60.26	3.0	60	0	100	75-130	0
Surr: 1,2-Dichloroethane-d4	*19.44*	0	*20*	0	*97.2*	*70-120*	0
Surr: 4-Bromofluorobenzene	*21.1*	0	*20*	0	*106*	*75-120*	0
Surr: Dibromofluoromethane	*19.04*	0	*20*	0	*95.2*	*85-115*	0
Surr: Toluene-d8	*19.5*	0	*20*	0	*97.5*	*85-120*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 12101056
Project: Former Grand Rapids Metal Plant (017360)

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

MS Sample ID: **1210898-36A MS** Units: **µg/L** Analysis Date: **11/01/12 12:11 PM**
Client ID: Run ID: **VMS9_121031A** SeqNo: **2128902** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	24.92	1.0	20	0	125	65-130	0			
1,1,2,2-Tetrachloroethane	17.92	1.0	20	0	89.6	65-130	0			
1,1,2-Trichloroethane	17.64	1.0	20	0	88.2	75-125	0			
1,1-Dichloroethane	26.17	1.0	20	0	131	70-135	0			
1,1-Dichloroethene	26.68	1.0	20	0	133	70-130	0			S
1,2,4-Trichlorobenzene	18.38	1.0	20	0	91.9	65-135	0			
1,2-Dibromo-3-chloropropane	13.9	1.0	20	0	69.5	50-130	0			
1,2-Dibromoethane	18.14	1.0	20	0	90.7	80-120	0			
1,2-Dichlorobenzene	18.43	1.0	20	0	92.2	70-120	0			
1,2-Dichloroethane	20.55	1.0	20	0	103	70-130	0			
1,2-Dichloropropane	22.43	2.0	20	0	112	75-125	0			
1,3-Dichlorobenzene	18.5	2.0	20	0	92.5	75-125	0			
1,4-Dichlorobenzene	18.61	2.0	20	0	93	75-125	0			
2-Butanone	25.37	5.0	20	0	127	30-150	0			
2-Hexanone	23.02	5.0	20	0	115	55-130	0			
4-Methyl-2-pentanone	18.46	5.0	20	0	92.3	60-135	0			
Acetone	25.41	20	20	0	127	40-140	0			
Benzene	22.72	1.0	20	0	114	80-120	0			
Bromodichloromethane	21.46	1.0	20	0	107	75-120	0			
Bromoform	16.54	1.0	20	0	82.7	70-130	0			
Bromomethane	28.73	1.0	20	0	144	30-145	0			
Carbon disulfide	24.55	2.5	20	0	123	35-165	0			
Carbon tetrachloride	20.65	1.0	20	0	103	65-140	0			
Chlorobenzene	19.31	1.0	20	0	96.6	80-120	0			
Chloroethane	26.73	1.0	20	0	134	60-135	0			
Chloroform	25.14	1.0	20	0	126	65-135	0			
Chloromethane	25.32	1.0	20	0	127	70-125	0			S
cis-1,2-Dichloroethene	22.99	1.0	20	0	115	70-125	0			
cis-1,3-Dichloropropene	21.33	1.0	20	0	107	70-130	0			
Dibromochloromethane	17.23	1.0	20	0	86.2	60-135	0			
Dichlorodifluoromethane	23.07	1.0	20	0	115	30-155	0			
Ethylbenzene	21.13	1.0	20	0	106	75-125	0			
Isopropylbenzene	18.82	1.0	20	0	94.1	75-125	0			
Methyl tert-butyl ether	25.46	5.0	20	0	127	65-125	0			S
Methylene chloride	25.83	5.0	20	0	129	55-140	0			
Styrene	18.29	1.0	20	0	91.4	65-135	0			
Tetrachloroethene	96.15	2.0	20	84.42	58.6	45-150	0			O
Toluene	19.93	1.0	20	0	99.6	75-120	0			
trans-1,2-Dichloroethene	24.31	1.0	20	0	122	60-140	0			
trans-1,3-Dichloropropene	15.53	1.0	20	0	77.6	55-140	0			
Trichloroethene	23.25	1.0	20	0	116	70-125	0			
Trichlorofluoromethane	29.56	1.0	20	0	148	60-145	0			S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

Vinyl chloride	26.76	1.0	20	0	134	50-145	0
Xylenes, Total	59.22	3.0	60	0	98.7	75-130	0
Surr: 1,2-Dichloroethane-d4	*18.71*	0	*20*	0	*93.6*	*70-120*	0
Surr: 4-Bromofluorobenzene	*21.53*	0	*20*	0	*108*	*75-120*	0
Surr: Dibromofluoromethane	*19.34*	0	*20*	0	*96.7*	*85-115*	0
Surr: Toluene-d8	*17.72*	0	*20*	0	*88.6*	*85-120*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 12101056
Project: Former Grand Rapids Metal Plant (017360)

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

MSD Sample ID: **1210898-36A MSD** Units: **µg/L** Analysis Date: **11/01/12 12:36 PM**
Client ID: Run ID: **VMS9_121031A** SeqNo: **2128903** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	24.32	1.0	20	0	122	65-130	24.92	2.44	30	
1,1,2,2-Tetrachloroethane	18.03	1.0	20	0	90.2	65-130	17.92	0.612	30	
1,1,2-Trichloroethane	18.09	1.0	20	0	90.4	75-125	17.64	2.52	30	
1,1-Dichloroethane	26.37	1.0	20	0	132	70-135	26.17	0.761	30	
1,1-Dichloroethene	26.85	1.0	20	0	134	70-130	26.68	0.635	30	S
1,2,4-Trichlorobenzene	18.31	1.0	20	0	91.6	65-135	18.38	0.382	30	
1,2-Dibromo-3-chloropropane	14.08	1.0	20	0	70.4	50-130	13.9	1.29	30	
1,2-Dibromoethane	18.2	1.0	20	0	91	80-120	18.14	0.33	30	
1,2-Dichlorobenzene	17.83	1.0	20	0	89.2	70-120	18.43	3.31	30	
1,2-Dichloroethane	20.4	1.0	20	0	102	70-130	20.55	0.733	30	
1,2-Dichloropropane	22.17	2.0	20	0	111	75-125	22.43	1.17	30	
1,3-Dichlorobenzene	18.2	2.0	20	0	91	75-125	18.5	1.63	30	
1,4-Dichlorobenzene	18.01	2.0	20	0	90	75-125	18.61	3.28	30	
2-Butanone	24.87	5.0	20	0	124	30-150	25.37	1.99	30	
2-Hexanone	22.56	5.0	20	0	113	55-130	23.02	2.02	30	
4-Methyl-2-pentanone	19.22	5.0	20	0	96.1	60-135	18.46	4.03	30	
Acetone	28.02	20	20	0	140	40-140	25.41	9.77	30	S
Benzene	22.65	1.0	20	0	113	80-120	22.72	0.309	30	
Bromodichloromethane	21.82	1.0	20	0	109	75-120	21.46	1.66	30	
Bromoform	17.38	1.0	20	0	86.9	70-130	16.54	4.95	30	
Bromomethane	29.43	1.0	20	0	147	30-145	28.73	2.41	30	S
Carbon disulfide	25.34	2.5	20	0	127	35-165	24.55	3.17	30	
Carbon tetrachloride	21.1	1.0	20	0	106	65-140	20.65	2.16	30	
Chlorobenzene	19.2	1.0	20	0	96	80-120	19.31	0.571	30	
Chloroethane	26.81	1.0	20	0	134	60-135	26.73	0.299	30	
Chloroform	24.37	1.0	20	0	122	65-135	25.14	3.11	30	
Chloromethane	24.26	1.0	20	0	121	70-125	25.32	4.28	30	
cis-1,2-Dichloroethene	23.48	1.0	20	0	117	70-125	22.99	2.11	30	
cis-1,3-Dichloropropene	21.39	1.0	20	0	107	70-130	21.33	0.281	30	
Dibromochloromethane	17.34	1.0	20	0	86.7	60-135	17.23	0.636	30	
Dichlorodifluoromethane	23.11	1.0	20	0	116	30-155	23.07	0.173	30	
Ethylbenzene	20.93	1.0	20	0	105	75-125	21.13	0.951	30	
Isopropylbenzene	18.89	1.0	20	0	94.4	75-125	18.82	0.371	30	
Methyl tert-butyl ether	26.22	5.0	20	0	131	65-125	25.46	2.94	30	S
Methylene chloride	25.89	5.0	20	0	129	55-140	25.83	0.232	30	
Styrene	18.55	1.0	20	0	92.8	65-135	18.29	1.41	30	
Tetrachloroethene	96.16	2.0	20	84.42	58.7	45-150	96.15	0.0104	30	O
Toluene	19.86	1.0	20	0	99.3	75-120	19.93	0.352	30	
trans-1,2-Dichloroethene	24.58	1.0	20	0	123	60-140	24.31	1.1	30	
trans-1,3-Dichloropropene	15.81	1.0	20	0	79	55-140	15.53	1.79	30	
Trichloroethene	23.51	1.0	20	0	118	70-125	23.25	1.11	30	
Trichlorofluoromethane	29.81	1.0	20	0	149	60-145	29.56	0.842	30	S

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Conestoga-Rovers & Associates
Work Order: 12101056
Project: Former Grand Rapids Metal Plant (017360)

QC BATCH REPORT

Batch ID: **R111954A** Instrument ID **VMS9** Method: **SW8260**

Vinyl chloride	26.09	1.0	20	0	130	50-145	26.76	2.54	30
Xylenes, Total	58.67	3.0	60	0	97.8	75-130	59.22	0.933	30
Surr: 1,2-Dichloroethane-d4	*18.21*	0	*20*	0	*91*	*70-120*	18.71	*2.71*	*30*
Surr: 4-Bromofluorobenzene	*21.78*	0	*20*	0	*109*	*75-120*	21.53	*1.15*	*30*
Surr: Dibromofluoromethane	*19.04*	0	*20*	0	*95.2*	*85-115*	19.34	*1.56*	*30*
Surr: Toluene-d8	*17.61*	0	*20*	0	*88*	*85-120*	17.72	*0.623*	*30*

The following samples were analyzed in this batch:

12101056-01A	12101056-02A	12101056-03A
12101056-04A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

12101056

CHAIN OF CUSTODY RECORD

COC NO.: PL-09729

PAGE 1 OF 1

(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-T05121-013	**Laboratory Name:** ALS	**Lab Location:** Holland, MI	**SSOW ID:** 11980-T05121-013
Project Name: Racer - Grand Rapids Metal Stage III	**Lab Contact:**	**Lab Quote No:**	**Cooler No:**
Project Location: Grand Rapids MI			**Carrier:** Drop off at Lab
Chemistry Contact: Paul Wiseman			**Airbill No:** —
Sampler(s): Dan Deither			**Date Shipped:** 10-31-12

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)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	VOCs	MS/MSD Request	Comments/ Special Instructions:
1	trip blank	10-31-12	—	WQ	—		1							1	X		
2	GW-17360-103112-DD-175	10-31-12	1005	WG	G		3							3	X		
3	GW-17360-103112-DD-176	10-31-12	1045	WG	G		3							3	X		
4	GW-17360-103112-DD-177	10-31-12	1155	WG	G		3							3	X		
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Cam Clark 10-31-12

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: 10

All Samples in Cooler must be on COC

Notes/ Special Requirements: 2.0°C

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	103112	1640	1.	ALS	10/31/12	1640
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: **31-Oct-12 16:40**

Work Order: **12101056** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 31-Oct-12 (Date) Reviewed by: Tom Bramish (eSignature) 01-Nov-12 (Date)

Matrices: Water
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 ☐	
Temperature(s)/Thermometer(s):	2.0 C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	10/31/2012 4:46:52 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:

ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T01Y12-012

Work Orders:
1210504

Date:
November 14, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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Individual sample results relate only to the sample tested.

CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T01Y12-012

SDG Executive Summary

This case narrative applies to samples received on October 23, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

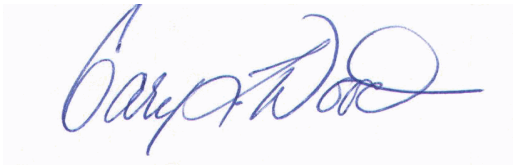
Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.



Gary L. Wood, Project Chemist

11/14/12

Date

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Sample Receipt and Login -- Work Order: 1210504

TriMatrix Laboratories received the cooler(s) for this work order on October 23, 2012, at 17:44. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
GW-17360-102312-DD-001	1210504-01	Water	10/23/2012
GW-17360-102312-DD-002	1210504-02	Water	10/23/2012
Trip Blank TM3003	1210504-03	Water	10/23/2012
GW-17360-102312-DD-003	1210504-04	Water	10/23/2012
GW-17360-102312-DD-004	1210504-05	Water	10/23/2012
GW-17360-102312-DD-005	1210504-06	Water	10/23/2012
GW-17360-102312-DD-006	1210504-07	Water	10/23/2012
Trip Blank TM3004	1210504-08	Water	10/23/2012
GW-17360-102312-DD-007	1210504-09	Water	10/23/2012
GW-17360-102312-DD-008	1210504-10	Water	10/23/2012
GW-17360-102312-DD-009	1210504-11	Water	10/23/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1210504-01	GW-17360-102312-DD-001	Bromomethane
1210504-03	Trip Blank TM3003	Bromomethane
1210504-04	GW-17360-102312-DD-003	Bromomethane
1210504-05	GW-17360-102312-DD-004	Bromomethane
1210504-06	GW-17360-102312-DD-005	Bromomethane
1210504-07	GW-17360-102312-DD-006	Bromomethane
1210504-08	Trip Blank TM3004	Bromomethane
1210504-09	GW-17360-102312-DD-007	Bromomethane
1210504-10	GW-17360-102312-DD-008	Bromomethane
1210504-11	GW-17360-102312-DD-009	Bromomethane

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:		
1210504-01	GW-17360-102312-DD-001	Chloroform
1210504-01	GW-17360-102312-DD-001	Methyl Acetate
1210504-01	GW-17360-102312-DD-001	Methylene Chloride
1210504-03	Trip Blank TM3003	Chloroform
1210504-03	Trip Blank TM3003	Methyl Acetate
1210504-03	Trip Blank TM3003	Methylene Chloride
1210504-04	GW-17360-102312-DD-003	Chloroform
1210504-04	GW-17360-102312-DD-003	Methyl Acetate
1210504-05	GW-17360-102312-DD-004	Chloroform
1210504-05	GW-17360-102312-DD-004	Methyl Acetate
1210504-05	GW-17360-102312-DD-004	Methylene Chloride
1210504-06	GW-17360-102312-DD-005	Chloroform
1210504-06	GW-17360-102312-DD-005	Methyl Acetate
1210504-06	GW-17360-102312-DD-005	Methylene Chloride
1210504-07	GW-17360-102312-DD-006	Chloroform
1210504-07	GW-17360-102312-DD-006	Methyl Acetate
1210504-07	GW-17360-102312-DD-006	Methylene Chloride
1210504-08	Trip Blank TM3004	Chloroform
1210504-08	Trip Blank TM3004	Methyl Acetate
1210504-08	Trip Blank TM3004	Methylene Chloride
1210504-09	GW-17360-102312-DD-007	Chloroform
1210504-09	GW-17360-102312-DD-007	Methyl Acetate
1210504-09	GW-17360-102312-DD-007	Methylene Chloride
1210504-10	GW-17360-102312-DD-008	Chloroform
1210504-10	GW-17360-102312-DD-008	Methyl Acetate
1210504-10	GW-17360-102312-DD-008	Methylene Chloride
1210504-11	GW-17360-102312-DD-009	Chloroform
1210504-11	GW-17360-102312-DD-009	Methyl Acetate
1210504-11	GW-17360-102312-DD-009	Methylene Chloride

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The associated Internal Standard response was outside the control limit. The results for these analytes are considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:		
1210504-09	GW-17360-102312-DD-007	Benzo(a)pyrene
1210504-09	GW-17360-102312-DD-007	Benzo(b)fluoranthene
1210504-09	GW-17360-102312-DD-007	Benzo(g,h,i)perylene
1210504-09	GW-17360-102312-DD-007	Benzo(k)fluoranthene
1210504-09	GW-17360-102312-DD-007	Dibenz(a,h)anthracene
1210504-09	GW-17360-102312-DD-007	Indeno(1,2,3-cd)pyrene

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:		
1210504-06	GW-17360-102312-DD-005	Benzo(a)anthracene
1210504-06	GW-17360-102312-DD-005	Chrysene
1210504-06	GW-17360-102312-DD-005	Diethyl Phthalate
1210504-07	GW-17360-102312-DD-006	Diethyl Phthalate
1210504-09	GW-17360-102312-DD-007	2,4,6-Tribromophenol
1210504-09	GW-17360-102312-DD-007	Diethyl Phthalate
1210504-09	GW-17360-102312-DD-007	Phenanthrene-d10
1210504-09RE	GW-17360-102312-DD-007	Nitrobenzene-d5
1210504-09RE	GW-17360-102312-DD-007	Phenanthrene-d10

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8270C

Sample: 1210504-09RE GW-17360-102312-DD-007

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:		
	2J30049-CRL2	Selenium

Qualification: The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.

Analysis: USEPA-6020A

Sample/Analyte:		
1210504-01	GW-17360-102312-DD-001	Copper
1210504-06	GW-17360-102312-DD-005	Copper
1210504-07	GW-17360-102312-DD-006	Copper
1210504-09	GW-17360-102312-DD-007	Copper
1210504-11	GW-17360-102312-DD-009	Copper

Qualification: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte:		
1210504-01	GW-17360-102312-DD-001	Cobalt
1210504-01	GW-17360-102312-DD-001	Copper

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.49J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.92J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.28J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	10U	10	2.7

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*42*	*20-70*
Phenol-d6	*28*	*18-45*
Nitrobenzene-d5	*62*	*31-123*
2-Fluorobiphenyl	*65*	*25-113*
2,4,6-Tribromophenol	*68*	*30-121*
o-Terphenyl	*77*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.72**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Arsenic	**0.22**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Barium	**44**		1.0	0.14	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Beryllium	**0.12**	**J**	1.0	0.11	ug/L	1	USEPA-6020A	11/01/12 16:29	CKD	1212938
Cadmium	**0.051**	**J**	0.20	0.038	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Chromium	**1.2**		1.0	0.20	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
***Cobalt**	**0.36**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
***Copper**	**1.7**		1.0	0.13	ug/L	1	USEPA-6020A	11/01/12 16:29	CKD	1212938
Iron	**53**		20	6.5	ug/L	1	USEPA-6010C	10/30/12 11:25	KLV	1212937
Lead	**0.28**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Manganese	**4.1**		1.0	0.14	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Molybdenum	**0.33**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 08:48	DSC	1213267
Nickel	**2.0**		1.0	0.17	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Selenium	**1.4**		1.0	0.31	ug/L	1	USEPA-6020A	11/01/12 13:50	CKD	1212938
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Thallium	**0.093**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Vanadium	**0.48**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/30/12 16:09	MSM	1212938
Zinc	20	U	20	4.9	ug/L	1	USEPA-6010C	10/30/12 11:25	KLV	1212937
Zinc	**20**		10	1.5	ug/L	1	USEPA-6020A	11/02/12 11:41	MSM	1213270

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium, Hexavalent-Dissolved	**1.1**	1.0	0.3	ug/L	1	USEPA-7196A	10/24/12 08:42	KCS	1213001

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-001**	Sampled:	10/23/12 09:35
Lab Sample ID:	**1210504-01**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Calculated Parameters

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium, Trivalent (Calculated)	2.0	U	2.0	0.50	ug/L	1	[CALC]	10/30/12 16:09	KCS	[CALC]

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-002**	Sampled:	10/23/12 09:55
Lab Sample ID:	**1210504-02**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium, Hexavalent-Dissolved	**1.2**	1.0	0.3	ug/L	1	USEPA-7196A	10/24/12 08:55	KCS	1213001

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**Trip Blank TM3003**	Sampled:	10/23/12 00:00
Lab Sample ID:	**1210504-03**	Sampled By:	TB
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/30/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.12J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.84J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**Trip Blank TM3003**	Sampled:	10/23/12 00:00
Lab Sample ID:	**1210504-03**	Sampled By:	TB
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/30/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.75J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*101*	*82-110*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-003**	Sampled:	10/23/12 10:48
Lab Sample ID:	**1210504-04**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.71J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**1.5J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-003**	Sampled:	10/23/12 10:48
Lab Sample ID:	**1210504-04**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-004**	Sampled:	10/23/12 11:35
Lab Sample ID:	**1210504-05**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.31J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**1.1J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-004**	Sampled:	10/23/12 11:35
Lab Sample ID:	**1210504-05**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.27J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**2.0**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.43J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-005**	Sampled:	10/23/12 12:50
Lab Sample ID:	**1210504-06**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.16J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**0.30J**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.76J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-005**	Sampled:	10/23/12 12:50
Lab Sample ID:	**1210504-06**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.27J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**1.2**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.60J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*98*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-005**	Sampled:	10/23/12 12:50
Lab Sample ID:	**1210504-06**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
*56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
*218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	10U	10	2.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-005**	Sampled:	10/23/12 12:50
Lab Sample ID:	**1210504-06**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-005**	Sampled:	10/23/12 12:50
Lab Sample ID:	**1210504-06**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*42*	*20-70*
Phenol-d6	*22*	*18-45*
Nitrobenzene-d5	*69*	*31-123*
2-Fluorobiphenyl	*62*	*25-113*
2,4,6-Tribromophenol	*89*	*30-121*
o-Terphenyl	*74*	*42-125*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-005**	Sampled:	10/23/12 12:50
Lab Sample ID:	**1210504-06**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.36**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Arsenic	**1.1**		1.0	0.18	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Barium	**80**		1.0	0.14	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/01/12 16:42	CKD	1212938
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Chromium	1.0	U	1.0	0.20	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Cobalt	**1.3**		1.0	0.050	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
***Copper**	**0.98**	**J**	1.0	0.13	ug/L	1	USEPA-6020A	11/01/12 16:42	CKD	1212938
Iron	**590**		20	6.5	ug/L	1	USEPA-6010C	10/30/12 11:46	KLV	1212937
Lead	**0.22**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Manganese	**220**		5.0	0.70	ug/L	5	USEPA-6020A	10/30/12 19:48	MSM	1212938
Molybdenum	**0.33**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 09:02	DSC	1213267
Nickel	**3.1**		1.0	0.17	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Selenium	1.0	U	1.0	0.31	ug/L	1	USEPA-6020A	11/01/12 14:07	CKD	1212938
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Thallium	**0.084**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Vanadium	**0.40**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/30/12 16:19	MSM	1212938
Zinc	20	U	20	4.9	ug/L	1	USEPA-6010C	10/30/12 11:46	KLV	1212937
Zinc	**6.2**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/02/12 11:45	MSM	1213270

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-006**	Sampled:	10/23/12 13:00
Lab Sample ID:	**1210504-07**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.16J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**0.29J**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**1.2J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-006**	Sampled:	10/23/12 13:00
Lab Sample ID:	**1210504-07**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.25J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**1.2**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.60J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-006**	Sampled:	10/23/12 13:00
Lab Sample ID:	**1210504-07**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	10U	10	2.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-006**	Sampled:	10/23/12 13:00
Lab Sample ID:	**1210504-07**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-006**	Sampled:	10/23/12 13:00
Lab Sample ID:	**1210504-07**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*37*	*20-70*
Phenol-d6	*20*	*18-45*
Nitrobenzene-d5	*63*	*31-123*
2-Fluorobiphenyl	*56*	*25-113*
2,4,6-Tribromophenol	*82*	*30-121*
o-Terphenyl	*66*	*42-125*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-006**	Sampled:	10/23/12 13:00
Lab Sample ID:	**1210504-07**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Arsenic	**1.0**		1.0	0.18	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Barium	**83**		1.0	0.14	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/01/12 16:45	CKD	1212938
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Chromium	1.0	U	1.0	0.20	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Cobalt	**1.3**		1.0	0.050	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
***Copper**	**1.2**		1.0	0.13	ug/L	1	USEPA-6020A	11/01/12 16:45	CKD	1212938
Iron	**550**		20	6.5	ug/L	1	USEPA-6010C	10/30/12 11:58	KLV	1212937
Lead	**0.38**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Manganese	**230**		5.0	0.70	ug/L	5	USEPA-6020A	10/30/12 19:50	MSM	1212938
Molybdenum	**0.34**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 09:07	DSC	1213267
Nickel	**3.3**		1.0	0.17	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Selenium	1.0	U	1.0	0.31	ug/L	1	USEPA-6020A	11/01/12 14:11	CKD	1212938
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Thallium	**0.085**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Vanadium	**0.40**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/30/12 16:21	MSM	1212938
Zinc	**23**		20	4.9	ug/L	1	USEPA-6010C	10/30/12 11:58	KLV	1212937
Zinc	**7.2**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/02/12 11:46	MSM	1213270

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**Trip Blank TM3004**	Sampled:	10/23/12 00:00
Lab Sample ID:	**1210504-08**	Sampled By:	TB
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/30/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.15J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.86J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**Trip Blank TM3004**	Sampled:	10/23/12 00:00
Lab Sample ID:	**1210504-08**	Sampled By:	TB
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/30/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.44J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*101*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	**0.24J**	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.14J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	**2.1**	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	**0.35J**	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**3.1**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	**0.46J**	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	**3.2**	1.0	0.22
*79-20-9	Methyl Acetate	**1.4J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.28J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.35J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	**1.9J**	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*99*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
*50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
*205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
*207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
*191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
*53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	10U	10	2.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	**1.9**	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	**0.56**	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
*193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	**0.70**	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	**1.7**	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/01/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K02033

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*45*	*20-70*
Phenol-d6	*32*	*18-45*
Nitrobenzene-d5	*78*	*31-123*
2-Fluorobiphenyl	*71*	*25-113*
* *2,4,6-Tribromophenol*	*102*	*30-121*
o-Terphenyl	*56*	*42-125*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.20**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Arsenic	**24**		1.0	0.18	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Barium	**190**		5.0	0.68	ug/L	5	USEPA-6020A	10/30/12 19:52	MSM	1212938
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/01/12 16:47	CKD	1212938
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Chromium	**0.25**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Cobalt	**2.8**		1.0	0.050	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
***Copper**	**1.8**		1.0	0.13	ug/L	1	USEPA-6020A	11/01/12 16:47	CKD	1212938
Iron	**6000**		20	6.5	ug/L	1	USEPA-6010C	10/30/12 12:02	KLV	1212937
Lead	**0.46**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Manganese	**300**		5.0	0.70	ug/L	5	USEPA-6020A	10/30/12 19:52	MSM	1212938
Molybdenum	**1.4**		1.0	0.075	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 09:12	DSC	1213267
Nickel	**8.4**		1.0	0.17	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Selenium	**0.45**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/01/12 14:14	CKD	1212938
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Thallium	**0.074**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Vanadium	**0.51**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/30/12 16:23	MSM	1212938
Zinc	20	U	20	4.9	ug/L	1	USEPA-6010C	10/30/12 12:02	KLV	1212937
Zinc	**13**		10	1.5	ug/L	1	USEPA-6020A	11/02/12 11:47	MSM	1213270

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09RE1**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	5	Analyzed:	11/06/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K07027

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	2.5U	2.5	0.13
208-96-8	Acenaphthylene	2.5U	2.5	0.15
98-86-2	Acetophenone	2.5U	2.5	0.25
120-12-7	Anthracene	2.5U	2.5	0.090
1912-24-9	Atrazine	2.5U	2.5	0.35
100-52-7	Benzaldehyde	2.5U	2.5	0.43
56-55-3	Benzo(a)anthracene	2.5U	2.5	0.13
50-32-8	Benzo(a)pyrene	2.5U	2.5	0.20
205-99-2	Benzo(b)fluoranthene	2.5U	2.5	0.36
207-08-9	Benzo(k)fluoranthene	2.5U	2.5	0.15
191-24-2	Benzo(g,h,i)perylene	2.5U	2.5	0.13
92-52-4	1,1'-Biphenyl	2.5U	2.5	0.15
101-55-3	4-Bromophenyl Phenyl Ether	2.5U	2.5	0.17
85-68-7	Butyl Benzyl Phthalate	5.0U	5.0	1.2
105-60-2	Caprolactam	5.0U	5.0	2.4
86-74-8	Carbazole	2.5U	2.5	1.3
59-50-7	4-Chloro-3-methylphenol	2.5U	2.5	0.69
106-47-8	4-Chloroaniline	5.0U	5.0	0.81
111-91-1	Bis(2-chloroethoxy)methane	2.5U	2.5	0.088
111-44-4	Bis(2-chloroethyl) Ether	2.5U	2.5	0.18
108-60-1	Bis(2-chloroisopropyl) Ether	2.5U	2.5	0.35
91-58-7	2-Chloronaphthalene	2.5U	2.5	0.16
95-57-8	2-Chlorophenol	2.5U	2.5	0.18
7005-72-3	4-Chlorophenyl Phenyl Ether	2.5U	2.5	0.13
218-01-9	Chrysene	2.5U	2.5	0.16
53-70-3	Dibenz(a,h)anthracene	2.5U	2.5	0.17
132-64-9	Dibenzofuran	2.5U	2.5	0.13
84-74-2	Di-n-butyl Phthalate	5.0U	5.0	1.8
91-94-1	3,3´-Dichlorobenzidine	50U	50	14
120-83-2	2,4-Dichlorophenol	2.5U	2.5	0.30
84-66-2	Diethyl Phthalate	2.5U	2.5	0.31

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09RE1**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	5	Analyzed:	11/06/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K07027

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
105-67-9	2,4-Dimethylphenol	5.0U	5.0	1.2
131-11-3	Dimethyl Phthalate	2.5U	2.5	0.34
534-52-1	4,6-Dinitro-2-methylphenol	25U	25	1.4
51-28-5	2,4-Dinitrophenol	25U	25	10
121-14-2	2,4-Dinitrotoluene	2.5U	2.5	0.41
606-20-2	2,6-Dinitrotoluene	2.5U	2.5	0.35
117-84-0	Di-n-octyl Phthalate	2.5U	2.5	1.0
117-81-7	Bis(2-ethylhexyl) Phthalate	2.5U	2.5	2.0
206-44-0	Fluoranthene	2.5U	2.5	0.084
86-73-7	Fluorene	2.5U	2.5	0.11
118-74-1	Hexachlorobenzene	2.5U	2.5	0.20
87-68-3	Hexachlorobutadiene	2.5U	2.5	0.15
77-47-4	Hexachlorocyclopentadiene	2.5U	2.5	0.27
67-72-1	Hexachloroethane	2.5U	2.5	0.21
193-39-5	Indeno(1,2,3-cd)pyrene	2.5U	2.5	0.12
78-59-1	Isophorone	2.5U	2.5	0.12
91-57-6	2-Methylnaphthalene	2.5U	2.5	0.12
95-48-7	2-Methylphenol	2.5U	2.5	0.15
106-44-5	4-Methylphenol	2.5U	2.5	0.58
91-20-3	Naphthalene	2.5U	2.5	0.15
88-74-4	2-Nitroaniline	2.5U	2.5	0.78
99-09-2	3-Nitroaniline	5.0U	5.0	0.90
100-01-6	4-Nitroaniline	5.0U	5.0	1.1
98-95-3	Nitrobenzene	2.5U	2.5	0.31
100-02-7	4-Nitrophenol	25U	25	4.5
88-75-5	2-Nitrophenol	2.5U	2.5	0.46
86-30-6	N-Nitroso-diphenylamine	2.5U	2.5	0.12
621-64-7	N-Nitroso-di-n-propylamine	2.5U	2.5	0.21
87-86-5	Pentachlorophenol	2.5U	2.5	0.62
85-01-8	Phenanthrene	2.5U	2.5	0.12
108-95-2	Phenol	2.5U	2.5	0.12

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-007**	Sampled:	10/23/12 15:20
Lab Sample ID:	**1210504-09RE1**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/26/201[illegible] By: ALK
Dilution Factor:	5	Analyzed:	11/06/12 By: JLB
QC Batch:	1213024	Analytical Batch:	2K07027

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
129-00-0	Pyrene	2.5U	2.5	0.12
88-06-2	2,4,6-Trichlorophenol	2.5U	2.5	0.67
95-95-4	2,4,5-Trichlorophenol	2.5U	2.5	0.68

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*46*	*20-70*
Phenol-d6	*25*	*18-45*
* *Nitrobenzene-d5*	*74*	*31-123*
2-Fluorobiphenyl	*57*	*25-113*
2,4,6-Tribromophenol	*64*	*30-121*
o-Terphenyl	*60*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-008**	Sampled:	10/23/12 16:30
Lab Sample ID:	**1210504-10**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.15J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**0.61J**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	**1.2**	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**6.5**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.99J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-008**	Sampled:	10/23/12 16:30
Lab Sample ID:	**1210504-10**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.47J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**4.4**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	**7.2**	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*99*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-009**	Sampled:	10/23/12 17:00
Lab Sample ID:	**1210504-11**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.16J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**0.45J**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	**0.40J**	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**7.8**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	**1.8**	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**1.1J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-009**	Sampled:	10/23/12 17:00
Lab Sample ID:	**1210504-11**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44
Unit:	ug/L	Prepared:	10/30/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	10/31/12 By: BAG
QC Batch:	1213269	Analytical Batch:	2J31016

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.29J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**17**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	**0.56J**	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210504**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	2012 MW & Culvert Sampling
Client Sample ID:	**GW-17360-102312-DD-009**	Sampled:	10/23/12 17:00
Lab Sample ID:	**1210504-11**	Sampled By:	N
Matrix:	Water	Received:	10/23/12 17:44

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.37**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Arsenic	**0.32**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Barium	**140**		5.0	0.68	ug/L	5	USEPA-6020A	10/30/12 19:54	MSM	1212938
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/01/12 16:55	CKD	1212938
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Chromium	**0.33**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Cobalt	**1.3**		1.0	0.050	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
***Copper**	**1.7**		1.0	0.13	ug/L	1	USEPA-6020A	11/01/12 16:55	CKD	1212938
Iron	**83**		20	6.5	ug/L	1	USEPA-6010C	10/30/12 12:06	KLV	1212937
Lead	**0.65**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Manganese	**360**		5.0	0.70	ug/L	5	USEPA-6020A	10/30/12 19:54	MSM	1212938
Molybdenum	**0.79**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 09:17	DSC	1213267
Nickel	**2.1**		1.0	0.17	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Selenium	1.0	U	1.0	0.31	ug/L	1	USEPA-6020A	11/01/12 14:24	CKD	1212938
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Thallium	**0.11**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Vanadium	**0.91**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/30/12 16:37	MSM	1212938
Zinc	20	U	20	4.9	ug/L	1	USEPA-6010C	10/30/12 12:06	KLV	1212937
Zinc	**16**		10	1.5	ug/L	1	USEPA-6020A	11/02/12 11:53	MSM	1213270

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213269 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 10/30/2012 By: BAG
Unit: ug/L Analytical Batch: 2J31016

Acetone	5.0 U			5.0	1.1
Benzene	1.0 U			1.0	0.11
Bromodichloromethane	1.0 U			1.0	0.13
Bromoform	1.0 U			1.0	0.26
Bromomethane	1.0 U			1.0	0.21
Carbon Disulfide	5.0 U		--	5.0	0.23
Carbon Tetrachloride	1.0 U			1.0	0.26
Chlorobenzene	1.0 U			1.0	0.17
Chloroethane	1.0 U			1.0	0.14
Chloroform	**0.17 J**		--	1.0	0.098
Chloromethane	1.0 U			1.0	0.29
Cyclohexane	5.0 U			5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U			1.0	0.13
Dibromochloromethane	1.0 U			1.0	0.15
1,2-Dibromoethane	1.0 U			1.0	0.15
1,2-Dichlorobenzene	1.0 U		--	1.0	0.24
1,3-Dichlorobenzene	1.0 U		--	1.0	0.24
1,4-Dichlorobenzene	1.0 U		--	1.0	0.25
Dichlorodifluoromethane	1.0 U			1.0	0.21
1,1-Dichloroethane	1.0 U			1.0	0.18
1,2-Dichloroethane	1.0 U			1.0	0.21
1,1-Dichloroethene	1.0 U			1.0	0.21
cis-1,2-Dichloroethene	1.0 U			1.0	0.12
trans-1,2-Dichloroethene	1.0 U			1.0	0.20
1,2-Dichloropropane	1.0 U			1.0	0.28
cis-1,3-Dichloropropene	1.0 U			1.0	0.19
trans-1,3-Dichloropropene	1.0 U			1.0	0.19
Ethylbenzene	1.0 U		--	1.0	0.21
2-Hexanone	5.0 U			5.0	0.49
Isopropylbenzene	1.0 U			1.0	0.22
Methyl Acetate	**0.86 J**		--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U			1.0	0.19
Methylcyclohexane	5.0 U			5.0	0.37
Methylene Chloride	**0.37 J**		--	1.0	0.24
2-Butanone (MEK)	5.0 U			5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U			5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213269 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 10/30/2012 By: BAG
Unit: ug/L Analytical Batch: 2J31016

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*98*	*85-118*			
1,2-Dichloroethane-d4			*99*	*87-122*			
Toluene-d8			*97*	*85-113*			
4-Bromofluorobenzene			*101*	*82-110*			

Laboratory Control Sample Analyzed: 10/30/2012 By: BAG
Unit: ug/L Analytical Batch: 2J31016

Acetone	40.0	**39.4**	98	53-138	--	20	5.0	1.1
Benzene	40.0	**40.2**	101	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**37.4**	94	82-124	--	20	1.0	0.13
Bromoform	40.0	**34.1**	85	65-123	--	20	1.0	0.26
Bromomethane	40.0	**49.1**	123	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**38.9**	97	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**38.5**	96	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**40.0**	100	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.3**	98	76-124	--	20	1.0	0.14
Chloroform	40.0	**39.4**	98	82-119	--	20	1.0	0.098
Chloromethane	40.0	**37.4**	93	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**38.6**	97	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**36.8**	92	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**36.1**	90	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**41.6**	104	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**41.0**	102	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213269 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 10/30/2012 By: BAG

Unit: ug/L Analytical Batch: 2J31016

1,3-Dichlorobenzene	40.0	**40.5**	101	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**39.8**	100	79-122	--	20	1.0	0.25
Dichlorodifluoromethane	40.0	**41.3**	103	68-130	--	20	1.0	0.21
1,1-Dichloroethane	40.0	**39.6**	99	80-118	--	20	1.0	0.18
1,2-Dichloroethane	40.0	**38.6**	97	81-122	--	20	1.0	0.21
1,1-Dichloroethene	40.0	**41.1**	103	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**40.3**	101	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**40.4**	101	76-126	--	20	1.0	0.20
1,2-Dichloropropane	40.0	**40.5**	101	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**36.9**	92	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**36.1**	90	73-116	--	20	1.0	0.19
Ethylbenzene	40.0	**41.3**	103	87-119	--	20	1.0	0.21
2-Hexanone	40.0	**38.5**	96	55-141	--	20	5.0	0.49
Isopropylbenzene	40.0	**38.2**	95	76-126	--	20	1.0	0.22
Methyl Acetate	40.0	**37.5**	94	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**40.0**	100	72-128	--	20	1.0	0.19
Methylcyclohexane	40.0	**38.4**	96	78-126	--	20	5.0	0.37
Methylene Chloride	40.0	**36.4**	91	75-129	--	20	1.0	0.24
2-Butanone (MEK)	40.0	**38.7**	97	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**38.9**	97	60-142	--	20	5.0	0.40
Styrene	40.0	**42.1**	105	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**39.6**	99	70-137	--	20	1.0	0.26
Tetrachloroethene	40.0	**42.6**	106	81-117	--	20	1.0	0.23
Toluene	40.0	**40.3**	101	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**35.0**	88	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**42.6**	107	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**41.2**	103	83-121	--	20	1.0	0.20
Trichloroethene	40.0	**43.0**	107	82-119	--	20	1.0	0.21
Trichlorofluoromethane	40.0	**41.2**	103	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**39.2**	98	76-126	--	20	1.0	0.24
Vinyl Chloride	40.0	**40.7**	102	77-123	--	20	1.0	0.21
Xylene (Total)	120	**124**	103	86-119	--	20	3.0	0.39
Surrogates:								
Dibromofluoromethane			*100*	*85-118*				
1,2-Dichloroethane-d4			*97*	*87-122*				
Toluene-d8			*99*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213269 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	10/30/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2J31016			
Surrogates (Continued):									
4-Bromofluorobenzene				*99*	*82-110*				
Matrix Spike 1210504-01 GW-17360-102312-DD-001					Analyzed:	10/31/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2J31016			
Benzene	1.0 U	40.0	**43.2**	108	80-129	--	9	1.0	0.11
Bromodichloromethane	1.0 U	40.0	**39.4**	98	81-130	--	10	1.0	0.13
Bromoform	1.0 U	40.0	**34.2**	85	60-122	--	12	1.0	0.26
Bromomethane	1.0 U	40.0	**38.9**	97	44-140	--	35	1.0	0.21
Carbon Tetrachloride	1.0 U	40.0	**42.0**	105	78-137	--	11	1.0	0.26
Chlorobenzene	1.0 U	40.0	**42.2**	106	80-121	--	8	1.0	0.17
Chloroethane	1.0 U	40.0	**44.3**	111	72-137	--	14	1.0	0.14
Chloroform	0.490 J	40.0	**42.1**	104	79-128	--	9	1.0	0.098
Chloromethane	1.0 U	40.0	**41.1**	103	72-134	--	11	1.0	0.29
Cyclohexane	5.0 U	40.0	**44.2**	111	73-138	--	12	5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U	40.0	**34.6**	86	55-126	--	16	1.0	0.13
Dibromochloromethane	1.0 U	40.0	**36.8**	92	70-126	--	10	1.0	0.15
1,2-Dibromoethane	1.0 U	40.0	**42.5**	106	78-125	--	9	1.0	0.15
1,2-Dichlorobenzene	1.0 U	40.0	**41.7**	104	76-124	--	10	1.0	0.24
1,3-Dichlorobenzene	1.0 U	40.0	**41.9**	105	76-123	--	10	1.0	0.24
1,4-Dichlorobenzene	1.0 U	40.0	**41.3**	103	75-121	--	10	1.0	0.25
Dichlorodifluoromethane	1.0 U	40.0	**41.2**	103	64-138	--	13	1.0	0.21
1,1-Dichloroethane	1.0 U	40.0	**43.0**	107	76-129	--	13	1.0	0.18
1,2-Dichloroethane	1.0 U	40.0	**41.5**	104	74-131	--	9	1.0	0.21
1,1-Dichloroethene	1.0 U	40.0	**46.7**	117	74-134	--	11	1.0	0.21
cis-1,2-Dichloroethene	1.0 U	40.0	**42.8**	107	76-129	--	12	1.0	0.12
trans-1,2-Dichloroethene	1.0 U	40.0	**44.2**	111	71-137	--	15	1.0	0.20
1,2-Dichloropropane	1.0 U	40.0	**42.5**	106	79-128	--	9	1.0	0.28
cis-1,3-Dichloropropene	1.0 U	40.0	**36.3**	91	68-122	--	11	1.0	0.19
trans-1,3-Dichloropropene	1.0 U	40.0	**35.5**	89	66-117	--	12	1.0	0.19
Ethylbenzene	1.0 U	40.0	**44.3**	111	82-127	--	10	1.0	0.21
Isopropylbenzene	1.0 U	40.0	**40.3**	101	73-131	--	12	1.0	0.22
Methyl Acetate	0.920 J	40.0	**28.9**	70	40-133	--	16	5.0	0.42
Methyl tert-Butyl Ether	1.0 U	40.0	**41.3**	103	65-131	--	15	1.0	0.19
Methylcyclohexane	5.0 U	40.0	**42.9**	107	70-137	--	14	5.0	0.37
Methylene Chloride	0.280 J	40.0	**39.4**	98	75-133	--	10	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213269 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Matrix Spike (Continued) 1210504-01 GW-17360-102312-DD-001					Analyzed:	10/31/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2J31016			
Styrene	1.0 U	40.0	**43.5**	109	75-129	--	10	1.0	0.20
1,1,2,2-Tetrachloroethane	1.0 U	40.0	**41.5**	104	71-129	--	10	1.0	0.26
Tetrachloroethene	1.0 U	40.0	**44.9**	112	75-126	--	10	1.0	0.23
Toluene	1.0 U	40.0	**43.3**	108	79-129	--	9	1.0	0.18
1,2,4-Trichlorobenzene	1.0 U	40.0	**34.5**	86	66-131	--	15	1.0	0.13
1,1,1-Trichloroethane	1.0 U	40.0	**46.3**	116	79-131	--	10	1.0	0.14
1,1,2-Trichloroethane	1.0 U	40.0	**42.4**	106	76-127	--	10	1.0	0.20
Trichloroethene	1.0 U	40.0	**44.9**	112	75-127	--	10	1.0	0.21
Trichlorofluoromethane	1.0 U	40.0	**47.2**	118	70-141	--	11	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	40.0	**45.6**	114	67-135	--	14	1.0	0.24
Vinyl Chloride	1.0 U	40.0	**45.2**	113	73-136	--	12	1.0	0.21
Xylene (Total)	3.0 U	120	**132**	110	78-130	--	9	3.0	0.39
Surrogates:									
Dibromofluoromethane				*101*	*85-118*				
1,2-Dichloroethane-d4				*98*	*87-122*				
Toluene-d8				*99*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				
Matrix Spike Duplicate 1210504-01 GW-17360-102312-DD-001					Analyzed:	10/31/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2J31016			
Benzene	1.0 U	40.0	**42.9**	107	80-129	0.8	9	1.0	0.11
Bromodichloromethane	1.0 U	40.0	**39.2**	98	81-130	0.4	10	1.0	0.13
Bromoform	1.0 U	40.0	**34.7**	87	60-122	2	12	1.0	0.26
Bromomethane	1.0 U	40.0	**44.4**	111	44-140	13	35	1.0	0.21
Carbon Tetrachloride	1.0 U	40.0	**42.0**	105	78-137	0.07	11	1.0	0.26
Chlorobenzene	1.0 U	40.0	**42.4**	106	80-121	0.4	8	1.0	0.17
Chloroethane	1.0 U	40.0	**43.0**	107	72-137	3	14	1.0	0.14
Chloroform	0.490 J	40.0	**42.2**	104	79-128	0.2	9	1.0	0.098
Chloromethane	1.0 U	40.0	**40.1**	100	72-134	2	11	1.0	0.29
Cyclohexane	5.0 U	40.0	**43.7**	109	73-138	1	12	5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U	40.0	**34.4**	86	55-126	0.6	16	1.0	0.13
Dibromochloromethane	1.0 U	40.0	**37.2**	93	70-126	1	10	1.0	0.15
1,2-Dibromoethane	1.0 U	40.0	**42.5**	106	78-125	0.02	9	1.0	0.15
1,2-Dichlorobenzene	1.0 U	40.0	**41.6**	104	76-124	0.4	10	1.0	0.24
1,3-Dichlorobenzene	1.0 U	40.0	**41.7**	104	76-123	0.5	10	1.0	0.24
1,4-Dichlorobenzene	1.0 U	40.0	**41.2**	103	75-121	0.4	10	1.0	0.25

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213269 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Matrix Spike Duplicate (Continued) 1210504-01 GW-17360-102312-DD-001 Analyzed: 10/31/2012 By: BAG

Unit: ug/L Analytical Batch: 2J31016

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Dichlorodifluoromethane	1.0 U	40.0	**39.7**	99	64-138	4	13	1.0	0.21
1,1-Dichloroethane	1.0 U	40.0	**42.6**	107	76-129	0.7	13	1.0	0.18
1,2-Dichloroethane	1.0 U	40.0	**40.5**	101	74-131	3	9	1.0	0.21
1,1-Dichloroethene	1.0 U	40.0	**46.4**	116	74-134	0.8	11	1.0	0.21
cis-1,2-Dichloroethene	1.0 U	40.0	**42.4**	106	76-129	0.9	12	1.0	0.12
trans-1,2-Dichloroethene	1.0 U	40.0	**43.8**	110	71-137	0.9	15	1.0	0.20
1,2-Dichloropropane	1.0 U	40.0	**42.5**	106	79-128	0.05	9	1.0	0.28
cis-1,3-Dichloropropene	1.0 U	40.0	**36.4**	91	68-122	0.3	11	1.0	0.19
trans-1,3-Dichloropropene	1.0 U	40.0	**35.5**	89	66-117	0.08	12	1.0	0.19
Ethylbenzene	1.0 U	40.0	**44.3**	111	82-127	0.09	10	1.0	0.21
Isopropylbenzene	1.0 U	40.0	**40.4**	101	73-131	0.3	12	1.0	0.22
Methyl Acetate	0.920 J	40.0	**27.7**	67	40-133	4	16	5.0	0.42
Methyl tert-Butyl Ether	1.0 U	40.0	**41.4**	103	65-131	0.07	15	1.0	0.19
Methylcyclohexane	5.0 U	40.0	**42.4**	106	70-137	1	14	5.0	0.37
Methylene Chloride	0.280 J	40.0	**39.3**	97	75-133	0.3	10	1.0	0.24
Styrene	1.0 U	40.0	**43.6**	109	75-129	0.2	10	1.0	0.20
1,1,2,2-Tetrachloroethane	1.0 U	40.0	**41.6**	104	71-129	0.4	10	1.0	0.26
Tetrachloroethene	1.0 U	40.0	**45.0**	112	75-126	0.1	10	1.0	0.23
Toluene	1.0 U	40.0	**42.8**	107	79-129	1	9	1.0	0.18
1,2,4-Trichlorobenzene	1.0 U	40.0	**34.7**	87	66-131	0.4	15	1.0	0.13
1,1,1-Trichloroethane	1.0 U	40.0	**46.4**	116	79-131	0.2	10	1.0	0.14
1,1,2-Trichloroethane	1.0 U	40.0	**41.9**	105	76-127	1	10	1.0	0.20
Trichloroethene	1.0 U	40.0	**44.1**	110	75-127	2	10	1.0	0.21
Trichlorofluoromethane	1.0 U	40.0	**46.3**	116	70-141	2	11	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	40.0	**44.6**	112	67-135	2	14	1.0	0.24
Vinyl Chloride	1.0 U	40.0	**44.2**	110	73-136	2	12	1.0	0.21
Xylene (Total)	3.0 U	120	**132**	110	78-130	0.3	9	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*98*	*87-122*				
Toluene-d8				*98*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213024 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/01/2012 By: JLB
Unit: ug/L Analytical Batch: 2K02033

Acenaphthene			0.50 U					0.50	
Acenaphthylene			0.50 U					0.50	
Acetophenone			0.50 U					0.50	
Anthracene			0.50 U			--		0.50	
Atrazine			0.50 U					0.50	
Benzaldehyde			0.50 U					0.50	
Benzo(a)anthracene			0.50 U			--		0.50	
Benzo(a)pyrene			0.50 U			--		0.50	
Benzo(b)fluoranthene			0.50 U					0.50	
Benzo(k)fluoranthene			0.50 U			--		0.50	
Benzo(g,h,i)perylene			0.50 U					0.50	
1,1'-Biphenyl			0.50 U			--		0.50	
4-Bromophenyl Phenyl Ether			0.50 U					0.50	
Butyl Benzyl Phthalate			1.0 U			--		1.0	
Caprolactam			1.0 U					1.0	
Carbazole			0.50 U					0.50	
4-Chloro-3-methylphenol			0.50 U					0.50	
4-Chloroaniline			1.0 U					1.0	
Bis(2-chloroethoxy)methane			0.50 U					0.50	
Bis(2-chloroethyl) Ether			0.50 U					0.50	
Bis(2-chloroisopropyl) Ether			0.50 U					0.50	
2-Chloronaphthalene			0.50 U					0.50	
2-Chlorophenol			0.50 U					0.50	
4-Chlorophenyl Phenyl Ether			0.50 U					0.50	
Chrysene			0.50 U			--		0.50	
Dibenz(a,h)anthracene			0.50 U					0.50	
Dibenzofuran			0.50 U					0.50	
Di-n-butyl Phthalate			1.0 U			--		1.0	
3,3´-Dichlorobenzidine			1.0 U					1.0	
2,4-Dichlorophenol			0.50 U					0.50	
Diethyl Phthalate			0.50 U			--		0.50	
2,4-Dimethylphenol			1.0 U					1.0	
Dimethyl Phthalate			0.50 U			--		0.50	
4,6-Dinitro-2-methylphenol			5.0 U					5.0	
2,4-Dinitrophenol			5.0 U					5.0	
2,4-Dinitrotoluene			0.50 U					0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/01/2012 By: JLB

Unit: ug/L Analytical Batch: 2K02033

2,6-Dinitrotoluene			0.50 U					0.50	
Di-n-octyl Phthalate			0.50 U			--		0.50	
Bis(2-ethylhexyl) Phthalate			0.50 U			--		0.50	
Fluoranthene			0.50 U					0.50	
Fluorene			0.50 U					0.50	
Hexachlorobenzene			0.50 U					0.50	
Hexachlorobutadiene			0.50 U					0.50	
Hexachlorocyclopentadiene			0.50 U					0.50	
Hexachloroethane			0.50 U					0.50	
Indeno(1,2,3-cd)pyrene			0.50 U					0.50	
Isophorone			0.50 U					0.50	
2-Methylnaphthalene			0.50 U					0.50	
2-Methylphenol			0.50 U					0.50	
4-Methylphenol			0.50 U					0.50	
Naphthalene			0.50 U					0.50	
2-Nitroaniline			0.50 U					0.50	
3-Nitroaniline			1.0 U					1.0	
4-Nitroaniline			1.0 U					1.0	
Nitrobenzene			0.50 U					0.50	
4-Nitrophenol			5.0 U					5.0	
2-Nitrophenol			0.50 U					0.50	
N-Nitroso-diphenylamine			0.50 U			--		0.50	
N-Nitroso-di-n-propylamine			0.50 U					0.50	
Pentachlorophenol			0.50 U					0.50	
Phenanthrene			0.50 U			--		0.50	
Phenol			0.50 U					0.50	
Pyrene			0.50 U					0.50	
2,4,6-Trichlorophenol			0.50 U					0.50	
2,4,5-Trichlorophenol			0.50 U					0.50	
Surrogates:									
2-Fluorophenol				*36*	*20-70*				
Phenol-d6				*22*	*18-45*				
Nitrobenzene-d5				*62*	*31-123*				
2-Fluorobiphenyl				*69*	*25-113*				
2,4,6-Tribromophenol				*64*	*30-121*				
o-Terphenyl				*77*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/01/2012 By: JLB

Unit: ug/L Analytical Batch: 2K02033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**7.20**	72	53-126	--	20	0.50	
Acenaphthylene		10.0	**7.34**	73	62-133	--	20	0.50	
Acetophenone			0.50 U		58-115	--	20	0.50	
Anthracene		10.0	**7.87**	79	64-130	--	20	0.50	
Atrazine			**0.690**		60-140	--	20	0.50	
Benzaldehyde			0.50 U		35-128		20	0.50	
Benzo(a)anthracene		10.0	**7.46**	75	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.61**	76	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.14**	71	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**7.23**	72	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**8.84**	88	52-129	--	20	0.50	
1,1'-Biphenyl			0.50 U		58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**7.83**	78	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**8.31**	83	58-141	--	20	1.0	
Caprolactam			1.0 U		23-76	--	20	1.0	
Carbazole		10.0	**8.61**	86	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**7.60**	76	53-120	--	20	0.50	
4-Chloroaniline		10.0	**22.1**	**221**	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**6.30**	63	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**6.85**	68	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**6.83**	68	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.53**	75	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.72**	67	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**7.08**	71	57-122	--	20	0.50	
Chrysene		10.0	**7.54**	75	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**8.89**	89	57-130	--	20	0.50	
Dibenzofuran		10.0	**7.32**	73	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.56**	86	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	1.0 U	**0**	55-135		20	1.0	
2,4-Dichlorophenol		10.0	**7.23**	72	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.95**	80	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**6.73**	67	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.51**	75	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**6.91**	69	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**5.40**	54	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**7.47**	75	55-131	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/01/2012 By: JLB

Unit: ug/L Analytical Batch: 2K02033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**7.34**	73	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**7.66**	77	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**7.31**	73	60-136	--	20	0.50	
Fluoranthene		10.0	**8.11**	81	64-138	--	20	0.50	
Fluorene		10.0	**7.16**	72	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**7.79**	78	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**6.83**	68	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**6.55**	66	21-138	--	20	0.50	
Hexachloroethane		10.0	**7.20**	72	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**8.82**	88	57-129	--	20	0.50	
Isophorone		10.0	**6.65**	66	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**7.05**	70	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.70**	57	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.27**	53	33-122	--	20	0.50	
Naphthalene		10.0	**7.02**	70	50-127	--	20	0.50	
2-Nitroaniline		10.0	**7.79**	78	57-130	--	20	0.50	
3-Nitroaniline		10.0	1.0 U	**0**	49-144		20	1.0	
4-Nitroaniline		10.0	1.0 U	**0**	52-143		20	1.0	
Nitrobenzene		10.0	**6.97**	70	53-121	--	20	0.50	
4-Nitrophenol		10.0	**3.13 J**	31	17-70	--	20	5.0	
2-Nitrophenol		10.0	**6.49**	65	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**8.01**	80	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**7.07**	71	49-125	--	20	0.50	
Pentachlorophenol		10.0	**4.73**	47	21-124	--	20	0.50	
Phenanthrene		10.0	**7.48**	75	63-126	--	20	0.50	
Phenol		10.0	**2.92**	29	22-60	--	20	0.50	
Pyrene		10.0	**7.44**	74	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.97**	70	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**8.50**	85	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*37*	*20-70*				
Phenol-d6				*24*	*18-45*				
Nitrobenzene-d5				*64*	*31-123*				
2-Fluorobiphenyl				*67*	*25-113*				
2,4,6-Tribromophenol				*70*	*30-121*				
o-Terphenyl				*74*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike 1210504-01 GW-17360-102312-DD-001 Analyzed: 11/01/2012 By: JLB
Unit: ug/L Analytical Batch: 2K02033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.50 U	10.0	**8.09**	81	46-120	--	12	0.50	
Acenaphthylene	0.50 U	10.0	**8.57**	86	50-133	--	14	0.50	
Acetophenone	0.50 U		**7.35**		51-117	--	13	0.50	
Anthracene	0.0306	10.0	**9.60**	96	56-128	--	12	0.50	
Atrazine	0.50 U		**0.780**		53-134	--	40	0.50	
Benzaldehyde	0.50 U		0.50 U		50-150		40	0.50	
Benzo(a)anthracene	0.0408	10.0	**8.92**	89	54-130	--	12	0.50	
Benzo(a)pyrene	0.50 U	10.0	**8.86**	89	51-135	--	14	0.50	
Benzo(b)fluoranthene	0.50 U	10.0	**8.90**	89	47-138	--	21	0.50	
Benzo(k)fluoranthene	0.0408	10.0	**8.11**	81	49-136	--	16	0.50	
Benzo(g,h,i)perylene	0.50 U	10.0	**9.00**	90	47-127	--	13	0.50	
1,1'-Biphenyl	0.50 U		0.50 U		47-116	--	40	0.50	
4-Bromophenyl Phenyl Ether	0.50 U	10.0	**7.66**	77	48-130	--	11	0.50	
Butyl Benzyl Phthalate	1.0 U	10.0	**9.86**	99	44-149	--	15	1.0	
Caprolactam	1.0 U		**0.480 J**		50-150	--	40	1.0	
Carbazole	0.50 U		**10.4**		57-143	--	16	0.50	
4-Chloro-3-methylphenol	0.50 U	10.0	**8.37**	84	46-120	--	13	0.50	
4-Chloroaniline	1.0 U		**8.95**		37-125	--	16	1.0	
Bis(2-chloroethoxy)methane	0.50 U	10.0	**7.77**	78	45-123	--	16	0.50	
Bis(2-chloroethyl) Ether	0.50 U	10.0	**6.69**	67	40-117	--	16	0.50	
Bis(2-chloroisopropyl) Ether	0.50 U	10.0	**7.28**	73	46-121	--	12	0.50	
2-Chloronaphthalene	0.50 U	10.0	**8.27**	83	48-125	--	12	0.50	
2-Chlorophenol	0.50 U	10.0	**6.67**	67	36-115	--	17	0.50	
4-Chlorophenyl Phenyl Ether	0.50 U	10.0	**7.61**	76	48-122	--	13	0.50	
Chrysene	0.0408	10.0	**9.17**	91	55-134	--	18	0.50	
Dibenz(a,h)anthracene	0.50 U	10.0	**9.44**	94	49-131	--	10	0.50	
Dibenzofuran	0.50 U		**0.0400 J**		49-126	--	11	0.50	
Di-n-butyl Phthalate	1.0 U	10.0	**9.96**	100	51-145	--	16	1.0	
3,3´-Dichlorobenzidine	1.0 U		1.0 U		44-140		23	1.0	
2,4-Dichlorophenol	0.50 U	10.0	**7.53**	75	39-124	--	15	0.50	
Diethyl Phthalate	0.173 J	10.0	**8.98**	88	51-124	--	16	0.50	
2,4-Dimethylphenol	1.0 U	10.0	**6.02**	60	30-118	--	17	1.0	
Dimethyl Phthalate	0.50 U	10.0	**8.36**	84	51-130	--	12	0.50	
4,6-Dinitro-2-methylphenol	5.0 U	10.0	**7.14**	71	30-132	--	31	5.0	
2,4-Dinitrophenol	5.0 U	10.0	**6.41**	64	24-114	--	40	5.0	
2,4-Dinitrotoluene	0.50 U	10.0	**8.22**	82	44-129	--	15	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike (Continued) 1210504-01 GW-17360-102312-DD-001 Analyzed: 11/01/2012 By: JLB
Unit: ug/L Analytical Batch: 2K02033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	0.50 U	10.0	**7.94**	79	45-128	--	11	0.50	
Di-n-octyl Phthalate	0.50 U	10.0	**9.91**	99	51-138	--	11	0.50	
Bis(2-ethylhexyl) Phthalate	0.50 U	10.0	**8.93**	89	50-144	--	16	0.50	
Fluoranthene	0.0306	10.0	**9.73**	97	45-148	--	22	0.50	
Fluorene	0.0306	10.0	**8.31**	83	50-128	--	13	0.50	
Hexachlorobenzene	0.50 U	10.0	**7.82**	78	39-140	--	14	0.50	
Hexachlorobutadiene	0.50 U	10.0	**8.16**	82	31-129	--	14	0.50	
Hexachlorocyclopentadiene	0.50 U	10.0	**6.74**	67	16-120	--	22	0.50	
Hexachloroethane	0.50 U	10.0	**7.90**	79	33-123	--	15	0.50	
Indeno(1,2,3-cd)pyrene	0.50 U	10.0	**9.26**	93	53-125	--	14	0.50	
Isophorone	0.50 U	10.0	**7.90**	79	50-126	--	18	0.50	
2-Methylnaphthalene	0.50 U		**0.0600 J**		50-136	--	15	0.50	
2-Methylphenol	0.50 U		**0.0700 J**		35-97	--	13	0.50	
4-Methylphenol	0.50 U		0.50 U		25-112	--	16	0.50	
Naphthalene	0.50 U	10.0	**7.93**	79	39-124	--	15	0.50	
2-Nitroaniline	0.50 U		0.50 U		42-131		21	0.50	
3-Nitroaniline	1.0 U		1.0 U		38-139		27	1.0	
4-Nitroaniline	1.0 U		1.0 U		27-143		21	1.0	
Nitrobenzene	0.50 U	10.0	**7.67**	77	41-129	--	16	0.50	
4-Nitrophenol	5.0 U	10.0	**3.93 J**	39	18-61	--	30	5.0	
2-Nitrophenol	0.50 U	10.0	**6.55**	66	35-127	--	17	0.50	
N-Nitroso-diphenylamine	0.50 U	10.0	**7.28**	73	44-100	--	13	0.50	
N-Nitroso-di-n-propylamine	0.50 U	10.0	**8.01**	80	43-124	--	15	0.50	
Pentachlorophenol	0.50 U	10.0	**6.13**	61	36-120	--	25	0.50	
Phenanthrene	0.0510	10.0	**8.99**	89	53-128	--	13	0.50	
Phenol	0.50 U	10.0	**2.28**	23	22-52	--	19	0.50	
Pyrene	0.0408	10.0	**9.43**	94	55-134	--	16	0.50	
2,4,6-Trichlorophenol	0.50 U	10.0	**8.04**	80	42-124	--	17	0.50	
2,4,5-Trichlorophenol	0.50 U		**8.11**		50-120	--	16	0.50	
Surrogates:									
2-Fluorophenol				*39*	*20-70*				
Phenol-d6				*24*	*18-45*				
Nitrobenzene-d5				*71*	*31-123*				
2-Fluorobiphenyl				*65*	*25-113*				
2,4,6-Tribromophenol				*87*	*30-121*				
o-Terphenyl				*87*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate 1210504-01 GW-17360-102312-DD-001 Analyzed: 11/01/2012 By: JLB
Unit: ug/L Analytical Batch: 2K02033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.50 U	10.2	**8.12**	80	46-120	0.4	12	0.50	
Acenaphthylene	0.50 U	10.2	**8.59**	84	50-133	0.3	14	0.50	
Acetophenone	0.50 U		**7.45**		51-117	1	13	0.50	
Anthracene	0.0306	10.2	**9.55**	93	56-128	0.5	12	0.50	
Atrazine	0.50 U		**0.204 J**		53-134	**117**	40	0.50	
Benzaldehyde	0.50 U		0.50 U		50-150		40	0.50	
Benzo(a)anthracene	0.0408	10.2	**8.82**	86	54-130	1	12	0.50	
Benzo(a)pyrene	0.50 U	10.2	**8.62**	85	51-135	3	14	0.50	
Benzo(b)fluoranthene	0.50 U	10.2	**8.59**	84	47-138	4	21	0.50	
Benzo(k)fluoranthene	0.0408	10.2	**7.91**	77	49-136	3	16	0.50	
Benzo(g,h,i)perylene	0.50 U	10.2	**9.68**	95	47-127	7	13	0.50	
1,1'-Biphenyl	0.50 U		0.50 U		47-116	--	40	0.50	
4-Bromophenyl Phenyl Ether	0.50 U	10.2	**7.81**	77	48-130	2	11	0.50	
Butyl Benzyl Phthalate	1.0 U	10.2	**9.85**	97	44-149	0.1	15	1.0	
Caprolactam	1.0 U		**1.08**		50-150	**77**	40	1.0	
Carbazole	0.50 U		**10.1**		57-143	3	16	0.50	
4-Chloro-3-methylphenol	0.50 U	10.2	**8.92**	87	46-120	6	13	0.50	
4-Chloroaniline	1.0 U		1.0 U		37-125	--	16	1.0	
Bis(2-chloroethoxy)methane	0.50 U	10.2	**7.79**	76	45-123	0.2	16	0.50	
Bis(2-chloroethyl) Ether	0.50 U	10.2	**6.64**	65	40-117	0.7	16	0.50	
Bis(2-chloroisopropyl) Ether	0.50 U	10.2	**7.40**	73	46-121	2	12	0.50	
2-Chloronaphthalene	0.50 U	10.2	**8.27**	81	48-125	0.06	12	0.50	
2-Chlorophenol	0.50 U	10.2	**6.76**	66	36-115	1	17	0.50	
4-Chlorophenyl Phenyl Ether	0.50 U	10.2	**7.86**	77	48-122	3	13	0.50	
Chrysene	0.0408	10.2	**9.13**	89	55-134	0.4	18	0.50	
Dibenz(a,h)anthracene	0.50 U	10.2	**9.77**	96	49-131	3	10	0.50	
Dibenzofuran	0.50 U		**0.0408 J**		49-126	2	11	0.50	
Di-n-butyl Phthalate	1.0 U	10.2	**9.82**	96	51-145	1	16	1.0	
3,3´-Dichlorobenzidine	1.0 U		1.0 U		44-140		23	1.0	
2,4-Dichlorophenol	0.50 U	10.2	**7.64**	75	39-124	1	15	0.50	
Diethyl Phthalate	0.173 J	10.2	**9.13**	88	51-124	2	16	0.50	
2,4-Dimethylphenol	1.0 U	10.2	**6.18**	61	30-118	3	17	1.0	
Dimethyl Phthalate	0.50 U	10.2	**8.49**	83	51-130	2	12	0.50	
4,6-Dinitro-2-methylphenol	5.0 U	10.2	**7.57**	74	30-132	6	31	5.0	
2,4-Dinitrophenol	5.0 U	10.2	**6.34**	62	24-114	1	40	5.0	
2,4-Dinitrotoluene	0.50 U	10.2	**8.05**	79	44-129	2	15	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213024 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate (Continued) 1210504-01 GW-17360-102312-DD-001 Analyzed: 11/01/2012 By: JLB
Unit: ug/L Analytical Batch: 2K02033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	0.50 U	10.2	**8.23**	81	45-128	4	11	0.50	
Di-n-octyl Phthalate	0.50 U	10.2	**10.1**	99	51-138	2	11	0.50	
Bis(2-ethylhexyl) Phthalate	0.50 U	10.2	**9.42**	92	50-144	5	16	0.50	
Fluoranthene	0.0306	10.2	**9.81**	96	45-148	0.8	22	0.50	
Fluorene	0.0306	10.2	**8.47**	83	50-128	2	13	0.50	
Hexachlorobenzene	0.50 U	10.2	**8.16**	80	39-140	4	14	0.50	
Hexachlorobutadiene	0.50 U	10.2	**8.18**	80	31-129	0.3	14	0.50	
Hexachlorocyclopentadiene	0.50 U	10.2	**6.05**	59	16-120	11	22	0.50	
Hexachloroethane	0.50 U	10.2	**7.66**	75	33-123	3	15	0.50	
Indeno(1,2,3-cd)pyrene	0.50 U	10.2	**9.80**	96	53-125	6	14	0.50	
Isophorone	0.50 U	10.2	**7.89**	77	50-126	0.2	18	0.50	
2-Methylnaphthalene	0.50 U		**0.0612 J**		50-136	2	15	0.50	
2-Methylphenol	0.50 U		**0.0612 J**		35-97	13	13	0.50	
4-Methylphenol	0.50 U		0.50 U		25-112	--	16	0.50	
Naphthalene	0.50 U	10.2	**8.09**	79	39-124	2	15	0.50	
2-Nitroaniline	0.50 U		0.50 U		42-131		21	0.50	
3-Nitroaniline	1.0 U		1.0 U		38-139		27	1.0	
4-Nitroaniline	1.0 U		1.0 U		27-143		21	1.0	
Nitrobenzene	0.50 U	10.2	**7.49**	73	41-129	2	16	0.50	
4-Nitrophenol	5.0 U	10.2	**3.48 J**	34	18-61	12	30	5.0	
2-Nitrophenol	0.50 U	10.2	**6.67**	65	35-127	2	17	0.50	
N-Nitroso-diphenylamine	0.50 U	10.2	**7.23**	71	44-100	0.6	13	0.50	
N-Nitroso-di-n-propylamine	0.50 U	10.2	**8.28**	81	43-124	3	15	0.50	
Pentachlorophenol	0.50 U	10.2	**6.95**	68	36-120	13	25	0.50	
Phenanthrene	0.0510	10.2	**9.29**	91	53-128	3	13	0.50	
Phenol	0.50 U	10.2	**2.53**	25	22-52	10	19	0.50	
Pyrene	0.0408	10.2	**9.37**	91	55-134	0.7	16	0.50	
2,4,6-Trichlorophenol	0.50 U	10.2	**8.48**	83	42-124	5	17	0.50	
2,4,5-Trichlorophenol	0.50 U		**8.60**		50-120	6	16	0.50	
Surrogates:									
2-Fluorophenol				*34*	*20-70*				
Phenol-d6				*25*	*18-45*				
Nitrobenzene-d5				*72*	*31-123*				
2-Fluorobiphenyl				*64*	*25-113*				
2,4,6-Tribromophenol				*86*	*30-121*				
o-Terphenyl				*88*	*42-125*				

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**40.9**	ug/L	82	80-120		20	1.0	0.15
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.724	50.0	**42.6**	ug/L	84	75-125		20	1.0	0.15
Matrix Spike Duplicate	0.724	50.0	**42.1**	ug/L	83	75-125	1	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**40.6**	ug/L	81	80-120		20	1.0	0.18
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.217	50.0	**41.4**	ug/L	82	75-125		20	1.0	0.18
Matrix Spike Duplicate	0.217	50.0	**43.6**	ug/L	87	75-125	5	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**44.4**	ug/L	89	80-120		20	1.0	0.14
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	44.3	50.0	**85.8**	ug/L	83	75-125		20	1.0	0.14
Matrix Spike Duplicate	44.3	50.0	**87.7**	ug/L	87	75-125	2	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 11/01/2012		By: CKD	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	1.0	0.11
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.121	50.0	**49.0**	ug/L	98	75-125		20	1.0	0.11
Matrix Spike Duplicate	0.121	50.0	**51.5**	ug/L	103	75-125	5	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.038

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cadmium/USEPA-6020A (Continued)										
QC Batch: 1212938 (Continued) (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Laboratory Control Sample		50.0	**42.7**	ug/L	85	80-120		20	0.20	0.038
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.0510	50.0	**41.6**	ug/L	83	75-125		20	0.20	0.038
Matrix Spike Duplicate	0.0510	50.0	**43.5**	ug/L	87	75-125	5	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.20
Laboratory Control Sample		50.0	**46.7**	ug/L	93	80-120		20	1.0	0.20
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	1.21	50.0	**47.1**	ug/L	92	75-125		20	1.0	0.20
Matrix Spike Duplicate	1.21	50.0	**49.1**	ug/L	96	75-125	4	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**46.0**	ug/L	92	80-120		20	1.0	0.050
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.359	50.0	**44.5**	ug/L	88	75-125		20	1.0	0.050
Matrix Spike Duplicate	0.359	50.0	**46.7**	ug/L	93	75-125	5	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 11/01/2012		By: CKD	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**50.5**	ug/L	101	80-120		20	1.0	0.13
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	1.73	50.0	**47.4**	ug/L	91	75-125		20	1.0	0.13
Matrix Spike Duplicate	1.73	50.0	**48.9**	ug/L	94	75-125	3	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1212937 (3010A Digestion)							Analyzed: 10/30/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Iron/USEPA-6010C (Continued)										
QC Batch: 1212937 (Continued) (3010A Digestion)							Analyzed: 10/30/2012		By: KLV	
Laboratory Control Sample		400	**384**	ug/L	96	80-120		20	20	6.5
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	53.1	400	**443**	ug/L	97	75-125		20	20	6.5
Matrix Spike Duplicate	53.1	400	**416**	ug/L	91	75-125	6	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**45.7**	ug/L	91	80-120		20	1.0	0.15
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.278	50.0	**47.0**	ug/L	93	75-125		20	1.0	0.15
Matrix Spike Duplicate	0.278	50.0	**47.9**	ug/L	95	75-125	2	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**48.2**	ug/L	96	80-120		20	1.0	0.14
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	4.09	50.0	**49.3**	ug/L	90	75-125		20	1.0	0.14
Matrix Spike Duplicate	4.09	50.0	**50.8**	ug/L	93	75-125	3	20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213267 (7470A Digestion - Total)							Analyzed: 11/01/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**2.08**	ug/L	104	80-120		20	0.20	0.055
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	<RL	2.00	**1.97**	ug/L	99	80-120		20	0.20	0.055
Matrix Spike Duplicate	<RL	2.00	**1.97**	ug/L	98	80-120	0.4	20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.075

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1212938 (Continued) (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Laboratory Control Sample		50.0	**43.7**	ug/L	87	80-120		20	1.0	0.075
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.333	50.0	**48.6**	ug/L	96	75-125		20	1.0	0.075
Matrix Spike Duplicate	0.333	50.0	**49.0**	ug/L	97	75-125	0.8	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**47.2**	ug/L	94	80-120		20	1.0	0.17
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	2.03	50.0	**44.7**	ug/L	85	75-125		20	1.0	0.17
Matrix Spike Duplicate	2.03	50.0	**46.2**	ug/L	88	75-125	3	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 11/01/2012		By: CKD	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**48.7**	ug/L	97	80-120		20	1.0	0.31
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	1.40	50.0	**48.6**	ug/L	94	75-125		20	1.0	0.31
Matrix Spike Duplicate	1.40	50.0	**50.5**	ug/L	98	75-125	4	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**44.2**	ug/L	88	80-120		20	0.20	0.037
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	<RL	50.0	**40.1**	ug/L	80	75-125		20	0.20	0.037
Matrix Spike Duplicate	<RL	50.0	**41.5**	ug/L	83	75-125	3	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			**0.034 J**	ug/L					1.0	0.027

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Thallium/USEPA-6020A (Continued)										
QC Batch: 1212938 (Continued) (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Laboratory Control Sample		50.0	**45.7**	ug/L	91	80-120		20	1.0	0.027
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.0929	50.0	**46.9**	ug/L	94	75-125		20	1.0	0.027
Matrix Spike Duplicate	0.0929	50.0	**48.4**	ug/L	97	75-125	3	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1212938 (3020A Digestion)							Analyzed: 10/30/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample		50.0	**46.6**	ug/L	93	80-120		20	1.0	0.066
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	0.478	50.0	**48.2**	ug/L	95	75-125		20	1.0	0.066
Matrix Spike Duplicate	0.478	50.0	**50.3**	ug/L	100	75-125	4	20	1.0	0.066
Analyte: Zinc/USEPA-6010C										
QC Batch: 1212937 (3010A Digestion)							Analyzed: 10/30/2012		By: KLV	
Method Blank			20 U	ug/L					20	
Laboratory Control Sample		400	**377**	ug/L	94	80-120			20	
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	13.1	400	**366**	ug/L	88	75-125			20	
Matrix Spike Duplicate	13.1	400	**366**	ug/L	88	75-125	0.03	20	20	
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213270 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			10 U	ug/L					10	1.5
Laboratory Control Sample		50.0	**51.8**	ug/L	104	80-120		20	10	1.5
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	20.4	50.0	**63.0**	ug/L	85	75-125		20	10	1.5
Matrix Spike Duplicate	20.4	50.0	**62.9**	ug/L	85	75-125	0.2	20	10	1.5

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Chromium, Hexavalent-Dissolved/USEPA-7196A										
QC Batch: 1213001 (Method Specific Preparation)								Analyzed: 10/24/2012	By: KCS	
Method Blank			1.00 U	ug/L					1.00	0.300
Laboratory Control Sample		20.0	**20.4**	ug/L	102	85-115		20	1.00	0.300
1210504-01 [GW-17360-102312-DD-001]										
Matrix Spike	1.10	20.0	**21.4**	ug/L	101	61-147		20	1.00	0.300
Matrix Spike Duplicate	1.10	20.0	**21.5**	ug/L	102	61-147	0.7	20	1.00	0.300

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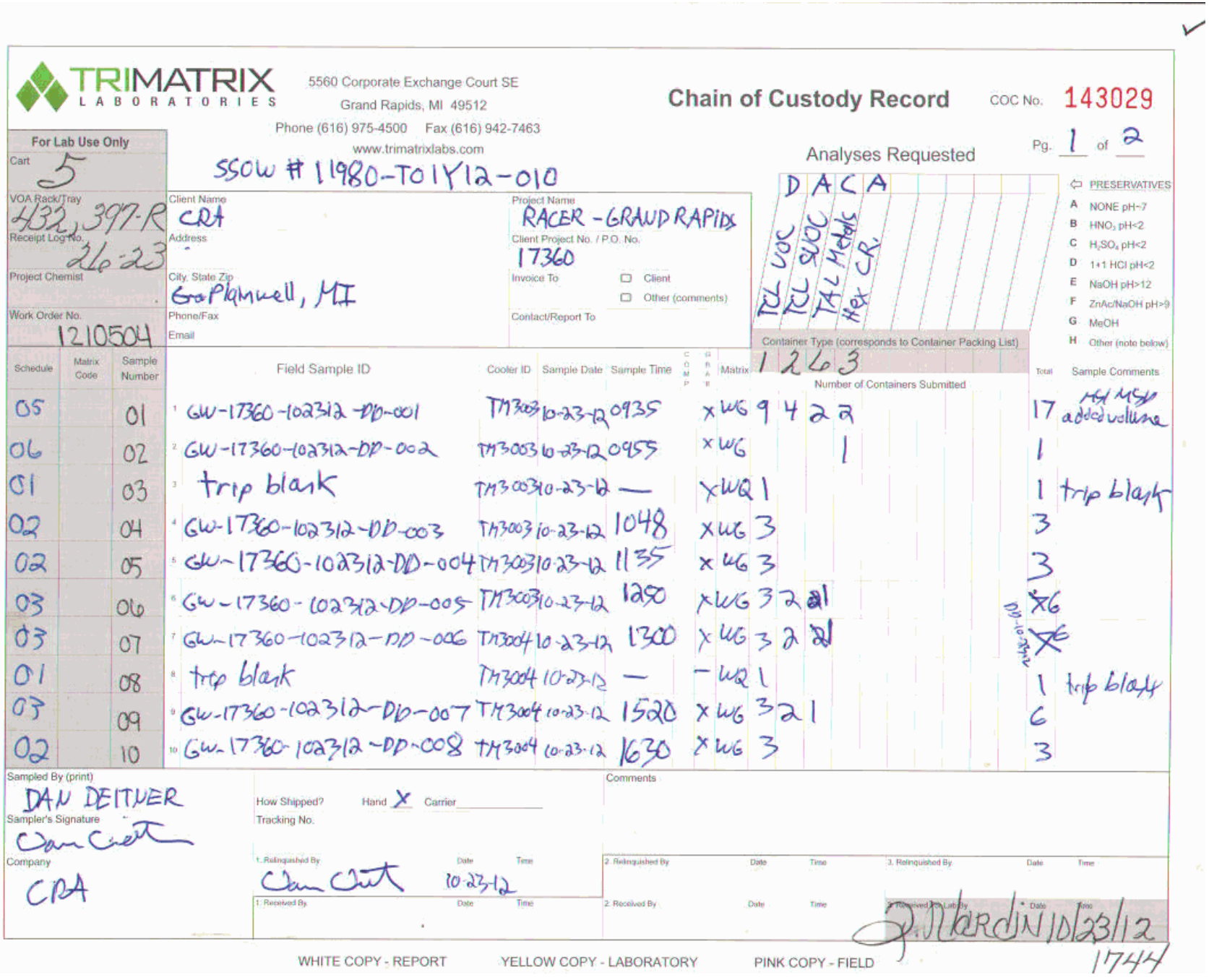

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Chain of Custody Record

COC No. 143029

Pg. 1 of 2

SSOW # 11980-T01Y12-010

For Lab Use Only
Cart: 5
VOA Rack/Tray: 432, 397-R
Receipt Log No.: 26-23
Project Chemist:
Work Order No.: 1210504

Client Name: CRA
Address:
City, State Zip: Caledonia, MI
Phone/Fax:
Email:

Project Name: RACER - GRAND RAPIDS
Client Project No. / P.O. No.: 17360
Invoice To: ☐ Client ☐ Other (comments)
Contact/Report To:

Analyses Requested: TCL VOC, TCL SVOC, TAL Metals, Hex Cr., DACA

PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Container Type (corresponds to Container Packing List): 1 2 6 3
Number of Containers Submitted

Schedule	Matrix Code	Sample Number	Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Total	Sample Comments
05		01	GW-17360-102312-DD-001	TM3003	10-23-12	0935		x	WG	17	MS/MSD added volume
06		02	GW-17360-102312-DD-002	TM3003	10-23-12	0955		x	WG	1	
01		03	trip blank	TM3003	10-23-12	—		x	WQ	1	trip blank
02		04	GW-17360-102312-DD-003	TM3003	10-23-12	1048		x	WG	3	
02		05	GW-17360-102312-DD-004	TM3003	10-23-12	1135		x	WG	3	
03		06	GW-17360-102312-DD-005	TM3003	10-23-12	1250		x	WG	6	
03		07	GW-17360-102312-DD-006	TM3004	10-23-12	1300		x	WG	6	
01		08	trip blank	TM3004	10-23-12	—		x	WQ	1	trip blank
03		09	GW-17360-102312-DD-007	TM3004	10-23-12	1520		x	WG	6	
02		10	GW-17360-102312-DD-008	TM3004	10-23-12	1630		x	WG	3	

Sampled By (print): DAN DEITNER
Sampler's Signature:
Company: CRA

How Shipped? Hand X Carrier
Tracking No.

Comments

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
	10-23-12							
1. Received By	Date	Time	2. Received By	Date	Time	3. Received For Laboratory By	Date	Time
							10/23/12	1744

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Chain of Custody Record

COC No. 143030 Pg. 2 of 2

For Lab Use Only
Cart 5
VOA Rack/Tray 233, 397-R
Receipt Log No. 24423

Project Chemist

Work Order No. 12105041

Client Name CRA
Address
City, State Zip Plainwell, MI
Phone/Fax
Email

Project Name Racer-Grad Rapids
Client Project No. / P.O. No. 177601
Invoice To ☐ Client ☐ Other (comments)
Contact/Report To

Analyses Requested

Schedule	Matrix Code	Sample Number	Field Sample ID	Cooler ID	Sample Date	Sample Time	Comp	Grab	Matrix	Container Type (corresponds to Container Packing List)	Number of Containers Submitted	Sample Comments
04	11	01	GW-17360-102312-DP-009	T#3004102312	10/23/12	1700	X		WG	3 VOA	4	

PRESERVATIVES
A NONE pH-7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAcNaOH pH>9
G MeOH
H Other (note below)

VOC
TAL Metals

Sampled By (print) DAN DEITNER
Sampler's Signature
Company CRA

How Shipped? Hand X Carrier
Tracking No.

	Relinquished By	Date	Time	Received By	Date	Time
1		10-23-12				
2						
3						
Stored/Sent For Lab By						

Comments

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA - RACER | Work Order #: 1210504
Receipt Record Page/Line #: 26-23 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): DN 10/23/12

☑ Cooler ☐ Box ☐ Other | Qty Received: 2

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
IN3003	1751	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
IN3004	1800	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container

Recorded °C	Correction Factor °C	Actual °C
Temp Blank: 0		2.1
TB location: (Representative) / Not Representative		
1: 2.7	0	2.7
2: 3.9	0	3.9
3: 3.2	0	3.2
Average °C		3.9
☑ Cooler ID on COC?		
☑ VOC Trip Blank received?		

Recorded °C	Correction Factor °C	Actual °C
Temp Blank: 0		1.7
TB location: (Representative) / Not Representative		
1: 5.0	0	5.0
2: 3.7	0	3.7
3: 3.5	0	3.5
Average °C		3.7
☑ Cooler ID on COC?		
☑ VOC Trip Blank received?		

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
Average °C		
☐ Cooler ID on COC?		
☐ VOC Trip Blank received?		

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
Average °C		
☐ Cooler ID on COC?		
☐ VOC Trip Blank received?		

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☐	Other _____

COC Information

☑ TriMatrix COC ☐ Other _____

COC ID Numbers: 143029, 143030

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑		Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐		Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Notes

CR+L

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 10/23/12	DN 10/23/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA-RACER	Work Order #: 1210504
Receipt Log #: 26-23	Completed By (initials/date): DN 10/23/12
	Project Chemist:

COC ID # 143029 — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3, 6, 15

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1					✓ ✓	✓ ✓		
COC Line #2					✓			
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6						✓		
COC Line #7						✓		
COC Line #8								
COC Line #9						✓		
COC Line #10								

Comments

COC ID # 143030 — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3, 6, 15

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1						✓		
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Ph Strip Lot # ☑ HC137671 ☐ ____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T01Y12-012

Work Orders:
1210567

Date:
November 14, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T01Y12-012

SDG Executive Summary

This case narrative applies to samples received on October 25, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/14/12

Date

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Sample Receipt and Login -- Work Order: 1210567

TriMatrix Laboratories received the cooler(s) for this work order on October 25, 2012, at 18:07. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
GW-17360-102512-JV-010	1210567-01	Water	10/25/2012
GW-17360-102512-JV-011	1210567-02	Water	10/25/2012
GW-17360-102512-JV-012	1210567-03	Water	10/25/2012
GW-17360-102512-JV-013	1210567-04	Water	10/25/2012
GW-17360-102512-JV-014	1210567-05	Water	10/25/2012
GW-17360-102512-JV-015	1210567-06	Water	10/25/2012
GW-17360-102512-EB-016	1210567-07	Water	10/25/2012
GW-17360-102512-EB-017	1210567-08	Water	10/25/2012
GW-17360-102512-EB-018	1210567-09	Water	10/25/2012
GW-17360-102512-EB-019	1210567-10	Water	10/25/2012
GW-17360-102512-JV-020	1210567-11	Water	10/25/2012
GW-17360-102512-EB-021	1210567-12	Water	10/25/2012
GW-17360-102512-EB-022	1210567-13	Water	10/25/2012
TB-17360-102512-EB	1210567-14	Water	10/25/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8260B

Sample/Analyte:		
1210567-01	GW-17360-102512-JV-010	Xylene (Total)
1210567-02	GW-17360-102512-JV-011	Xylene (Total)
1210567-03	GW-17360-102512-JV-012	Xylene (Total)
1210567-04	GW-17360-102512-JV-013	Xylene (Total)
1210567-05	GW-17360-102512-JV-014	Xylene (Total)
1210567-06	GW-17360-102512-JV-015	Xylene (Total)
1210567-07	GW-17360-102512-EB-016	Xylene (Total)
1210567-08	GW-17360-102512-EB-017	Xylene (Total)
1210567-09	GW-17360-102512-EB-018	Xylene (Total)
1210567-10	GW-17360-102512-EB-019	Xylene (Total)
1210567-11	GW-17360-102512-JV-020	Xylene (Total)
1210567-12	GW-17360-102512-EB-021	Xylene (Total)
1210567-13	GW-17360-102512-EB-022	Xylene (Total)
1210567-14	TB-17360-102512-EB	Xylene (Total)

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1210567-01	GW-17360-102512-JV-010	Bromomethane
1210567-01	GW-17360-102512-JV-010	Carbon Disulfide
1210567-01	GW-17360-102512-JV-010	Chloroethane
1210567-02	GW-17360-102512-JV-011	Bromomethane
1210567-02	GW-17360-102512-JV-011	Carbon Disulfide
1210567-02	GW-17360-102512-JV-011	Chloroethane
1210567-03	GW-17360-102512-JV-012	Bromomethane
1210567-03	GW-17360-102512-JV-012	Carbon Disulfide
1210567-03	GW-17360-102512-JV-012	Chloroethane
1210567-04	GW-17360-102512-JV-013	Bromomethane
1210567-04	GW-17360-102512-JV-013	Carbon Disulfide
1210567-04	GW-17360-102512-JV-013	Chloroethane
1210567-05	GW-17360-102512-JV-014	Bromomethane
1210567-05	GW-17360-102512-JV-014	Carbon Disulfide
1210567-05	GW-17360-102512-JV-014	Chloroethane
1210567-06	GW-17360-102512-JV-015	Bromomethane
1210567-06	GW-17360-102512-JV-015	Carbon Disulfide
1210567-06	GW-17360-102512-JV-015	Chloroethane
1210567-07	GW-17360-102512-EB-016	Bromomethane
1210567-07	GW-17360-102512-EB-016	Carbon Disulfide
1210567-07	GW-17360-102512-EB-016	Chloroethane
1210567-08	GW-17360-102512-EB-017	Bromomethane
1210567-08	GW-17360-102512-EB-017	Carbon Disulfide
1210567-08	GW-17360-102512-EB-017	Chloroethane

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (Continued)

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

1210567-09	GW-17360-102512-EB-018	Bromomethane
1210567-09	GW-17360-102512-EB-018	Carbon Disulfide
1210567-09	GW-17360-102512-EB-018	Chloroethane
1210567-10	GW-17360-102512-EB-019	Bromomethane
1210567-10	GW-17360-102512-EB-019	Carbon Disulfide
1210567-10	GW-17360-102512-EB-019	Chloroethane
1210567-11	GW-17360-102512-JV-020	Bromomethane
1210567-11	GW-17360-102512-JV-020	Carbon Disulfide
1210567-11	GW-17360-102512-JV-020	Chloroethane
1210567-12	GW-17360-102512-EB-021	Bromomethane
1210567-12	GW-17360-102512-EB-021	Carbon Disulfide
1210567-12	GW-17360-102512-EB-021	Chloroethane
1210567-13	GW-17360-102512-EB-022	Bromomethane
1210567-13	GW-17360-102512-EB-022	Carbon Disulfide
1210567-13	GW-17360-102512-EB-022	Chloroethane
1210567-14	TB-17360-102512-EB	Bromomethane
1210567-14	TB-17360-102512-EB	Carbon Disulfide
1210567-14	TB-17360-102512-EB	Chloroethane

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:		
1210567-01	GW-17360-102512-JV-010	Methylene Chloride
1210567-02	GW-17360-102512-JV-011	Chloroform
1210567-03	GW-17360-102512-JV-012	Chloroform
1210567-03	GW-17360-102512-JV-012	Methylene Chloride
1210567-04	GW-17360-102512-JV-013	Chloroform
1210567-04	GW-17360-102512-JV-013	Methyl Acetate
1210567-05	GW-17360-102512-JV-014	Chloroform
1210567-05	GW-17360-102512-JV-014	Methyl Acetate
1210567-06	GW-17360-102512-JV-015	Chloroform
1210567-07	GW-17360-102512-EB-016	Methylene Chloride
1210567-08	GW-17360-102512-EB-017	Chloroform
1210567-08	GW-17360-102512-EB-017	Methylene Chloride
1210567-09	GW-17360-102512-EB-018	Chloroform
1210567-09	GW-17360-102512-EB-018	Methyl Acetate
1210567-10	GW-17360-102512-EB-019	Chloroform
1210567-11	GW-17360-102512-JV-020	Chloroform
1210567-12	GW-17360-102512-EB-021	Methyl Acetate
1210567-12	GW-17360-102512-EB-021	Methylene Chloride
1210567-13	GW-17360-102512-EB-022	Chloroform
1210567-14	TB-17360-102512-EB	1,2,4-Trichlorobenzene
1210567-14	TB-17360-102512-EB	Chloroform
1210567-14	TB-17360-102512-EB	Methylene Chloride

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (Continued)

Qualification: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:		
1210567-01	GW-17360-102512-JV-010	Chloroform
1210567-07	GW-17360-102512-EB-016	Chloroform
1210567-12	GW-17360-102512-EB-021	Chloroform

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210567-08	GW-17360-102512-EB-017	Molybdenum
	1210567-08	GW-17360-102512-EB-017	Thallium

Qualification: Matrix QC results are not available due to sample dilution.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210567-08	GW-17360-102512-EB-017	Manganese

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-010**	Sampled:	10/25/12 09:52
Lab Sample ID:	**1210567-01**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**1.5**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

Continued on next page

*See Statement of Data Qualifications

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-010**	Sampled:	10/25/12 09:52
Lab Sample ID:	**1210567-01**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.29J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.4**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-011**	Sampled:	10/25/12 10:30
Lab Sample ID:	**1210567-02**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.48J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-011**	Sampled:	10/25/12 10:30
Lab Sample ID:	**1210567-02**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.2**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-012**	Sampled:	10/25/12 11:08
Lab Sample ID:	**1210567-03**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	**0.28J**	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.51J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**0.26J**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**1.5**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	**0.84J**	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-012**	Sampled:	10/25/12 11:08
Lab Sample ID:	**1210567-03**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.28J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**6.2**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-013**	Sampled:	10/25/12 12:37
Lab Sample ID:	**1210567-04**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.15J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.83J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-013**	Sampled:	10/25/12 12:37
Lab Sample ID:	**1210567-04**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	**7.6**	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.32J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-014**	Sampled:	10/25/12 12:12
Lab Sample ID:	**1210567-05**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.28J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.45J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-014**	Sampled:	10/25/12 12:12
Lab Sample ID:	**1210567-05**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-015**	Sampled:	10/25/12 13:52
Lab Sample ID:	**1210567-06**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.32J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-015**	Sampled:	10/25/12 13:52
Lab Sample ID:	**1210567-06**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.42J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-016**	Sampled:	10/25/12 10:25
Lab Sample ID:	**1210567-07**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.84J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-016**	Sampled:	10/25/12 10:25
Lab Sample ID:	**1210567-07**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.25J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-017**	Sampled:	10/25/12 11:55
Lab Sample ID:	**1210567-08**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.13J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**2.3**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-017**	Sampled:	10/25/12 11:55
Lab Sample ID:	**1210567-08**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.25J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	**2.1**	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*96*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-017**	Sampled:	10/25/12 11:55
Lab Sample ID:	**1210567-08**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.67**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Arsenic	**6.3**		1.0	0.18	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Barium	**86**		5.0	0.68	ug/L	5	USEPA-6020A	10/31/12 18:26	MSM	1213160
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Cadmium	**0.074**	**J**	0.20	0.038	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Chromium	**0.31**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Cobalt	**0.90**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Copper	**0.50**	**J**	1.0	0.13	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Iron	**3500**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 19:33	KLV	1213159
Lead	**0.19**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
***Manganese**	**670**		25	3.5	ug/L	25	USEPA-6020A	10/31/12 18:21	MSM	1213160
***Molybdenum**	**0.44**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 10:52	DSC	1213267
Nickel	**1.3**		1.0	0.17	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Selenium	1.0	U	1.0	0.31	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
***Thallium**	**0.14**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Vanadium	**0.21**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160
Zinc	**48**		10	1.5	ug/L	1	USEPA-6020A	10/31/12 15:44	MSM	1213160

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-018**	Sampled:	10/25/12 12:35
Lab Sample ID:	**1210567-09**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.26J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.75J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-018**	Sampled:	10/25/12 12:35
Lab Sample ID:	**1210567-09**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.4**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*99*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-018**	Sampled:	10/25/12 12:35
Lab Sample ID:	**1210567-09**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.41**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Arsenic	**0.24**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Barium	**67**		1.0	0.14	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Cadmium	**0.15**	**J**	0.20	0.038	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Chromium	**1.1**		1.0	0.20	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Cobalt	**0.15**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Copper	**1.8**		1.0	0.13	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Iron	**310**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 19:56	KLV	1213159
Lead	**0.74**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Manganese	**1.3**		1.0	0.14	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Molybdenum	**0.91**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 10:57	DSC	1213267
Nickel	**0.84**	**J**	1.0	0.17	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Selenium	1.0	U	1.0	0.31	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Thallium	**0.095**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Vanadium	**0.47**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160
Zinc	**98**		10	1.5	ug/L	1	USEPA-6020A	10/31/12 15:53	MSM	1213160

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-019**	Sampled:	10/25/12 16:15
Lab Sample ID:	**1210567-10**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.23J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**1.4**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	**0.26J**	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-019**	Sampled:	10/25/12 16:15
Lab Sample ID:	**1210567-10**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	**6.4**	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.1**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-019**	Sampled:	10/25/12 16:15
Lab Sample ID:	**1210567-10**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.33**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Arsenic	**0.31**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Barium	**110**		5.0	0.68	ug/L	5	USEPA-6020A	10/31/12 18:36	MSM	1213160
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Cadmium	**0.055**	**J**	0.20	0.038	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Chromium	**0.27**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Cobalt	**0.83**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Copper	**4.0**		1.0	0.13	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Iron	**490**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 20:00	KLV	1213159
Lead	**0.67**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Manganese	**95**		1.0	0.14	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Molybdenum	**9.0**		1.0	0.075	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/01/12 11:02	DSC	1213267
Nickel	**2.7**		1.0	0.17	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Selenium	**1.3**		1.0	0.31	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Thallium	**0.13**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Vanadium	**2.3**		1.0	0.066	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160
Zinc	**90**		10	1.5	ug/L	1	USEPA-6020A	10/31/12 15:55	MSM	1213160

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-020**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210567-11**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.36J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-JV-020**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210567-11**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-021**	Sampled:	10/25/12 15:42
Lab Sample ID:	**1210567-12**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**4.1**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.64J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-021**	Sampled:	10/25/12 15:42
Lab Sample ID:	**1210567-12**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.36J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-022**	Sampled:	10/25/12 16:35
Lab Sample ID:	**1210567-13**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.51J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102512-EB-022**	Sampled:	10/25/12 16:35
Lab Sample ID:	**1210567-13**	Sampled By:	E.B./J.V.
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	**4.9**	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.0**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**TB-17360-102512-EB**	Sampled:	10/25/12 00:00
Lab Sample ID:	**1210567-14**	Sampled By:	TB
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.16J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210567**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**TB-17360-102512-EB**	Sampled:	10/25/12 00:00
Lab Sample ID:	**1210567-14**	Sampled By:	TB
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.47J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
*120-82-1	1,2,4-Trichlorobenzene	**0.17J**	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213463 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Acetone	5.0 U			5.0	1.1
Benzene	1.0 U			1.0	0.11
Bromodichloromethane	1.0 U			1.0	0.13
Bromoform	1.0 U			1.0	0.26
Bromomethane	1.0 U			1.0	0.21
Carbon Disulfide	5.0 U		--	5.0	0.23
Carbon Tetrachloride	1.0 U			1.0	0.26
Chlorobenzene	1.0 U			1.0	0.17
Chloroethane	1.0 U			1.0	0.14
Chloroform	**0.12 J**		--	1.0	0.098
Chloromethane	1.0 U			1.0	0.29
Cyclohexane	5.0 U			5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U			1.0	0.13
Dibromochloromethane	1.0 U			1.0	0.15
1,2-Dibromoethane	1.0 U			1.0	0.15
1,2-Dichlorobenzene	1.0 U		--	1.0	0.24
1,3-Dichlorobenzene	1.0 U		--	1.0	0.24
1,4-Dichlorobenzene	1.0 U			1.0	0.25
Dichlorodifluoromethane	1.0 U			1.0	0.21
1,1-Dichloroethane	1.0 U			1.0	0.18
1,2-Dichloroethane	1.0 U			1.0	0.21
1,1-Dichloroethene	1.0 U			1.0	0.21
cis-1,2-Dichloroethene	1.0 U			1.0	0.12
trans-1,2-Dichloroethene	1.0 U			1.0	0.20
1,2-Dichloropropane	1.0 U			1.0	0.28
cis-1,3-Dichloropropene	1.0 U			1.0	0.19
trans-1,3-Dichloropropene	1.0 U			1.0	0.19
Ethylbenzene	1.0 U			1.0	0.21
2-Hexanone	5.0 U			5.0	0.49
Isopropylbenzene	1.0 U			1.0	0.22
Methyl Acetate	**0.51 J**		--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U			1.0	0.19
Methylcyclohexane	5.0 U			5.0	0.37
Methylene Chloride	**0.46 J**		--	1.0	0.24
2-Butanone (MEK)	5.0 U			5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U			5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		**0.26 J**			--	1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*98*	*85-118*			
1,2-Dichloroethane-d4			*99*	*87-122*			
Toluene-d8			*97*	*85-113*			
4-Bromofluorobenzene			*100*	*82-110*			

Laboratory Control Sample Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Acetone	40.0	**38.5**	96	53-138	--	20	5.0	1.1
Benzene	40.0	**39.4**	99	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**41.0**	102	82-124	--	20	1.0	0.13
Bromoform	40.0	**34.7**	87	65-123	--	20	1.0	0.26
Bromomethane	40.0	**50.5**	126	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**47.7**	119	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**44.4**	111	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**38.2**	96	84-118	--	20	1.0	0.17
Chloroethane	40.0	**47.4**	118	76-124	--	20	1.0	0.14
Chloroform	40.0	**38.3**	96	82-119	--	20	1.0	0.098
Chloromethane	40.0	**43.9**	110	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**42.4**	106	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**35.2**	88	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**35.2**	88	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**39.1**	98	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**38.3**	96	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**38.1**	95	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**34.1**	85	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**44.6**	111	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**39.7**	99	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**37.5**	94	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**40.8**	102	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**39.7**	99	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**39.9**	100	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**39.5**	99	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**36.1**	90	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.5**	91	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**35.2**	88	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**37.0**	93	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**37.9**	95	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**37.8**	95	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**34.1**	85	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**38.4**	96	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.3**	101	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**35.3**	88	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**38.0**	95	60-142	--	20	5.0	0.40
Styrene		40.0	**36.3**	91	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**38.1**	95	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**38.8**	97	81-117	--	20	1.0	0.23
Toluene		40.0	**38.8**	97	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.8**	102	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**41.5**	104	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**38.2**	95	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**39.2**	98	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**41.0**	102	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**40.7**	102	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**41.3**	103	77-123	--	20	1.0	0.21
Xylene (Total)		120	**102**	**85**	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*98*	*87-122*				
Toluene-d8				*99*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Surrogates (Continued):

4-Bromofluorobenzene	*99*	*82-110*	

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**49.8**	ug/L	100	80-120		20	1.0	0.15
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.667	50.0	**50.7**	ug/L	100	75-125		20	1.0	0.15
Matrix Spike Duplicate	0.667	50.0	**50.5**	ug/L	100	75-125	0.4	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**46.8**	ug/L	94	80-120		20	1.0	0.18
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	6.33	50.0	**53.6**	ug/L	94	75-125		20	1.0	0.18
Matrix Spike Duplicate	6.33	50.0	**55.4**	ug/L	98	75-125	3	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**51.9**	ug/L	104	80-120		20	1.0	0.14
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	85.6	50.0	**130**	ug/L	88	75-125		20	5.0	0.68
Matrix Spike Duplicate	85.6	50.0	**133**	ug/L	95	75-125	3	20	5.0	0.68
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**48.6**	ug/L	97	80-120		20	1.0	0.11
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	<RL	50.0	**46.4**	ug/L	93	75-125		20	1.0	0.11
Matrix Spike Duplicate	<RL	50.0	**46.8**	ug/L	94	75-125	0.8	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.038

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cadmium/USEPA-6020A (Continued)										
QC Batch: 1213160 (Continued) (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Laboratory Control Sample		50.0	**49.2**	ug/L	98	80-120		20	0.20	0.038
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.0738	50.0	**47.6**	ug/L	95	75-125		20	0.20	0.038
Matrix Spike Duplicate	0.0738	50.0	**50.4**	ug/L	101	75-125	6	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.20
Laboratory Control Sample		50.0	**53.8**	ug/L	108	80-120		20	1.0	0.20
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.313	50.0	**52.0**	ug/L	103	75-125		20	1.0	0.20
Matrix Spike Duplicate	0.313	50.0	**52.3**	ug/L	104	75-125	0.5	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**53.7**	ug/L	107	80-120		20	1.0	0.050
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.896	50.0	**51.2**	ug/L	101	75-125		20	1.0	0.050
Matrix Spike Duplicate	0.896	50.0	**53.0**	ug/L	104	75-125	3	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**52.0**	ug/L	104	80-120		20	1.0	0.13
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.499	50.0	**48.0**	ug/L	95	75-125		20	1.0	0.13
Matrix Spike Duplicate	0.499	50.0	**48.8**	ug/L	97	75-125	2	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213159 (3010A Digestion)							Analyzed: 11/05/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Iron/USEPA-6010C (Continued)										
QC Batch: 1213159 (Continued) (3010A Digestion)							Analyzed: 11/05/2012		By: KLV	
Laboratory Control Sample		400	**389**	ug/L	97	80-120		20	20	6.5
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	3520	400	**3870**	ug/L	88	75-125		20	20	6.5
Matrix Spike Duplicate	3520	400	**3870**	ug/L	88	75-125	0.06	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**52.9**	ug/L	106	80-120		20	1.0	0.15
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.190	50.0	**51.7**	ug/L	103	75-125		20	1.0	0.15
Matrix Spike Duplicate	0.190	50.0	**52.4**	ug/L	104	75-125	1	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**54.7**	ug/L	109	80-120		20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213267 (7470A Digestion - Total)							Analyzed: 11/01/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**2.08**	ug/L	104	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.075
Laboratory Control Sample		50.0	**50.4**	ug/L	101	80-120		20	1.0	0.075
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.437	50.0	**51.5**	ug/L	102	75-125		20	1.0	0.075

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Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213160 (Continued) (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike Duplicate	0.437	50.0	**54.2**	ug/L	107	75-125	5	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**52.3**	ug/L	105	80-120		20	1.0	0.17
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	1.34	50.0	**49.5**	ug/L	96	75-125		20	1.0	0.17
Matrix Spike Duplicate	1.34	50.0	**51.5**	ug/L	100	75-125	4	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			**0.40 J**	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**44.6**	ug/L	89	80-120		20	1.0	0.31
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	<RL	50.0	**44.8**	ug/L	90	75-125		20	1.0	0.31
Matrix Spike Duplicate	<RL	50.0	**45.5**	ug/L	91	75-125	2	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**50.6**	ug/L	101	80-120		20	0.20	0.037
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	<RL	50.0	**46.7**	ug/L	93	75-125		20	0.20	0.037
Matrix Spike Duplicate	<RL	50.0	**48.6**	ug/L	97	75-125	4	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			**0.065 J**	ug/L					1.0	0.027

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Thallium/USEPA-6020A (Continued)										
QC Batch: 1213160 (Continued) (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Laboratory Control Sample		50.0	**53.9**	ug/L	108	80-120		20	1.0	0.027
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.137	50.0	**53.3**	ug/L	106	75-125		20	1.0	0.027
Matrix Spike Duplicate	0.137	50.0	**53.7**	ug/L	107	75-125	0.6	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample		50.0	**53.8**	ug/L	108	80-120		20	1.0	0.066
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	0.206	50.0	**53.5**	ug/L	107	75-125		20	1.0	0.066
Matrix Spike Duplicate	0.206	50.0	**54.0**	ug/L	108	75-125	1	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213160 (3020A Digestion)							Analyzed: 10/31/2012		By: MSM	
Method Blank			**3.4 J**	ug/L					10	1.5
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120		20	10	1.5
1210567-08 [GW-17360-102512-EB-017]										
Matrix Spike	48.1	50.0	**89.5**	ug/L	83	75-125		20	10	1.5
Matrix Spike Duplicate	48.1	50.0	**92.5**	ug/L	89	75-125	3	20	10	1.5

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CHAIN OF CUSTODY RECORD

COC NO.: PL-09135

PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

1210567

#20, #105-B
CRT 10 (30-29)

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-T01Y12	Laboratory Name: TML
Project Name: Former GRMP	Lab Contact: J. Rice
Project Location: Wyoming, MI	Lab Location: Grand Rapids MI
Chemistry Contact: P. Wiseman	Lab Quote No:
Sampler(s): E. Batenburg / J. Valentine	SSOW ID: 11980-T01Y12-010
	Cooler No: —
	Carrier: Drop off
	Airbill No: —
	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)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	TCL VOCs + Soil, Methyl	MS/MSD Request	Comments/ Special Instructions:
01	1 GW-17360-102512-JV-010	10/25/12	9:52	WG	G		3							3	X		
02	2 -011		10:30														
03	3 -012		1108														
04	4 -013		12:37														
05	5 -014		12:17														
06	6 -015		13:52														
07	7 WG-17360-102512-EB-016		10:25														
08	8 -017		11:55					1						4	X		
09	9 -018		12:35					1						4	X		
10	10 -019		16:15					1						4	X		
11	11 GW-17360-102512-JV-020		14:55											3			
12	12 -021		15:42														
13	13 WG-17360-102512-EB-022		16:35														
14	14 TB-17360-102512-EB		—	WQ	—									1			Trip Blank
	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: 43
	All Samples in Cooler must be on COC
Notes/ Special Requirements:	

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	10/25/12	1716	1. D. Nardin	TRIMATRIX	10/25/12	1807
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)

TRIMATRIX LABORATORIES

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRD | Work Order #: 1210567
Receipt Record Page/Line #: 30-29 | New / Add To | Project Chemist: JLR | Sample #s

Recorded by (initials/date): DN 10/25/12
☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____)
☐ See Additional Cooler Information Form

Cooler # / Time	Cooler # / Time	Cooler # / Time	Cooler # / Time
TM2842 / 1933			
Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☑ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container
Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C
Temp Blank: 0 / 2.1	Temp Blank:	Temp Blank:	Temp Blank:
TB location: Representative / Not Representative	TB location: Representative / Not Representative	TB location: Representative / Not Representative	TB location: Representative / Not Representative
1: 3.1 / 0 / 3.1	1:	1:	1:
2: 4.6 / 0 / 4.6	2:	2:	2:
3: 4.8 / 0 / 4.8	3:	3:	3:
Average °C: 4.2	Average °C:	Average °C:	Average °C:
☐ Cooler ID on COC? ☑ VOC Trip Blank received?	☐ Cooler ID on COC? ☐ VOC Trip Blank received?	☐ Cooler ID on COC? ☐ VOC Trip Blank received?	☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☑ Other CRD
COC ID Numbers: PL-09135

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 10/25/12	10/25/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA	Work Order #: 1210567
Receipt Log #: 30-29	Completed By (initials/date): DKT 10/25/12
	Project Chemist: JLR

COC ID # 12-09135 — Adjusted by: _____ Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8						✓		
COC Line #9						✓		
COC Line #10						✓		

Comments

COC ID # — Adjusted by: _____ Date: _____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Ph Strip Lot #: ☑ HC137671 ☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1210568

Date:
November 26, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on October 25, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/26/12

Date

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Sample Receipt and Login -- Work Order: 1210568

TriMatrix Laboratories received the cooler(s) for this work order on October 25, 2012, at 18:07. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
S-17360-102512-DD-100	1210568-01	Soil	10/25/2012
S-17360-102512-DD-102	1210568-02	Soil	10/25/2012
S-17360-102512-DD-101	1210568-03	Soil	10/25/2012
S-17360-102512-DD-103	1210568-04	Soil	10/25/2012
S-17360-102512-DD-104	1210568-05	Soil	10/25/2012
GW-173690-102512-DD-105	1210568-06	Water	10/25/2012
S-17360-102512-DD-106	1210568-07	Soil	10/25/2012
S-17360-102512-DD-107	1210568-08	Soil	10/25/2012
Trip Blank	1210568-09	Soil	10/25/2012
Trip Blank	1210568-10	Water	10/25/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: The MS and/or MSD recovery exceeded the upper control limit. The non-spiked sample result for the same analyte was non-detect and is not qualified.

Analysis: USEPA-8082A

Sample/Analyte: 1210568-07 S-17360-102512-DD-106 PCB-1248

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8082A

Sample: 1210568-07 S-17360-102512-DD-106

Qualification: The RPD between the detected values from the primary and confirmation analyses exceeded 40%. The lower concentration result has been reported. The higher concentration result was: 0.0172 mg/kg.

Analysis: USEPA-8082A

Sample/Analyte: 1210568-07 S-17360-102512-DD-106 PCB-1242

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8260B

Sample/Analyte:	1210568-06	GW-173690-102512-DD-105	Xylene (Total)
	1210568-10	Trip Blank	Xylene (Total)

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1210568-06	GW-173690-102512-DD-105	Bromomethane
	1210568-06	GW-173690-102512-DD-105	Carbon Disulfide
	1210568-06	GW-173690-102512-DD-105	Chloroethane
	1210568-10	Trip Blank	Bromomethane
	1210568-10	Trip Blank	Carbon Disulfide
	1210568-10	Trip Blank	Chloroethane

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:	1210568-06	GW-173690-102512-DD-105	Chloroform
	1210568-06	GW-173690-102512-DD-105	Methyl Acetate
	1210568-06	GW-173690-102512-DD-105	Methylene Chloride
	1210568-10	Trip Blank	Methylene Chloride

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210568-01	S-17360-102512-DD-100	Trichlorofluoromethane
	1210568-02	S-17360-102512-DD-102	Trichlorofluoromethane
	1210568-03	S-17360-102512-DD-101	Trichlorofluoromethane
	1210568-04	S-17360-102512-DD-103	Trichlorofluoromethane
	1210568-05	S-17360-102512-DD-104	Trichlorofluoromethane
	1210568-07	S-17360-102512-DD-106	Trichlorofluoromethane
	1210568-08	S-17360-102512-DD-107	Trichlorofluoromethane
	1210568-09	Trip Blank	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210568-01	S-17360-102512-DD-100	Bromomethane
	1210568-01	S-17360-102512-DD-100	Trichlorofluoromethane
	1210568-02	S-17360-102512-DD-102	Bromomethane
	1210568-02	S-17360-102512-DD-102	Trichlorofluoromethane
	1210568-03	S-17360-102512-DD-101	Bromomethane
	1210568-03	S-17360-102512-DD-101	Trichlorofluoromethane
	1210568-04	S-17360-102512-DD-103	Bromomethane
	1210568-04	S-17360-102512-DD-103	Trichlorofluoromethane
	1210568-05	S-17360-102512-DD-104	Bromomethane
	1210568-05	S-17360-102512-DD-104	Trichlorofluoromethane
	1210568-07	S-17360-102512-DD-106	Bromomethane
	1210568-07	S-17360-102512-DD-106	Trichlorofluoromethane
	1210568-08	S-17360-102512-DD-107	Bromomethane
	1210568-08	S-17360-102512-DD-107	Trichlorofluoromethane
	1210568-09	Trip Blank	Bromomethane
	1210568-09	Trip Blank	Trichlorofluoromethane

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	Acetone

Qualification: The RPD between the MS and MSD results exceeded the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	1,2,4-Trichlorobenzene
	1210568-07	S-17360-102512-DD-106	1,2-Dibromo-3-chloropropane
	1210568-07	S-17360-102512-DD-106	2-Butanone (MEK)
	1210568-07	S-17360-102512-DD-106	Acetone
	1210568-07	S-17360-102512-DD-106	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Qualification: The RPD between the MS and MSD results exceeded the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8260B

1210568-07	S-17360-102512-DD-106	Methyl tert-Butyl Ether

Qualification: The MS and/or MSD recovery exceeded the upper control limit. The non-spiked sample result for the same analyte was non-detect and is not qualified.

Analysis: USEPA-8260B

Sample/Analyte: 1210568-07	S-17360-102512-DD-106	Carbon Disulfide
1210568-07	S-17360-102512-DD-106	Chloroethane
1210568-07	S-17360-102512-DD-106	Trichlorofluoromethane

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8270C

Sample/Analyte:		
1210568-06	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
1210568-06	GW-173690-102512-DD-105	3-Nitroaniline
1210568-06	GW-173690-102512-DD-105	4-Chloroaniline
1210568-06	GW-173690-102512-DD-105	Acetophenone
1210568-06RE	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
1210568-06RE	GW-173690-102512-DD-105	3-Nitroaniline
1210568-06RE	GW-173690-102512-DD-105	4-Chloroaniline
1210568-06RE	GW-173690-102512-DD-105	Acetophenone

Qualification: The LCS recovery was less than 10%. All results, including non-detectable concentrations for this analyte in any sample from the associated QC Batch are considered unusable.

Analysis: USEPA-8270C

Sample/Analyte:		
1210568-06	GW-173690-102512-DD-105	Benzaldehyde
1210568-06RE	GW-173690-102512-DD-105	Benzaldehyde

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8270C

Sample/Analyte:		
1210568-01	S-17360-102512-DD-100	4-Chloroaniline
1210568-01	S-17360-102512-DD-100	4-Methylphenol
1210568-02	S-17360-102512-DD-102	4-Chloroaniline
1210568-02	S-17360-102512-DD-102	4-Methylphenol
1210568-03	S-17360-102512-DD-101	4-Chloroaniline
1210568-03	S-17360-102512-DD-101	4-Methylphenol
1210568-04	S-17360-102512-DD-103	4-Chloroaniline
1210568-04	S-17360-102512-DD-103	4-Methylphenol
1210568-05	S-17360-102512-DD-104	4-Chloroaniline
1210568-05	S-17360-102512-DD-104	4-Methylphenol
1210568-07	S-17360-102512-DD-106	4-Chloroaniline
1210568-07	S-17360-102512-DD-106	4-Methylphenol
1210568-08	S-17360-102512-DD-107	4-Chloroaniline
1210568-08	S-17360-102512-DD-107	4-Methylphenol

Qualification: The LCS and/or LCSD recovery was less than the lower control limit but greater than or equal to 10%. All results for this analyte in all samples from the associated QC batch are considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:		
1210568-01	S-17360-102512-DD-100	Caprolactam
1210568-01	S-17360-102512-DD-100	Phenol
1210568-02	S-17360-102512-DD-102	Caprolactam
1210568-02	S-17360-102512-DD-102	Phenol
1210568-03	S-17360-102512-DD-101	Caprolactam

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The LCS and/or LCSD recovery was less than the lower control limit but greater than or equal to 10%. All results for this analyte in all samples from the associated QC batch are considered estimated.

Analysis: USEPA-8270C

1210568-03	S-17360-102512-DD-101	Phenol
1210568-04	S-17360-102512-DD-103	Caprolactam
1210568-04	S-17360-102512-DD-103	Phenol
1210568-05	S-17360-102512-DD-104	Caprolactam
1210568-05	S-17360-102512-DD-104	Phenol
1210568-06	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
1210568-06	GW-173690-102512-DD-105	3-Nitroaniline
1210568-06	GW-173690-102512-DD-105	4-Chloroaniline
1210568-06	GW-173690-102512-DD-105	Acetophenone
1210568-06RE	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
1210568-06RE	GW-173690-102512-DD-105	3-Nitroaniline
1210568-06RE	GW-173690-102512-DD-105	4-Chloroaniline
1210568-06RE	GW-173690-102512-DD-105	Acetophenone
1210568-07	S-17360-102512-DD-106	Caprolactam
1210568-07	S-17360-102512-DD-106	Phenol
1210568-08	S-17360-102512-DD-107	Caprolactam
1210568-08	S-17360-102512-DD-107	Phenol

Qualification: The recovery of acid surrogate Phenol-d6 was outside of the control limits in the LCS. All acid analytes in the LCS had acceptable spike recoveries. No data requires qualification.

Analysis: USEPA-8270C

Sample: 1213318-BS1

Qualification: The associated Internal Standard response was outside the control limit. The results for these analytes are considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1210568-06	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
	1210568-06	GW-173690-102512-DD-105	Benzo(a)anthracene
	1210568-06	GW-173690-102512-DD-105	Benzo(a)pyrene
	1210568-06	GW-173690-102512-DD-105	Benzo(b)fluoranthene
	1210568-06	GW-173690-102512-DD-105	Benzo(g,h,i)perylene
	1210568-06	GW-173690-102512-DD-105	Benzo(k)fluoranthene
	1210568-06	GW-173690-102512-DD-105	Bis(2-ethylhexyl) Phthalate
	1210568-06	GW-173690-102512-DD-105	Butyl Benzyl Phthalate
	1210568-06	GW-173690-102512-DD-105	Chrysene
	1210568-06	GW-173690-102512-DD-105	Dibenz(a,h)anthracene
	1210568-06	GW-173690-102512-DD-105	Di-n-octyl Phthalate
	1210568-06	GW-173690-102512-DD-105	Indeno(1,2,3-cd)pyrene
	1210568-06	GW-173690-102512-DD-105	Pyrene
	1213318-MS1		3,3´-Dichlorobenzidine
	1213318-MS1		Benzo(a)anthracene
	1213318-MS1		Benzo(a)pyrene
	1213318-MS1		Benzo(b)fluoranthene
	1213318-MS1		Benzo(g,h,i)perylene

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The associated Internal Standard response was outside the control limit. The results for these analytes are considered estimated.

Analysis: USEPA-8270C

1213318-MS1	Benzo(k)fluoranthene
1213318-MS1	Bis(2-ethylhexyl) Phthalate
1213318-MS1	Butyl Benzyl Phthalate
1213318-MS1	Chrysene
1213318-MS1	Dibenz(a,h)anthracene
1213318-MS1	Di-n-octyl Phthalate
1213318-MS1	Indeno(1,2,3-cd)pyrene
1213318-MS1	Pyrene
1213318-MSD1	3,3´-Dichlorobenzidine
1213318-MSD1	Benzo(a)anthracene
1213318-MSD1	Benzo(a)pyrene
1213318-MSD1	Benzo(b)fluoranthene
1213318-MSD1	Benzo(g,h,i)perylene
1213318-MSD1	Benzo(k)fluoranthene
1213318-MSD1	Bis(2-ethylhexyl) Phthalate
1213318-MSD1	Butyl Benzyl Phthalate
1213318-MSD1	Chrysene
1213318-MSD1	Dibenz(a,h)anthracene
1213318-MSD1	Di-n-octyl Phthalate
1213318-MSD1	Indeno(1,2,3-cd)pyrene
1213318-MSD1	Pyrene

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:		
1210568-01	S-17360-102512-DD-100	Benzo(b)fluoranthene
1210568-01	S-17360-102512-DD-100	Benzo(k)fluoranthene
1210568-01	S-17360-102512-DD-100	Dibenz(a,h)anthracene
1210568-01	S-17360-102512-DD-100	Perylene-d12
1210568-02	S-17360-102512-DD-102	Benzo(a)anthracene
1210568-02	S-17360-102512-DD-102	Benzo(b)fluoranthene
1210568-02	S-17360-102512-DD-102	Benzo(k)fluoranthene
1210568-03	S-17360-102512-DD-101	Benzo(b)fluoranthene
1210568-03	S-17360-102512-DD-101	Benzo(k)fluoranthene
1210568-03	S-17360-102512-DD-101	Dibenz(a,h)anthracene
1210568-03	S-17360-102512-DD-101	Perylene-d12
1210568-04	S-17360-102512-DD-103	Benzo(b)fluoranthene
1210568-04	S-17360-102512-DD-103	Benzo(k)fluoranthene
1210568-05	S-17360-102512-DD-104	Benzo(b)fluoranthene
1210568-05	S-17360-102512-DD-104	Benzo(k)fluoranthene
1210568-05	S-17360-102512-DD-104	Perylene-d12
1210568-06	GW-173690-102512-DD-105	Benzo(b)fluoranthene
1210568-06	GW-173690-102512-DD-105	Benzo(k)fluoranthene
1210568-06	GW-173690-102512-DD-105	Phenanthrene-d10
1210568-07	S-17360-102512-DD-106	Benzo(b)fluoranthene
1210568-07	S-17360-102512-DD-106	Benzo(k)fluoranthene
1210568-08	S-17360-102512-DD-107	Benzo(b)fluoranthene

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

1210568-08	S-17360-102512-DD-107	Benzo(k)fluoranthene
1210568-08	S-17360-102512-DD-107	Butyl Benzyl Phthalate
1210568-08	S-17360-102512-DD-107	Dibenz(a,h)anthracene
1213318-MS1		2,4,6-Tribromophenol
1213318-MS1		4,6-Dinitro-2-methylphenol
1213318-MS1		Carbazole
1213318-MS1		N-Nitroso-diphenylamine
1213318-MS1		Pentachlorophenol
1213318-MS2		Carbazole
1213318-MSD1		2,4,6-Tribromophenol
1213318-MSD1		2,6-Dinitrotoluene
1213318-MSD1		4,6-Dinitro-2-methylphenol
1213318-MSD1		Benzo(b)fluoranthene
1213318-MSD1		Benzo(k)fluoranthene
1213318-MSD1		Carbazole
1213318-MSD1		Diethyl Phthalate
1213318-MSD1		N-Nitroso-diphenylamine
1213318-MSD1		Pentachlorophenol
1213430-BLK1		Benzo(b)fluoranthene
1213430-BLK1		Benzo(k)fluoranthene

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:		
1210568-01	S-17360-102512-DD-100	Bis(2-ethylhexyl) Phthalate
1210568-01	S-17360-102512-DD-100	Butyl Benzyl Phthalate
1210568-01	S-17360-102512-DD-100	Dibenz(a,h)anthracene
1210568-01	S-17360-102512-DD-100	Diethyl Phthalate
1210568-02	S-17360-102512-DD-102	Anthracene
1210568-02	S-17360-102512-DD-102	Benzo(a)anthracene
1210568-02	S-17360-102512-DD-102	Benzo(a)pyrene
1210568-02	S-17360-102512-DD-102	Benzo(b)fluoranthene
1210568-02	S-17360-102512-DD-102	Benzo(g,h,i)perylene
1210568-02	S-17360-102512-DD-102	Benzo(k)fluoranthene
1210568-02	S-17360-102512-DD-102	Bis(2-ethylhexyl) Phthalate
1210568-02	S-17360-102512-DD-102	Butyl Benzyl Phthalate
1210568-02	S-17360-102512-DD-102	Chrysene
1210568-02	S-17360-102512-DD-102	Dibenz(a,h)anthracene
1210568-02	S-17360-102512-DD-102	Diethyl Phthalate
1210568-02	S-17360-102512-DD-102	Di-n-butyl Phthalate
1210568-02	S-17360-102512-DD-102	Di-n-octyl Phthalate
1210568-02	S-17360-102512-DD-102	Indeno(1,2,3-cd)pyrene
1210568-02	S-17360-102512-DD-102	Phenanthrene
1210568-03	S-17360-102512-DD-101	Bis(2-ethylhexyl) Phthalate
1210568-03	S-17360-102512-DD-101	Dibenz(a,h)anthracene
1210568-03	S-17360-102512-DD-101	Diethyl Phthalate
1210568-04	S-17360-102512-DD-103	Bis(2-ethylhexyl) Phthalate

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

1210568-04	S-17360-102512-DD-103	Butyl Benzyl Phthalate
1210568-04	S-17360-102512-DD-103	Diethyl Phthalate
1210568-05	S-17360-102512-DD-104	Bis(2-ethylhexyl) Phthalate
1210568-05	S-17360-102512-DD-104	Butyl Benzyl Phthalate
1210568-05	S-17360-102512-DD-104	Dibenz(a,h)anthracene
1210568-05	S-17360-102512-DD-104	Diethyl Phthalate
1210568-06	GW-173690-102512-DD-105	Diethyl Phthalate
1210568-07	S-17360-102512-DD-106	Bis(2-ethylhexyl) Phthalate
1210568-07	S-17360-102512-DD-106	Butyl Benzyl Phthalate
1210568-07	S-17360-102512-DD-106	Diethyl Phthalate
1210568-07	S-17360-102512-DD-106	Di-n-octyl Phthalate
1210568-08	S-17360-102512-DD-107	Bis(2-ethylhexyl) Phthalate
1210568-08	S-17360-102512-DD-107	Butyl Benzyl Phthalate
1210568-08	S-17360-102512-DD-107	Dibenz(a,h)anthracene
1210568-08	S-17360-102512-DD-107	Diethyl Phthalate
1210568-08	S-17360-102512-DD-107	Indeno(1,2,3-cd)pyrene

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1210568-01	S-17360-102512-DD-100	Benzo(a)anthracene
	1210568-01	S-17360-102512-DD-100	Benzo(a)pyrene
	1210568-01	S-17360-102512-DD-100	Benzo(b)fluoranthene
	1210568-01	S-17360-102512-DD-100	Benzo(g,h,i)perylene
	1210568-01	S-17360-102512-DD-100	Benzo(k)fluoranthene
	1210568-01	S-17360-102512-DD-100	Chrysene
	1210568-01	S-17360-102512-DD-100	Indeno(1,2,3-cd)pyrene
	1210568-01	S-17360-102512-DD-100	Phenanthrene
	1210568-03	S-17360-102512-DD-101	Anthracene
	1210568-03	S-17360-102512-DD-101	Benzo(a)anthracene
	1210568-03	S-17360-102512-DD-101	Benzo(a)pyrene
	1210568-03	S-17360-102512-DD-101	Benzo(b)fluoranthene
	1210568-03	S-17360-102512-DD-101	Benzo(g,h,i)perylene
	1210568-03	S-17360-102512-DD-101	Benzo(k)fluoranthene
	1210568-03	S-17360-102512-DD-101	Butyl Benzyl Phthalate
	1210568-03	S-17360-102512-DD-101	Chrysene
	1210568-03	S-17360-102512-DD-101	Indeno(1,2,3-cd)pyrene
	1210568-03	S-17360-102512-DD-101	Phenanthrene
	1210568-04	S-17360-102512-DD-103	Anthracene
	1210568-04	S-17360-102512-DD-103	Benzo(a)anthracene
	1210568-04	S-17360-102512-DD-103	Benzo(a)pyrene
	1210568-04	S-17360-102512-DD-103	Benzo(b)fluoranthene
	1210568-04	S-17360-102512-DD-103	Benzo(g,h,i)perylene
	1210568-04	S-17360-102512-DD-103	Benzo(k)fluoranthene
	1210568-04	S-17360-102512-DD-103	Chrysene
	1210568-04	S-17360-102512-DD-103	Dibenz(a,h)anthracene

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8270C

1210568-04	S-17360-102512-DD-103	Indeno(1,2,3-cd)pyrene
1210568-04	S-17360-102512-DD-103	Phenanthrene
1210568-05	S-17360-102512-DD-104	Anthracene
1210568-05	S-17360-102512-DD-104	Benzo(a)anthracene
1210568-05	S-17360-102512-DD-104	Benzo(a)pyrene
1210568-05	S-17360-102512-DD-104	Benzo(b)fluoranthene
1210568-05	S-17360-102512-DD-104	Benzo(g,h,i)perylene
1210568-05	S-17360-102512-DD-104	Benzo(k)fluoranthene
1210568-05	S-17360-102512-DD-104	Chrysene
1210568-05	S-17360-102512-DD-104	Indeno(1,2,3-cd)pyrene
1210568-05	S-17360-102512-DD-104	Phenanthrene
1210568-06RE	GW-173690-102512-DD-105	Diethyl Phthalate
1210568-07	S-17360-102512-DD-106	Anthracene
1210568-07	S-17360-102512-DD-106	Benzo(a)anthracene
1210568-07	S-17360-102512-DD-106	Benzo(a)pyrene
1210568-07	S-17360-102512-DD-106	Benzo(b)fluoranthene
1210568-07	S-17360-102512-DD-106	Benzo(g,h,i)perylene
1210568-07	S-17360-102512-DD-106	Benzo(k)fluoranthene
1210568-07	S-17360-102512-DD-106	Chrysene
1210568-07	S-17360-102512-DD-106	Dibenz(a,h)anthracene
1210568-07	S-17360-102512-DD-106	Indeno(1,2,3-cd)pyrene
1210568-07	S-17360-102512-DD-106	Phenanthrene
1210568-08	S-17360-102512-DD-107	Anthracene
1210568-08	S-17360-102512-DD-107	Benzo(a)anthracene
1210568-08	S-17360-102512-DD-107	Benzo(a)pyrene
1210568-08	S-17360-102512-DD-107	Benzo(b)fluoranthene
1210568-08	S-17360-102512-DD-107	Benzo(g,h,i)perylene
1210568-08	S-17360-102512-DD-107	Benzo(k)fluoranthene
1210568-08	S-17360-102512-DD-107	Chrysene
1210568-08	S-17360-102512-DD-107	Phenanthrene
1213430-BS1		Benzaldehyde

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1210568-06	GW-173690-102512-DD-105	2,4,6-Trichlorophenol
	1210568-06	GW-173690-102512-DD-105	2-Chloronaphthalene
	1210568-06	GW-173690-102512-DD-105	2-Nitroaniline
	1210568-06	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
	1210568-06	GW-173690-102512-DD-105	3-Nitroaniline
	1210568-06	GW-173690-102512-DD-105	4-Chloroaniline
	1210568-06	GW-173690-102512-DD-105	4-Nitroaniline
	1210568-06	GW-173690-102512-DD-105	4-Nitrophenol
	1210568-06	GW-173690-102512-DD-105	Atrazine
	1210568-06	GW-173690-102512-DD-105	Caprolactam
	1210568-06RE	GW-173690-102512-DD-105	2,4-Dimethylphenol

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8270C

1210568-06RE	GW-173690-102512-DD-105	2,4-Dinitrophenol
1210568-06RE	GW-173690-102512-DD-105	3,3´-Dichlorobenzidine
1210568-06RE	GW-173690-102512-DD-105	3-Nitroaniline
1210568-06RE	GW-173690-102512-DD-105	4-Chloro-3-methylphenol
1210568-06RE	GW-173690-102512-DD-105	4-Chloroaniline
1210568-06RE	GW-173690-102512-DD-105	4-Nitroaniline
1210568-06RE	GW-173690-102512-DD-105	4-Nitrophenol
1210568-06RE	GW-173690-102512-DD-105	Atrazine
1210568-06RE	GW-173690-102512-DD-105	Benzaldehyde
1210568-06RE	GW-173690-102512-DD-105	Caprolactam
1210568-06RE	GW-173690-102512-DD-105	Phenol

Qualification: The RPD between the MS and MSD results exceeded the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte: 1210568-06	GW-173690-102512-DD-105	2-Nitroaniline
1210568-06	GW-173690-102512-DD-105	Atrazine
1210568-06	GW-173690-102512-DD-105	Carbazole
1210568-06	GW-173690-102512-DD-105	N-Nitroso-diphenylamine
1210568-06RE	GW-173690-102512-DD-105	2,4-Dichlorophenol
1210568-06RE	GW-173690-102512-DD-105	2-Methylphenol
1210568-06RE	GW-173690-102512-DD-105	2-Nitroaniline
1210568-06RE	GW-173690-102512-DD-105	2-Nitrophenol
1210568-06RE	GW-173690-102512-DD-105	4-Bromophenyl Phenyl Ether
1210568-06RE	GW-173690-102512-DD-105	4-Chloro-3-methylphenol
1210568-06RE	GW-173690-102512-DD-105	Acetophenone
1210568-06RE	GW-173690-102512-DD-105	Benzo(a)pyrene
1210568-06RE	GW-173690-102512-DD-105	Bis(2-chloroethyl) Ether
1210568-06RE	GW-173690-102512-DD-105	Fluoranthene
1210568-06RE	GW-173690-102512-DD-105	Hexachlorobenzene
1210568-06RE	GW-173690-102512-DD-105	Pentachlorophenol
1210568-06RE	GW-173690-102512-DD-105	Phenanthrene
1210568-06RE	GW-173690-102512-DD-105	Phenol

Qualification: Matrix QC results are not available due to sample dilution.

Analysis: USEPA-8270C

Sample: 1210568-07 S-17360-102512-DD-106

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8270C

Sample: 1210568-06RE GW-173690-102512-DD-105

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: One or more surrogate recoveries in the GC/MS SVOC acid and/or base-neutral fraction(s) for the sample were less than the lower control limit but greater than or equal to 10%. All results from the same fraction are considered estimated.

Analysis: USEPA-8270C

Sample: 1213318-MS2
1213318-MSD2

Qualification: Surrogate results are unavailable due to positive results in the sample, resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8270C

Sample:	
1210568-01	S-17360-102512-DD-100
1210568-03	S-17360-102512-DD-101
1210568-04	S-17360-102512-DD-103
1210568-05	S-17360-102512-DD-104
1210568-07	S-17360-102512-DD-106

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Attachment 2
Statement of Data Qualifications

Dissolved Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:			
	2K02037-CRL2		Selenium

Qualification: The % difference in results between the sample and a serial dilution of the sample exceeded the control limit. Sample matrix interference is suspected and the reported result is considered estimated.

Analysis: USEPA-6010C

Sample/Analyte:			
	1210568-06	GW-173690-102512-DD-105	Iron

Qualification: The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210568-06	GW-173690-102512-DD-105	Selenium

Qualification: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210568-06	GW-173690-102512-DD-105	Arsenic
	1210568-06	GW-173690-102512-DD-105	Thallium

Qualification: The preparatory method requires sample filtration for dissolved metals to occur in the field. Because filtration did not occur in the field, all results and reporting limits must be considered estimated.

Analysis: USEPA-6010C

Sample:		
	1210568-06	GW-173690-102512-DD-105

Analysis: USEPA-6020A

Sample:		
	1210568-06	GW-173690-102512-DD-105

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Attachment 2
Statement of Data Qualifications

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-6010C

Sample/Analyte: 1210568-06 GW-173690-102512-DD-105 Iron

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:		
	2K02037-CRL2	Selenium

Qualification: The % difference in results between the sample and a serial dilution of the sample exceeded the control limit. Sample matrix interference is suspected and the reported result is considered estimated.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	Vanadium

Qualification: The post-digestion spike recovery for this sample was outside the control limit. Sample matrix interference is suspected and the reported result must be considered as estimated.

Analysis: USEPA-6010C

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	Iron

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	Copper
	1210568-07	S-17360-102512-DD-106	Vanadium

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample concentration for the same analyte was greater than or equal to 4 times the spiked amount; the reported matrix spike results cannot be used to evaluate the sample.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	Barium

Qualification: The MS or MSD recovery, but not both, was outside the control limit. The RPD is within the control limit. The unspiked sample result is not qualified.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210568-07	S-17360-102512-DD-106	Chromium

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods (Continued)

Qualification: The MS or MSD recovery, but not both, was outside the control limit. The RPD is within the control limit. The unspiked sample result is not qualified.

Qualification: Matrix QC results are not available due to sample dilution.

Analysis:	USEPA-6020A		
Sample/Analyte:	1210568-07	S-17360-102512-DD-106	Lead
	1210568-07	S-17360-102512-DD-106	Manganese

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample concentration for the same analyte was greater than or equal to 4 times the spiked amount; matrix QC results are not available.

Analysis:	USEPA-6010C		
Sample/Analyte:	1210568-07	S-17360-102512-DD-106	Iron
Analysis:	USEPA-6020A		
Sample/Analyte:	1210568-07	S-17360-102512-DD-106	Zinc

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	**0.0085J**	0.36	0.0074
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.023J**	0.36	0.0037
11096-82-5	PCB-1260	**0.023J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*88*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/07/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.059
71-43-2	Benzene	0.054U	0.054	0.0077
75-27-4	Bromodichloromethane	0.054U	0.054	0.0072
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
108-90-7	Chlorobenzene	0.054U	0.054	0.0091
75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0091
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.017
95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.013
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.012
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.013
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	0.054U	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/07/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.054U	0.054	0.012
79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0076
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0074
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	0.054U	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.020
75-01-4	Vinyl Chloride	0.043U	0.043	0.0091
1330-20-7	Xylene (Total)	0.16U	0.16	0.022

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.23**	0.090	0.0043
208-96-8	Acenaphthylene	**0.011J**	0.090	0.0044
98-86-2	Acetophenone	0.090U	0.090	0.053
120-12-7	Anthracene	**0.56**	0.090	0.0046
1912-24-9	Atrazine	0.090U	0.090	0.052
100-52-7	Benzaldehyde	0.36U	0.36	0.052
*56-55-3	Benzo(a)anthracene	**0.78**	0.090	0.0078
*50-32-8	Benzo(a)pyrene	**0.46**	0.090	0.0046
*205-99-2	Benzo(b)fluoranthene	**0.57**	0.090	0.0092
*207-08-9	Benzo(k)fluoranthene	**0.39**	0.090	0.012
*191-24-2	Benzo(g,h,i)perylene	**0.32**	0.18	0.0044
92-52-4	1,1'-Biphenyl	0.090U	0.090	0.058
101-55-3	4-Bromophenyl Phenyl Ether	0.090U	0.090	0.0051
*85-68-7	Butyl Benzyl Phthalate	**0.025J**	0.18	0.0091
*105-60-2	Caprolactam	0.36U	0.36	0.059
86-74-8	Carbazole	**0.14J**	0.90	0.048
59-50-7	4-Chloro-3-methylphenol	0.090U	0.090	0.020
*106-47-8	4-Chloroaniline	0.36U	0.36	0.048
111-91-1	Bis(2-chloroethoxy)methane	0.090U	0.090	0.0060
111-44-4	Bis(2-chloroethyl) Ether	0.090U	0.090	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.090U	0.090	0.015
91-58-7	2-Chloronaphthalene	0.090U	0.090	0.014
95-57-8	2-Chlorophenol	0.090U	0.090	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.090U	0.090	0.0039
*218-01-9	Chrysene	**0.83**	0.090	0.0046
*53-70-3	Dibenz(a,h)anthracene	**0.071J**	0.18	0.0069
132-64-9	Dibenzofuran	**0.23**	0.090	0.0044
84-74-2	Di-n-butyl Phthalate	0.36U	0.36	0.076
91-94-1	3,3´-Dichlorobenzidine	4.5U	4.5	0.17

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0083
*84-66-2	Diethyl Phthalate	**0.096**	0.090	0.013
105-67-9	2,4-Dimethylphenol	0.90U	0.90	0.16
131-11-3	Dimethyl Phthalate	0.090U	0.090	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.90U	0.90	0.030
51-28-5	2,4-Dinitrophenol	0.90U	0.90	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.090U	0.090	0.0085
117-84-0	Di-n-octyl Phthalate	0.090U	0.090	0.0060
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.075J**	0.18	0.022
206-44-0	Fluoranthene	**2.4**	0.090	0.0030
86-73-7	Fluorene	**0.13J**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.090U	0.090	0.0054
87-68-3	Hexachlorobutadiene	0.090U	0.090	0.0039
77-47-4	Hexachlorocyclopentadiene	0.090U	0.090	0.015
67-72-1	Hexachloroethane	0.090U	0.090	0.0072
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.25**	0.18	0.017
78-59-1	Isophorone	0.090U	0.090	0.0057
91-57-6	2-Methylnaphthalene	**0.095**	0.090	0.0073
95-48-7	2-Methylphenol	0.090U	0.090	0.018
*106-44-5	4-Methylphenol	0.090U	0.090	0.011
91-20-3	Naphthalene	**0.084J**	0.090	0.0028
88-74-4	2-Nitroaniline	0.090U	0.090	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.088
100-01-6	4-Nitroaniline	0.18U	0.18	0.085
98-95-3	Nitrobenzene	0.090U	0.090	0.0079
100-02-7	4-Nitrophenol	3.6U	3.6	0.14
88-75-5	2-Nitrophenol	0.090U	0.090	0.0083
86-30-6	N-Nitroso-diphenylamine	0.090U	0.090	0.0057
621-64-7	N-Nitroso-di-n-propylamine	0.090U	0.090	0.012
87-86-5	Pentachlorophenol	0.90U	0.90	0.080

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**1.9**	0.090	0.0039
*108-95-2	Phenol	0.90U	0.90	0.0071
129-00-0	Pyrene	**2.3**	0.090	0.0065
88-06-2	2,4,6-Trichlorophenol	0.090U	0.090	0.0092
95-95-4	2,4,5-Trichlorophenol	0.090U	0.090	0.021

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.29**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:06	DSC	1213521
Arsenic	**2.6**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Barium	**35**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:09	DSC	1213264
Beryllium	**0.17**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Cadmium	**0.11**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Chromium	**8.3**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Cobalt	**2.4**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Copper	**9.0**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Iron	**6600**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/07/12 12:49	CKD	1213263
Lead	**56**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:09	DSC	1213264
Manganese	**150**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:04	DSC	1213264
Molybdenum	**0.87**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Mercury	**0.0084**	**J**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 10:57	CKD	1213511
Nickel	**6.1**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Selenium	**0.088**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Silver	**0.047**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Thallium	**0.043**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Vanadium	**9.3**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:51	DSC	1213264
Zinc	**24**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/09/12 08:07	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-100**	Sampled:	10/25/12 11:50
Lab Sample ID:	**1210568-01**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	90		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.37U	0.37	0.0019
11104-28-2	PCB-1221	0.37U	0.37	0.0023
11141-16-5	PCB-1232	0.37U	0.37	0.0023
53469-21-9	PCB-1242	0.37U	0.37	0.0077
12672-29-6	PCB-1248	0.37U	0.37	0.0028
11097-69-1	PCB-1254	0.37U	0.37	0.0038
11096-82-5	PCB-1260	0.37U	0.37	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*95*	*45-135*
Tetrachloro-m-xylene	*90*	*56-123*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	90		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.84U	0.84	0.061
71-43-2	Benzene	0.056U	0.056	0.0079
75-27-4	Bromodichloromethane	0.056U	0.056	0.0075
75-25-2	Bromoform	0.056U	0.056	0.014
*74-83-9	Bromomethane	0.056U	0.056	0.024
75-15-0	Carbon Disulfide	0.28U	0.28	0.013
56-23-5	Carbon Tetrachloride	0.056U	0.056	0.019
108-90-7	Chlorobenzene	0.056U	0.056	0.0094
75-00-3	Chloroethane	0.056U	0.056	0.020
67-66-3	Chloroform	0.056U	0.056	0.0094
74-87-3	Chloromethane	0.056U	0.056	0.022
110-82-7	Cyclohexane	0.28U	0.28	0.027
96-12-8	1,2-Dibromo-3-chloropropane	0.28U	0.28	0.029
124-48-1	Dibromochloromethane	0.056U	0.056	0.0085
106-93-4	1,2-Dibromoethane	0.056U	0.056	0.018
95-50-1	1,2-Dichlorobenzene	0.056U	0.056	0.013
541-73-1	1,3-Dichlorobenzene	0.056U	0.056	0.013
106-46-7	1,4-Dichlorobenzene	0.056U	0.056	0.014
75-71-8	Dichlorodifluoromethane	0.056U	0.056	0.012
75-34-3	1,1-Dichloroethane	0.056U	0.056	0.012
107-06-2	1,2-Dichloroethane	0.056U	0.056	0.012
75-35-4	1,1-Dichloroethene	0.056U	0.056	0.012
156-59-2	cis-1,2-Dichloroethene	0.056U	0.056	0.013
156-60-5	trans-1,2-Dichloroethene	0.056U	0.056	0.013
78-87-5	1,2-Dichloropropane	0.056U	0.056	0.015
10061-01-5	cis-1,3-Dichloropropene	0.056U	0.056	0.011
10061-02-6	trans-1,3-Dichloropropene	0.056U	0.056	0.010
100-41-4	Ethylbenzene	0.056U	0.056	0.011
591-78-6	2-Hexanone	2.8U	2.8	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	90		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.056U	0.056	0.012
79-20-9	Methyl Acetate	0.28U	0.28	0.036
1634-04-4	Methyl tert-Butyl Ether	0.056U	0.056	0.011
108-87-2	Methylcyclohexane	0.28U	0.28	0.021
75-09-2	Methylene Chloride	0.11U	0.11	0.030
78-93-3	2-Butanone (MEK)	0.84U	0.84	0.071
108-10-1	4-Methyl-2-pentanone (MIBK)	2.8U	2.8	0.022
100-42-5	Styrene	0.056U	0.056	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.056U	0.056	0.014
127-18-4	Tetrachloroethene	0.056U	0.056	0.015
108-88-3	Toluene	0.056U	0.056	0.012
120-82-1	1,2,4-Trichlorobenzene	0.056U	0.056	0.0078
71-55-6	1,1,1-Trichloroethane	0.056U	0.056	0.0077
79-00-5	1,1,2-Trichloroethane	0.056U	0.056	0.018
79-01-6	Trichloroethene	0.056U	0.056	0.012
*75-69-4	Trichlorofluoromethane	0.056U	0.056	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.056U	0.056	0.020
75-01-4	Vinyl Chloride	0.045U	0.045	0.0094
1330-20-7	Xylene (Total)	0.17U	0.17	0.022

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*96*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K11004
Percent Solids:	90		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.019U	0.019	0.00088
208-96-8	Acenaphthylene	0.019U	0.019	0.00092
98-86-2	Acetophenone	0.019U	0.019	0.011
*120-12-7	Anthracene	**0.0019J**	0.019	0.00095
1912-24-9	Atrazine	0.019U	0.019	0.011
100-52-7	Benzaldehyde	0.074U	0.074	0.011
*56-55-3	Benzo(a)anthracene	**0.0079J**	0.019	0.0016
*50-32-8	Benzo(a)pyrene	**0.0057J**	0.019	0.00095
*205-99-2	Benzo(b)fluoranthene	**0.0091J**	0.019	0.0019
*207-08-9	Benzo(k)fluoranthene	**0.0083J**	0.019	0.0025
*191-24-2	Benzo(g,h,i)perylene	**0.0064J**	0.037	0.00092
92-52-4	1,1'-Biphenyl	0.019U	0.019	0.012
101-55-3	4-Bromophenyl Phenyl Ether	0.019U	0.019	0.0011
*85-68-7	Butyl Benzyl Phthalate	**0.014J**	0.037	0.0019
*105-60-2	Caprolactam	0.074U	0.074	0.012
86-74-8	Carbazole	0.19U	0.19	0.010
59-50-7	4-Chloro-3-methylphenol	0.019U	0.019	0.0042
*106-47-8	4-Chloroaniline	0.074U	0.074	0.0099
111-91-1	Bis(2-chloroethoxy)methane	0.019U	0.019	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.019U	0.019	0.00088
108-60-1	Bis(2-chloroisopropyl) Ether	0.019U	0.019	0.0030
91-58-7	2-Chloronaphthalene	0.019U	0.019	0.0029
95-57-8	2-Chlorophenol	0.019U	0.019	0.00088
7005-72-3	4-Chlorophenyl Phenyl Ether	0.019U	0.019	0.00081
*218-01-9	Chrysene	**0.0095J**	0.019	0.00095
*53-70-3	Dibenz(a,h)anthracene	**0.0057J**	0.037	0.0014
132-64-9	Dibenzofuran	0.019U	0.019	0.00092
*84-74-2	Di-n-butyl Phthalate	**0.029J**	0.074	0.016
91-94-1	3,3´-Dichlorobenzidine	0.93U	0.93	0.036

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K11004
Percent Solids:	90		

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.037U	0.037	0.0017
*84-66-2	Diethyl Phthalate	**0.0064J**	0.019	0.0027
105-67-9	2,4-Dimethylphenol	0.19U	0.19	0.033
131-11-3	Dimethyl Phthalate	0.019U	0.019	0.0021
534-52-1	4,6-Dinitro-2-methylphenol	0.19U	0.19	0.0061
51-28-5	2,4-Dinitrophenol	0.19U	0.19	0.043
121-14-2	2,4-Dinitrotoluene	0.037U	0.037	0.0055
606-20-2	2,6-Dinitrotoluene	0.019U	0.019	0.0018
*117-84-0	Di-n-octyl Phthalate	**0.0091J**	0.019	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.030J**	0.037	0.0046
206-44-0	Fluoranthene	**0.0083J**	0.019	0.00062
86-73-7	Fluorene	0.037U	0.037	0.00067
118-74-1	Hexachlorobenzene	0.019U	0.019	0.0011
87-68-3	Hexachlorobutadiene	0.019U	0.019	0.00081
77-47-4	Hexachlorocyclopentadiene	0.019U	0.019	0.0030
67-72-1	Hexachloroethane	0.019U	0.019	0.0015
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.0064J**	0.037	0.0034
78-59-1	Isophorone	0.019U	0.019	0.0012
91-57-6	2-Methylnaphthalene	0.019U	0.019	0.0015
95-48-7	2-Methylphenol	0.019U	0.019	0.0037
*106-44-5	4-Methylphenol	0.019U	0.019	0.0022
91-20-3	Naphthalene	0.019U	0.019	0.00057
88-74-4	2-Nitroaniline	0.019U	0.019	0.0066
99-09-2	3-Nitroaniline	0.037U	0.037	0.018
100-01-6	4-Nitroaniline	0.037U	0.037	0.018
98-95-3	Nitrobenzene	0.019U	0.019	0.0016
100-02-7	4-Nitrophenol	0.74U	0.74	0.030
88-75-5	2-Nitrophenol	0.019U	0.019	0.0017
86-30-6	N-Nitroso-diphenylamine	0.019U	0.019	0.0012
621-64-7	N-Nitroso-di-n-propylamine	0.019U	0.019	0.0024
87-86-5	Pentachlorophenol	0.19U	0.19	0.017

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K11004
Percent Solids:	90		

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**0.0042J**	0.019	0.00081
*108-95-2	Phenol	0.19U	0.19	0.0015
129-00-0	Pyrene	**0.0076J**	0.019	0.0013
88-06-2	2,4,6-Trichlorophenol	0.019U	0.019	0.0019
95-95-4	2,4,5-Trichlorophenol	0.019U	0.019	0.0044

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*62*	*33-113*
Phenol-d6	*62*	*30-115*
Nitrobenzene-d5	*62*	*33-131*
2-Fluorobiphenyl	*66*	*46-122*
2,4,6-Tribromophenol	*62*	*12-124*
o-Terphenyl	*72*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	90		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.050**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:09	DSC	1213521
Arsenic	**1.5**		0.094	0.015	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Barium	**3.9**		0.94	0.011	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Beryllium	**0.061**	**J**	0.47	0.018	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Cadmium	**0.023**	**J**	0.047	0.0031	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Chromium	**3.6**		0.94	0.013	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Cobalt	**1.4**		0.94	0.0060	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Copper	**3.3**		0.94	0.024	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Iron	**3100**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 12:56	CKD	1213263
Lead	**1.9**		0.94	0.0062	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Manganese	**84**		9.4	0.22	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:13	DSC	1213264
Molybdenum	**0.26**	**J**	0.94	0.0076	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:02	CKD	1213511
Nickel	**3.3**		0.94	0.015	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Selenium	0.094	U	0.094	0.031	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Silver	**0.017**	**J**	0.047	0.0037	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Thallium	**0.019**	**J**	0.047	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Vanadium	**4.1**		0.094	0.0091	mg/kg dry wt.	1	USEPA-6020A	11/07/12 08:56	DSC	1213264
Zinc	**9.1**		1.0	0.28	mg/kg dry wt.	1	USEPA-6020A	11/09/12 08:10	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-102**	Sampled:	10/25/12 12:15
Lab Sample ID:	**1210568-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**90**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	**0.037J**	0.35	0.0074
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	**0.063J**	0.35	0.0036
11096-82-5	PCB-1260	**0.032J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*86*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.80U	0.80	0.058
71-43-2	Benzene	0.053U	0.053	0.0076
75-27-4	Bromodichloromethane	0.053U	0.053	0.0072
75-25-2	Bromoform	0.053U	0.053	0.014
*74-83-9	Bromomethane	0.053U	0.053	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.053U	0.053	0.018
108-90-7	Chlorobenzene	0.053U	0.053	0.0090
75-00-3	Chloroethane	0.053U	0.053	0.019
67-66-3	Chloroform	0.053U	0.053	0.0090
74-87-3	Chloromethane	0.053U	0.053	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.027
124-48-1	Dibromochloromethane	0.053U	0.053	0.0081
106-93-4	1,2-Dibromoethane	0.053U	0.053	0.017
95-50-1	1,2-Dichlorobenzene	0.053U	0.053	0.013
541-73-1	1,3-Dichlorobenzene	0.053U	0.053	0.013
106-46-7	1,4-Dichlorobenzene	0.053U	0.053	0.013
75-71-8	Dichlorodifluoromethane	0.053U	0.053	0.011
75-34-3	1,1-Dichloroethane	0.053U	0.053	0.012
107-06-2	1,2-Dichloroethane	0.053U	0.053	0.011
75-35-4	1,1-Dichloroethene	0.053U	0.053	0.011
156-59-2	cis-1,2-Dichloroethene	0.053U	0.053	0.012
156-60-5	trans-1,2-Dichloroethene	0.053U	0.053	0.012
78-87-5	1,2-Dichloropropane	0.053U	0.053	0.015
10061-01-5	cis-1,3-Dichloropropene	0.053U	0.053	0.010
10061-02-6	trans-1,3-Dichloropropene	0.053U	0.053	0.010
100-41-4	Ethylbenzene	**0.012J**	0.053	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.053U	0.053	0.012
79-20-9	Methyl Acetate	0.27U	0.27	0.034
1634-04-4	Methyl tert-Butyl Ether	0.053U	0.053	0.010
108-87-2	Methylcyclohexane	**0.049J**	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.80U	0.80	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.053U	0.053	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.053U	0.053	0.014
127-18-4	Tetrachloroethene	0.053U	0.053	0.015
108-88-3	Toluene	**0.015J**	0.053	0.012
120-82-1	1,2,4-Trichlorobenzene	0.053U	0.053	0.0075
71-55-6	1,1,1-Trichloroethane	0.053U	0.053	0.0074
79-00-5	1,1,2-Trichloroethane	0.053U	0.053	0.017
79-01-6	Trichloroethene	**0.98**	0.053	0.011
*75-69-4	Trichlorofluoromethane	0.053U	0.053	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.053U	0.053	0.019
75-01-4	Vinyl Chloride	0.043U	0.043	0.0090
1330-20-7	Xylene (Total)	**0.071J**	0.16	0.021

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.20**	0.089	0.0042
208-96-8	Acenaphthylene	**0.011J**	0.089	0.0044
98-86-2	Acetophenone	0.089U	0.089	0.053
*120-12-7	Anthracene	**0.47**	0.089	0.0046
1912-24-9	Atrazine	0.089U	0.089	0.052
100-52-7	Benzaldehyde	0.36U	0.36	0.051
*56-55-3	Benzo(a)anthracene	**1.3**	0.089	0.0077
*50-32-8	Benzo(a)pyrene	**0.71**	0.089	0.0046
*205-99-2	Benzo(b)fluoranthene	**0.99**	0.089	0.0091
*207-08-9	Benzo(k)fluoranthene	**0.60**	0.089	0.012
*191-24-2	Benzo(g,h,i)perylene	**0.47**	0.18	0.0044
92-52-4	1,1'-Biphenyl	0.089U	0.089	0.057
101-55-3	4-Bromophenyl Phenyl Ether	0.089U	0.089	0.0050
*85-68-7	Butyl Benzyl Phthalate	**0.28**	0.18	0.0090
*105-60-2	Caprolactam	0.36U	0.36	0.059
86-74-8	Carbazole	0.89U	0.89	0.048
59-50-7	4-Chloro-3-methylphenol	0.089U	0.089	0.020
*106-47-8	4-Chloroaniline	0.36U	0.36	0.047
111-91-1	Bis(2-chloroethoxy)methane	0.089U	0.089	0.0060
111-44-4	Bis(2-chloroethyl) Ether	0.089U	0.089	0.0042
108-60-1	Bis(2-chloroisopropyl) Ether	0.089U	0.089	0.014
91-58-7	2-Chloronaphthalene	0.089U	0.089	0.014
95-57-8	2-Chlorophenol	0.089U	0.089	0.0042
7005-72-3	4-Chlorophenyl Phenyl Ether	0.089U	0.089	0.0039
*218-01-9	Chrysene	**1.3**	0.089	0.0046
*53-70-3	Dibenz(a,h)anthracene	**0.10J**	0.18	0.0068
132-64-9	Dibenzofuran	**0.11**	0.089	0.0044
84-74-2	Di-n-butyl Phthalate	0.36U	0.36	0.075
91-94-1	3,3´-Dichlorobenzidine	4.4U	4.4	0.17

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0082
*84-66-2	Diethyl Phthalate	**0.087J**	0.089	0.013
105-67-9	2,4-Dimethylphenol	0.89U	0.89	0.16
131-11-3	Dimethyl Phthalate	0.089U	0.089	0.0099
534-52-1	4,6-Dinitro-2-methylphenol	0.89U	0.89	0.029
51-28-5	2,4-Dinitrophenol	0.89U	0.89	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.089U	0.089	0.0084
117-84-0	Di-n-octyl Phthalate	0.089U	0.089	0.0060
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.15J**	0.18	0.022
206-44-0	Fluoranthene	**3.4**	0.089	0.0030
86-73-7	Fluorene	**0.11J**	0.18	0.0032
118-74-1	Hexachlorobenzene	0.089U	0.089	0.0053
87-68-3	Hexachlorobutadiene	0.089U	0.089	0.0039
77-47-4	Hexachlorocyclopentadiene	0.089U	0.089	0.014
67-72-1	Hexachloroethane	0.089U	0.089	0.0071
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.41**	0.18	0.016
78-59-1	Isophorone	0.089U	0.089	0.0056
91-57-6	2-Methylnaphthalene	**0.13**	0.089	0.0072
95-48-7	2-Methylphenol	0.089U	0.089	0.018
*106-44-5	4-Methylphenol	0.089U	0.089	0.011
91-20-3	Naphthalene	**0.12**	0.089	0.0027
88-74-4	2-Nitroaniline	0.089U	0.089	0.031
99-09-2	3-Nitroaniline	0.18U	0.18	0.087
100-01-6	4-Nitroaniline	0.18U	0.18	0.084
98-95-3	Nitrobenzene	0.089U	0.089	0.0078
100-02-7	4-Nitrophenol	3.6U	3.6	0.14
88-75-5	2-Nitrophenol	0.089U	0.089	0.0082
86-30-6	N-Nitroso-diphenylamine	0.089U	0.089	0.0056
621-64-7	N-Nitroso-di-n-propylamine	0.089U	0.089	0.012
87-86-5	Pentachlorophenol	0.89U	0.89	0.080

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**1.5**	0.089	0.0039
*108-95-2	Phenol	0.89U	0.89	0.0070
129-00-0	Pyrene	**4.1**	0.089	0.0065
88-06-2	2,4,6-Trichlorophenol	0.089U	0.089	0.0091
95-95-4	2,4,5-Trichlorophenol	0.089U	0.089	0.021

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	94		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**1.1**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:11	DSC	1213521
Arsenic	**1.9**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Barium	**46**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/07/12 10:31	DSC	1213264
Beryllium	**0.27**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Cadmium	**0.15**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Chromium	**9.0**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Cobalt	**1.9**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Copper	**8.1**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Iron	**5900**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 13:02	CKD	1213263
Lead	**150**		25	0.16	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:18	DSC	1213264
Manganese	**140**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:18	DSC	1213264
Molybdenum	**0.73**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Mercury	**0.026**	J	0.047	0.0057	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:07	CKD	1213511
Nickel	**5.8**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Selenium	**0.16**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Silver	**0.055**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Thallium	**0.040**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Vanadium	**9.2**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:00	DSC	1213264
Zinc	**35**		4.6	1.3	mg/kg dry wt.	5	USEPA-6020A	11/09/12 08:12	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-101**	Sampled:	10/25/12 13:55
Lab Sample ID:	**1210568-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	91		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	**0.020J**	0.36	0.0076
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.037J**	0.36	0.0037
11096-82-5	PCB-1260	**0.019J**	0.36	0.0031

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*82*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.82U	0.82	0.060
71-43-2	Benzene	0.055U	0.055	0.0078
75-27-4	Bromodichloromethane	0.055U	0.055	0.0074
75-25-2	Bromoform	0.055U	0.055	0.014
*74-83-9	Bromomethane	0.055U	0.055	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.013
56-23-5	Carbon Tetrachloride	0.055U	0.055	0.019
108-90-7	Chlorobenzene	0.055U	0.055	0.0092
75-00-3	Chloroethane	0.055U	0.055	0.019
67-66-3	Chloroform	**0.011J**	0.055	0.0092
74-87-3	Chloromethane	0.055U	0.055	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.055U	0.055	0.0083
106-93-4	1,2-Dibromoethane	0.055U	0.055	0.018
95-50-1	1,2-Dichlorobenzene	0.055U	0.055	0.013
541-73-1	1,3-Dichlorobenzene	0.055U	0.055	0.013
106-46-7	1,4-Dichlorobenzene	0.055U	0.055	0.014
75-71-8	Dichlorodifluoromethane	0.055U	0.055	0.012
75-34-3	1,1-Dichloroethane	0.055U	0.055	0.012
107-06-2	1,2-Dichloroethane	0.055U	0.055	0.012
75-35-4	1,1-Dichloroethene	0.055U	0.055	0.012
156-59-2	cis-1,2-Dichloroethene	0.055U	0.055	0.012
156-60-5	trans-1,2-Dichloroethene	0.055U	0.055	0.013
78-87-5	1,2-Dichloropropane	0.055U	0.055	0.015
10061-01-5	cis-1,3-Dichloropropene	0.055U	0.055	0.010
10061-02-6	trans-1,3-Dichloropropene	0.055U	0.055	0.010
100-41-4	Ethylbenzene	0.055U	0.055	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.055U	0.055	0.012
79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.055U	0.055	0.010
108-87-2	Methylcyclohexane	**0.075J**	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.82U	0.82	0.069
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.022
100-42-5	Styrene	0.055U	0.055	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.055U	0.055	0.014
127-18-4	Tetrachloroethene	0.055U	0.055	0.015
108-88-3	Toluene	**0.017J**	0.055	0.012
120-82-1	1,2,4-Trichlorobenzene	0.055U	0.055	0.0077
71-55-6	1,1,1-Trichloroethane	0.055U	0.055	0.0076
79-00-5	1,1,2-Trichloroethane	0.055U	0.055	0.017
79-01-6	Trichloroethene	**4.3**	0.055	0.012
*75-69-4	Trichlorofluoromethane	0.055U	0.055	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.055U	0.055	0.020
75-01-4	Vinyl Chloride	0.044U	0.044	0.0092
1330-20-7	Xylene (Total)	**0.043J**	0.16	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.13**	0.092	0.0043
208-96-8	Acenaphthylene	**0.0076J**	0.092	0.0045
98-86-2	Acetophenone	0.092U	0.092	0.054
*120-12-7	Anthracene	**0.45**	0.092	0.0047
1912-24-9	Atrazine	0.092U	0.092	0.053
100-52-7	Benzaldehyde	0.37U	0.37	0.053
*56-55-3	Benzo(a)anthracene	**1.1**	0.092	0.0079
*50-32-8	Benzo(a)pyrene	**0.77**	0.092	0.0047
*205-99-2	Benzo(b)fluoranthene	**1.1**	0.092	0.0094
*207-08-9	Benzo(k)fluoranthene	**0.54**	0.092	0.012
*191-24-2	Benzo(g,h,i)perylene	**0.46**	0.18	0.0045
92-52-4	1,1'-Biphenyl	0.092U	0.092	0.059
101-55-3	4-Bromophenyl Phenyl Ether	0.092U	0.092	0.0052
*85-68-7	Butyl Benzyl Phthalate	**0.059J**	0.18	0.0092
*105-60-2	Caprolactam	0.37U	0.37	0.060
86-74-8	Carbazole	0.92U	0.92	0.049
59-50-7	4-Chloro-3-methylphenol	0.092U	0.092	0.021
*106-47-8	4-Chloroaniline	0.37U	0.37	0.049
111-91-1	Bis(2-chloroethoxy)methane	0.092U	0.092	0.0061
111-44-4	Bis(2-chloroethyl) Ether	0.092U	0.092	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.092U	0.092	0.015
91-58-7	2-Chloronaphthalene	0.092U	0.092	0.014
95-57-8	2-Chlorophenol	0.092U	0.092	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.092U	0.092	0.0040
*218-01-9	Chrysene	**1.1**	0.092	0.0047
*53-70-3	Dibenz(a,h)anthracene	**0.14J**	0.18	0.0070
132-64-9	Dibenzofuran	**0.076J**	0.092	0.0045
84-74-2	Di-n-butyl Phthalate	0.37U	0.37	0.077
91-94-1	3,3´-Dichlorobenzidine	4.6U	4.6	0.18

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0084
*84-66-2	Diethyl Phthalate	**0.12**	0.092	0.013
105-67-9	2,4-Dimethylphenol	0.92U	0.92	0.16
131-11-3	Dimethyl Phthalate	0.092U	0.092	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.92U	0.92	0.030
51-28-5	2,4-Dinitrophenol	0.92U	0.92	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.092U	0.092	0.0086
117-84-0	Di-n-octyl Phthalate	0.092U	0.092	0.0061
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.14J**	0.18	0.022
206-44-0	Fluoranthene	**2.8**	0.092	0.0031
86-73-7	Fluorene	**0.089J**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.092U	0.092	0.0055
87-68-3	Hexachlorobutadiene	0.092U	0.092	0.0040
77-47-4	Hexachlorocyclopentadiene	0.092U	0.092	0.015
67-72-1	Hexachloroethane	0.092U	0.092	0.0073
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.47**	0.18	0.017
78-59-1	Isophorone	0.092U	0.092	0.0058
91-57-6	2-Methylnaphthalene	**0.049J**	0.092	0.0074
95-48-7	2-Methylphenol	0.092U	0.092	0.018
*106-44-5	4-Methylphenol	0.092U	0.092	0.011
91-20-3	Naphthalene	**0.045J**	0.092	0.0028
88-74-4	2-Nitroaniline	0.092U	0.092	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.089
100-01-6	4-Nitroaniline	0.18U	0.18	0.086
98-95-3	Nitrobenzene	0.092U	0.092	0.0080
100-02-7	4-Nitrophenol	3.7U	3.7	0.15
88-75-5	2-Nitrophenol	0.092U	0.092	0.0084
86-30-6	N-Nitroso-diphenylamine	0.092U	0.092	0.0058
621-64-7	N-Nitroso-di-n-propylamine	0.092U	0.092	0.012
87-86-5	Pentachlorophenol	0.92U	0.92	0.082

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**1.2**	0.092	0.0040
*108-95-2	Phenol	0.92U	0.92	0.0072
129-00-0	Pyrene	**3.0**	0.092	0.0066
88-06-2	2,4,6-Trichlorophenol	0.092U	0.092	0.0093
95-95-4	2,4,5-Trichlorophenol	0.092U	0.092	0.021

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	91		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**4.0**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:14	DSC	1213521
Arsenic	**1.9**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Barium	**38**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:40	DSC	1213264
Beryllium	**0.18**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Cadmium	**0.12**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Chromium	**11**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:40	DSC	1213264
Cobalt	**2.0**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Copper	**8.9**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Iron	**5600**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 13:09	CKD	1213263
Lead	**73**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:40	DSC	1213264
Manganese	**150**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:36	DSC	1213264
Molybdenum	**1.3**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Mercury	**0.015**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:11	CKD	1213511
Nickel	**6.2**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Selenium	**0.063**	J	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Silver	**0.044**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Thallium	**0.040**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Vanadium	**9.3**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:05	DSC	1213264
Zinc	**28**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/09/12 08:15	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-103**	Sampled:	10/25/12 14:25
Lab Sample ID:	**1210568-04**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**91**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	91		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	**0.022J**	0.36	0.0076
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.036J**	0.36	0.0037
11096-82-5	PCB-1260	**0.021J**	0.36	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*79*	*45-135*
Tetrachloro-m-xylene	*71*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.82U	0.82	0.060
71-43-2	Benzene	0.055U	0.055	0.0078
75-27-4	Bromodichloromethane	0.055U	0.055	0.0074
75-25-2	Bromoform	0.055U	0.055	0.014
*74-83-9	Bromomethane	0.055U	0.055	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.013
56-23-5	Carbon Tetrachloride	0.055U	0.055	0.019
108-90-7	Chlorobenzene	0.055U	0.055	0.0092
75-00-3	Chloroethane	0.055U	0.055	0.019
67-66-3	Chloroform	0.055U	0.055	0.0092
74-87-3	Chloromethane	0.055U	0.055	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.055U	0.055	0.0083
106-93-4	1,2-Dibromoethane	0.055U	0.055	0.018
95-50-1	1,2-Dichlorobenzene	0.055U	0.055	0.013
541-73-1	1,3-Dichlorobenzene	0.055U	0.055	0.013
106-46-7	1,4-Dichlorobenzene	0.055U	0.055	0.014
75-71-8	Dichlorodifluoromethane	0.055U	0.055	0.012
75-34-3	1,1-Dichloroethane	0.055U	0.055	0.012
107-06-2	1,2-Dichloroethane	0.055U	0.055	0.012
75-35-4	1,1-Dichloroethene	0.055U	0.055	0.012
156-59-2	cis-1,2-Dichloroethene	0.055U	0.055	0.012
156-60-5	trans-1,2-Dichloroethene	0.055U	0.055	0.013
78-87-5	1,2-Dichloropropane	0.055U	0.055	0.015
10061-01-5	cis-1,3-Dichloropropene	0.055U	0.055	0.010
10061-02-6	trans-1,3-Dichloropropene	0.055U	0.055	0.010
100-41-4	Ethylbenzene	**0.082**	0.055	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.055U	0.055	0.012
79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.055U	0.055	0.010
108-87-2	Methylcyclohexane	**0.045J**	0.27	0.020
75-09-2	Methylene Chloride	**0.034J**	0.11	0.029
78-93-3	2-Butanone (MEK)	0.82U	0.82	0.070
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.022
100-42-5	Styrene	0.055U	0.055	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.055U	0.055	0.014
127-18-4	Tetrachloroethene	0.055U	0.055	0.015
108-88-3	Toluene	**0.021J**	0.055	0.012
120-82-1	1,2,4-Trichlorobenzene	0.055U	0.055	0.0077
71-55-6	1,1,1-Trichloroethane	0.055U	0.055	0.0076
79-00-5	1,1,2-Trichloroethane	0.055U	0.055	0.017
79-01-6	Trichloroethene	**1.1**	0.055	0.012
*75-69-4	Trichlorofluoromethane	**0.035J**	0.055	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.055U	0.055	0.020
75-01-4	Vinyl Chloride	0.044U	0.044	0.0092
1330-20-7	Xylene (Total)	**0.35**	0.16	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.21**	0.092	0.0043
208-96-8	Acenaphthylene	**0.0092J**	0.092	0.0045
98-86-2	Acetophenone	0.092U	0.092	0.054
*120-12-7	Anthracene	**0.61**	0.092	0.0047
1912-24-9	Atrazine	0.092U	0.092	0.053
100-52-7	Benzaldehyde	0.37U	0.37	0.053
*56-55-3	Benzo(a)anthracene	**1.4**	0.092	0.0079
*50-32-8	Benzo(a)pyrene	**0.87**	0.092	0.0047
*205-99-2	Benzo(b)fluoranthene	**1.2**	0.092	0.0094
*207-08-9	Benzo(k)fluoranthene	**0.57**	0.092	0.012
*191-24-2	Benzo(g,h,i)perylene	**0.61**	0.18	0.0045
92-52-4	1,1'-Biphenyl	0.092U	0.092	0.059
101-55-3	4-Bromophenyl Phenyl Ether	0.092U	0.092	0.0052
*85-68-7	Butyl Benzyl Phthalate	**0.10J**	0.18	0.0092
*105-60-2	Caprolactam	0.37U	0.37	0.060
86-74-8	Carbazole	0.92U	0.92	0.049
59-50-7	4-Chloro-3-methylphenol	0.092U	0.092	0.021
*106-47-8	4-Chloroaniline	0.37U	0.37	0.049
111-91-1	Bis(2-chloroethoxy)methane	0.092U	0.092	0.0061
111-44-4	Bis(2-chloroethyl) Ether	0.092U	0.092	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.092U	0.092	0.015
91-58-7	2-Chloronaphthalene	0.092U	0.092	0.014
95-57-8	2-Chlorophenol	0.092U	0.092	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.092U	0.092	0.0040
*218-01-9	Chrysene	**1.4**	0.092	0.0047
*53-70-3	Dibenz(a,h)anthracene	**0.099J**	0.18	0.0070
132-64-9	Dibenzofuran	**0.13**	0.092	0.0045
84-74-2	Di-n-butyl Phthalate	0.37U	0.37	0.077
91-94-1	3,3´-Dichlorobenzidine	4.6U	4.6	0.18

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0084
*84-66-2	Diethyl Phthalate	**0.10**	0.092	0.013
105-67-9	2,4-Dimethylphenol	0.92U	0.92	0.16
131-11-3	Dimethyl Phthalate	0.092U	0.092	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.92U	0.92	0.030
51-28-5	2,4-Dinitrophenol	0.92U	0.92	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.092U	0.092	0.0086
117-84-0	Di-n-octyl Phthalate	0.092U	0.092	0.0061
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.14J**	0.18	0.022
206-44-0	Fluoranthene	**3.6**	0.092	0.0031
86-73-7	Fluorene	**0.16J**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.092U	0.092	0.0055
87-68-3	Hexachlorobutadiene	0.092U	0.092	0.0040
77-47-4	Hexachlorocyclopentadiene	0.092U	0.092	0.015
67-72-1	Hexachloroethane	0.092U	0.092	0.0073
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.50**	0.18	0.017
78-59-1	Isophorone	0.092U	0.092	0.0058
91-57-6	2-Methylnaphthalene	**0.057J**	0.092	0.0074
95-48-7	2-Methylphenol	0.092U	0.092	0.018
*106-44-5	4-Methylphenol	0.092U	0.092	0.011
91-20-3	Naphthalene	**0.064J**	0.092	0.0028
88-74-4	2-Nitroaniline	0.092U	0.092	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.089
100-01-6	4-Nitroaniline	0.18U	0.18	0.086
98-95-3	Nitrobenzene	0.092U	0.092	0.0080
100-02-7	4-Nitrophenol	3.7U	3.7	0.15
88-75-5	2-Nitrophenol	0.092U	0.092	0.0084
86-30-6	N-Nitroso-diphenylamine	0.092U	0.092	0.0058
621-64-7	N-Nitroso-di-n-propylamine	0.092U	0.092	0.012
87-86-5	Pentachlorophenol	0.92U	0.92	0.082

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K19059
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**1.9**	0.092	0.0040
*108-95-2	Phenol	0.92U	0.92	0.0072
129-00-0	Pyrene	**4.2**	0.092	0.0066
88-06-2	2,4,6-Trichlorophenol	0.092U	0.092	0.0093
95-95-4	2,4,5-Trichlorophenol	0.092U	0.092	0.021

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	91		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.59**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:16	DSC	1213521
Arsenic	**1.9**		0.093	0.015	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Barium	**38**		9.3	0.11	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:49	DSC	1213264
Beryllium	**0.19**	**J**	0.47	0.018	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Cadmium	**0.095**		0.047	0.0031	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Chromium	**12**		9.3	0.13	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:49	DSC	1213264
Cobalt	**2.4**		0.93	0.0060	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Copper	**9.1**		0.93	0.024	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Iron	**7600**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 13:15	CKD	1213263
Lead	**72**		9.3	0.062	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:49	DSC	1213264
Manganese	**170**		23	0.55	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:44	DSC	1213264
Molybdenum	**1.3**		0.93	0.0076	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Mercury	**0.015**	**J**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:16	CKD	1213511
Nickel	**6.8**		0.93	0.015	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Selenium	0.093	U	0.093	0.030	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Silver	**0.048**		0.047	0.0036	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Thallium	**0.042**	**J**	0.047	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:09	DSC	1213264
Vanadium	**10**		0.93	0.090	mg/kg dry wt.	10	USEPA-6020A	11/07/12 10:49	DSC	1213264
Zinc	**30**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/09/12 08:17	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-104**	Sampled:	10/25/12 14:35
Lab Sample ID:	**1210568-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**91**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	10/29/201 By: MCG
Dilution Factor:	1	Analyzed:	10/31/12 By: ASC
QC Batch:	1213096	Analytical Batch:	2K01026

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*97*	*52-139*
Tetrachloro-m-xylene	*81*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	**8.8**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.21J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/03/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.67J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.25J**	1.0	0.24
78-93-3	2-Butanone (MEK)	**1.5J**	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**9.0**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.31J**	1.0	0.21
75-69-4	Trichlorofluoromethane	**2.0**	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K11003

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
*1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
*56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
*50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
*205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
*207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
*191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
*85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
*105-60-2	Caprolactam	1.0U	1.0	0.47
*86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
*91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
*218-01-9	Chrysene	0.50U	0.50	0.031
*53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	10U	10	2.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K11003

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
*117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.67**	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
*193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
*88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
*100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
*100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
*86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K11003

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
*129-00-0	Pyrene	0.50U	0.50	0.025
*88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*38*	*20-70*
Phenol-d6	*25*	*18-45*
Nitrobenzene-d5	*72*	*31-123*
2-Fluorobiphenyl	*64*	*25-113*
2,4,6-Tribromophenol	*96*	*30-121*
o-Terphenyl	*69*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**1.7**		1.0	0.15	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
***Arsenic**	**1.6**		1.0	0.18	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Barium	**29**		1.0	0.14	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Cadmium	**0.059**	**J**	0.20	0.038	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Chromium	**0.46**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Cobalt	**4.6**		1.0	0.050	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Copper	**6.3**		1.0	0.13	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
***Iron**	**520**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 19:04	KLV	1213303
Lead	**0.85**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Manganese	**98**		5.0	0.70	ug/L	5	USEPA-6020A	11/05/12 16:06	MSM	1213305
Molybdenum	**9.9**		1.0	0.075	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 11:23	CKD	1213552
Nickel	**10**		1.0	0.17	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
***Selenium**	**0.79**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
***Thallium**	**0.17**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Vanadium	**2.0**		1.0	0.066	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305
Zinc	**14**		10	1.5	ug/L	1	USEPA-6020A	11/02/12 13:03	MSM	1213305

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06RE1**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	2.5U	2.5	0.13
208-96-8	Acenaphthylene	2.5U	2.5	0.15
*98-86-2	Acetophenone	2.5U	2.5	0.25
120-12-7	Anthracene	2.5U	2.5	0.090
*1912-24-9	Atrazine	2.5U	2.5	0.35
*100-52-7	Benzaldehyde	2.5U	2.5	0.43
56-55-3	Benzo(a)anthracene	2.5U	2.5	0.13
*50-32-8	Benzo(a)pyrene	2.5U	2.5	0.20
205-99-2	Benzo(b)fluoranthene	2.5U	2.5	0.36
207-08-9	Benzo(k)fluoranthene	2.5U	2.5	0.15
191-24-2	Benzo(g,h,i)perylene	2.5U	2.5	0.13
92-52-4	1,1'-Biphenyl	2.5U	2.5	0.15
*101-55-3	4-Bromophenyl Phenyl Ether	2.5U	2.5	0.17
85-68-7	Butyl Benzyl Phthalate	5.0U	5.0	1.2
*105-60-2	Caprolactam	5.0U	5.0	2.4
86-74-8	Carbazole	2.5U	2.5	1.3
*59-50-7	4-Chloro-3-methylphenol	2.5U	2.5	0.69
*106-47-8	4-Chloroaniline	5.0U	5.0	0.81
111-91-1	Bis(2-chloroethoxy)methane	2.5U	2.5	0.088
*111-44-4	Bis(2-chloroethyl) Ether	2.5U	2.5	0.18
108-60-1	Bis(2-chloroisopropyl) Ether	2.5U	2.5	0.35
91-58-7	2-Chloronaphthalene	2.5U	2.5	0.16
95-57-8	2-Chlorophenol	2.5U	2.5	0.18
7005-72-3	4-Chlorophenyl Phenyl Ether	2.5U	2.5	0.13
218-01-9	Chrysene	2.5U	2.5	0.16
53-70-3	Dibenz(a,h)anthracene	2.5U	2.5	0.17
132-64-9	Dibenzofuran	2.5U	2.5	0.13
84-74-2	Di-n-butyl Phthalate	5.0U	5.0	1.8
*91-94-1	3,3´-Dichlorobenzidine	5.0U	5.0	1.2
*120-83-2	2,4-Dichlorophenol	2.5U	2.5	0.30
*84-66-2	Diethyl Phthalate	**3.6**	2.5	0.31

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06RE1**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*105-67-9	2,4-Dimethylphenol	5.0U	5.0	1.2
131-11-3	Dimethyl Phthalate	2.5U	2.5	0.34
534-52-1	4,6-Dinitro-2-methylphenol	25U	25	1.4
*51-28-5	2,4-Dinitrophenol	25U	25	10
121-14-2	2,4-Dinitrotoluene	2.5U	2.5	0.41
606-20-2	2,6-Dinitrotoluene	2.5U	2.5	0.35
117-84-0	Di-n-octyl Phthalate	2.5U	2.5	1.0
117-81-7	Bis(2-ethylhexyl) Phthalate	2.5U	2.5	2.0
*206-44-0	Fluoranthene	2.5U	2.5	0.084
86-73-7	Fluorene	2.5U	2.5	0.11
*118-74-1	Hexachlorobenzene	2.5U	2.5	0.20
87-68-3	Hexachlorobutadiene	2.5U	2.5	0.15
77-47-4	Hexachlorocyclopentadiene	2.5U	2.5	0.27
67-72-1	Hexachloroethane	2.5U	2.5	0.21
193-39-5	Indeno(1,2,3-cd)pyrene	2.5U	2.5	0.12
78-59-1	Isophorone	2.5U	2.5	0.12
91-57-6	2-Methylnaphthalene	2.5U	2.5	0.12
*95-48-7	2-Methylphenol	2.5U	2.5	0.15
106-44-5	4-Methylphenol	2.5U	2.5	0.58
91-20-3	Naphthalene	2.5U	2.5	0.15
*88-74-4	2-Nitroaniline	2.5U	2.5	0.78
*99-09-2	3-Nitroaniline	5.0U	5.0	0.90
*100-01-6	4-Nitroaniline	5.0U	5.0	1.1
98-95-3	Nitrobenzene	2.5U	2.5	0.31
*100-02-7	4-Nitrophenol	25U	25	4.5
*88-75-5	2-Nitrophenol	2.5U	2.5	0.46
86-30-6	N-Nitroso-diphenylamine	2.5U	2.5	0.12
621-64-7	N-Nitroso-di-n-propylamine	2.5U	2.5	0.21
*87-86-5	Pentachlorophenol	2.5U	2.5	0.62
*85-01-8	Phenanthrene	2.5U	2.5	0.12
*108-95-2	Phenol	2.5U	2.5	0.12

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-173690-102512-DD-105**	Sampled:	10/25/12 15:30
Lab Sample ID:	**1210568-06RE1**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
129-00-0	Pyrene	2.5U	2.5	0.12
88-06-2	2,4,6-Trichlorophenol	2.5U	2.5	0.67
95-95-4	2,4,5-Trichlorophenol	2.5U	2.5	0.68

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*36*	*20-70*
Phenol-d6	*34*	*18-45*
Nitrobenzene-d5	*44*	*31-123*
2-Fluorobiphenyl	*62*	*25-113*
2,4,6-Tribromophenol	*53*	*30-121*
o-Terphenyl	*91*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	5	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	91		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0094
11104-28-2	PCB-1221	0.36U	0.36	0.012
11141-16-5	PCB-1232	0.36U	0.36	0.012
*53469-21-9	PCB-1242	**0.041J**	0.36	0.038
*12672-29-6	PCB-1248	0.36U	0.36	0.014
11097-69-1	PCB-1254	**0.092J**	0.36	0.019
11096-82-5	PCB-1260	**0.047J**	0.36	0.015

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*85*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
*67-64-1	Acetone	0.83U	0.83	0.060
71-43-2	Benzene	0.055U	0.055	0.0078
75-27-4	Bromodichloromethane	0.055U	0.055	0.0074
75-25-2	Bromoform	0.055U	0.055	0.014
*74-83-9	Bromomethane	0.055U	0.055	0.024
*75-15-0	Carbon Disulfide	0.28U	0.28	0.013
56-23-5	Carbon Tetrachloride	0.055U	0.055	0.019
108-90-7	Chlorobenzene	0.055U	0.055	0.0092
*75-00-3	Chloroethane	0.055U	0.055	0.019
67-66-3	Chloroform	0.055U	0.055	0.0092
74-87-3	Chloromethane	0.055U	0.055	0.021
110-82-7	Cyclohexane	0.28U	0.28	0.026
*96-12-8	1,2-Dibromo-3-chloropropane	0.28U	0.28	0.028
124-48-1	Dibromochloromethane	0.055U	0.055	0.0084
106-93-4	1,2-Dibromoethane	0.055U	0.055	0.018
95-50-1	1,2-Dichlorobenzene	0.055U	0.055	0.013
541-73-1	1,3-Dichlorobenzene	0.055U	0.055	0.013
106-46-7	1,4-Dichlorobenzene	0.055U	0.055	0.014
75-71-8	Dichlorodifluoromethane	0.055U	0.055	0.012
75-34-3	1,1-Dichloroethane	0.055U	0.055	0.012
107-06-2	1,2-Dichloroethane	0.055U	0.055	0.012
75-35-4	1,1-Dichloroethene	0.055U	0.055	0.012
156-59-2	cis-1,2-Dichloroethene	0.055U	0.055	0.012
156-60-5	trans-1,2-Dichloroethene	0.055U	0.055	0.013
78-87-5	1,2-Dichloropropane	0.055U	0.055	0.015
10061-01-5	cis-1,3-Dichloropropene	0.055U	0.055	0.010
10061-02-6	trans-1,3-Dichloropropene	0.055U	0.055	0.010
100-41-4	Ethylbenzene	**0.11**	0.055	0.011
591-78-6	2-Hexanone	2.8U	2.8	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.055U	0.055	0.012
*79-20-9	Methyl Acetate	0.28U	0.28	0.035
*1634-04-4	Methyl tert-Butyl Ether	0.055U	0.055	0.010
108-87-2	Methylcyclohexane	**0.022J**	0.28	0.020
75-09-2	Methylene Chloride	**0.069J**	0.11	0.029
*78-93-3	2-Butanone (MEK)	0.83U	0.83	0.070
108-10-1	4-Methyl-2-pentanone (MIBK)	2.8U	2.8	0.022
100-42-5	Styrene	0.055U	0.055	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.055U	0.055	0.014
127-18-4	Tetrachloroethene	0.055U	0.055	0.015
108-88-3	Toluene	**0.019J**	0.055	0.012
*120-82-1	1,2,4-Trichlorobenzene	0.055U	0.055	0.0077
71-55-6	1,1,1-Trichloroethane	0.055U	0.055	0.0076
79-00-5	1,1,2-Trichloroethane	0.055U	0.055	0.017
79-01-6	Trichloroethene	**0.013J**	0.055	0.012
*75-69-4	Trichlorofluoromethane	**0.019J**	0.055	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.055U	0.055	0.020
75-01-4	Vinyl Chloride	0.044U	0.044	0.0092
1330-20-7	Xylene (Total)	**0.52**	0.17	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	10	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.86**	0.18	0.0087
208-96-8	Acenaphthylene	**0.035J**	0.18	0.0091
98-86-2	Acetophenone	0.18U	0.18	0.11
*120-12-7	Anthracene	**0.88**	0.18	0.0094
1912-24-9	Atrazine	0.18U	0.18	0.11
100-52-7	Benzaldehyde	0.73U	0.73	0.11
*56-55-3	Benzo(a)anthracene	**2.8**	0.18	0.016
*50-32-8	Benzo(a)pyrene	**1.9**	0.18	0.0094
*205-99-2	Benzo(b)fluoranthene	**2.9**	0.18	0.019
*207-08-9	Benzo(k)fluoranthene	**1.1**	0.18	0.024
*191-24-2	Benzo(g,h,i)perylene	**1.3**	0.37	0.0091
92-52-4	1,1'-Biphenyl	0.18U	0.18	0.12
101-55-3	4-Bromophenyl Phenyl Ether	0.18U	0.18	0.010
*85-68-7	Butyl Benzyl Phthalate	**0.14J**	0.37	0.018
*105-60-2	Caprolactam	0.73U	0.73	0.12
86-74-8	Carbazole	**0.61J**	1.8	0.098
59-50-7	4-Chloro-3-methylphenol	0.18U	0.18	0.041
*106-47-8	4-Chloroaniline	0.73U	0.73	0.097
111-91-1	Bis(2-chloroethoxy)methane	0.18U	0.18	0.012
111-44-4	Bis(2-chloroethyl) Ether	0.18U	0.18	0.0087
108-60-1	Bis(2-chloroisopropyl) Ether	0.18U	0.18	0.030
91-58-7	2-Chloronaphthalene	0.18U	0.18	0.029
95-57-8	2-Chlorophenol	0.18U	0.18	0.0087
7005-72-3	4-Chlorophenyl Phenyl Ether	0.18U	0.18	0.0080
*218-01-9	Chrysene	**2.7**	0.18	0.0094
*53-70-3	Dibenz(a,h)anthracene	**0.37**	0.37	0.014
132-64-9	Dibenzofuran	**0.80**	0.18	0.0091
84-74-2	Di-n-butyl Phthalate	0.73U	0.73	0.16
91-94-1	3,3´-Dichlorobenzidine	9.2U	9.2	0.36

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	10	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.37U	0.37	0.017
*84-66-2	Diethyl Phthalate	**0.039J**	0.18	0.026
105-67-9	2,4-Dimethylphenol	1.8U	1.8	0.33
131-11-3	Dimethyl Phthalate	0.18U	0.18	0.020
534-52-1	4,6-Dinitro-2-methylphenol	1.8U	1.8	0.060
51-28-5	2,4-Dinitrophenol	1.8U	1.8	0.42
121-14-2	2,4-Dinitrotoluene	0.37U	0.37	0.055
606-20-2	2,6-Dinitrotoluene	0.18U	0.18	0.017
*117-84-0	Di-n-octyl Phthalate	**0.12J**	0.18	0.012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.28J**	0.37	0.045
206-44-0	Fluoranthene	**6.9**	0.18	0.0062
86-73-7	Fluorene	**0.73**	0.37	0.0067
118-74-1	Hexachlorobenzene	0.18U	0.18	0.011
87-68-3	Hexachlorobutadiene	0.18U	0.18	0.0080
77-47-4	Hexachlorocyclopentadiene	0.18U	0.18	0.030
67-72-1	Hexachloroethane	0.18U	0.18	0.015
*193-39-5	Indeno(1,2,3-cd)pyrene	**1.1**	0.37	0.034
78-59-1	Isophorone	0.18U	0.18	0.012
91-57-6	2-Methylnaphthalene	**0.62**	0.18	0.015
95-48-7	2-Methylphenol	0.18U	0.18	0.037
*106-44-5	4-Methylphenol	0.18U	0.18	0.022
91-20-3	Naphthalene	**0.35**	0.18	0.0056
88-74-4	2-Nitroaniline	0.18U	0.18	0.065
99-09-2	3-Nitroaniline	0.37U	0.37	0.18
100-01-6	4-Nitroaniline	0.37U	0.37	0.17
98-95-3	Nitrobenzene	0.18U	0.18	0.016
100-02-7	4-Nitrophenol	7.3U	7.3	0.29
88-75-5	2-Nitrophenol	0.18U	0.18	0.017
86-30-6	N-Nitroso-diphenylamine	0.18U	0.18	0.012
621-64-7	N-Nitroso-di-n-propylamine	0.18U	0.18	0.024
87-86-5	Pentachlorophenol	1.8U	1.8	0.16

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	10	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**7.6**	0.18	0.0080
*108-95-2	Phenol	1.8U	1.8	0.014
129-00-0	Pyrene	**5.9**	0.18	0.013
88-06-2	2,4,6-Trichlorophenol	0.18U	0.18	0.019
95-95-4	2,4,5-Trichlorophenol	0.18U	0.18	0.043

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	91		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**1.2**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:19	DSC	1213521
Arsenic	**2.5**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
***Barium**	**66**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:07	DSC	1213264
Beryllium	**0.25**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
Cadmium	**0.13**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
***Chromium**	**11**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:07	DSC	1213264
Cobalt	**2.5**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
***Copper**	**15**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:07	DSC	1213264
***Iron**	**8100**		500	62	mg/kg dry wt.	100	USEPA-6010C	11/07/12 15:37	CKD	1213263
***Lead**	**120**		25	0.16	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:53	DSC	1213264
***Manganese**	**180**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 10:53	DSC	1213264
Molybdenum	**1.7**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
Mercury	**0.017**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:21	CKD	1213511
Nickel	**7.4**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
Selenium	**0.10**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
Silver	**0.075**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
Thallium	**0.038**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:14	DSC	1213264
***Vanadium**	**13**		1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:07	DSC	1213264
***Zinc**	**44**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/09/12 08:19	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-106**	Sampled:	10/25/12 16:10
Lab Sample ID:	**1210568-07**	Sampled By:	N
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**91**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/08/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K09032
Percent Solids:	83		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.40U	0.40	0.0021
11104-28-2	PCB-1221	0.40U	0.40	0.0025
11141-16-5	PCB-1232	0.40U	0.40	0.0025
53469-21-9	PCB-1242	0.40U	0.40	0.0083
12672-29-6	PCB-1248	0.40U	0.40	0.0030
11097-69-1	PCB-1254	0.40U	0.40	0.0041
11096-82-5	PCB-1260	0.40U	0.40	0.0034

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*91*	*45-135*
Tetrachloro-m-xylene	*92*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	83		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.91U	0.91	0.066
71-43-2	Benzene	0.060U	0.060	0.0086
75-27-4	Bromodichloromethane	0.060U	0.060	0.0081
75-25-2	Bromoform	0.060U	0.060	0.016
*74-83-9	Bromomethane	0.060U	0.060	0.026
75-15-0	Carbon Disulfide	0.30U	0.30	0.014
56-23-5	Carbon Tetrachloride	0.060U	0.060	0.021
108-90-7	Chlorobenzene	0.060U	0.060	0.010
75-00-3	Chloroethane	0.060U	0.060	0.021
67-66-3	Chloroform	0.060U	0.060	0.010
74-87-3	Chloromethane	0.060U	0.060	0.024
110-82-7	Cyclohexane	0.30U	0.30	0.029
96-12-8	1,2-Dibromo-3-chloropropane	0.30U	0.30	0.031
124-48-1	Dibromochloromethane	0.060U	0.060	0.0092
106-93-4	1,2-Dibromoethane	0.060U	0.060	0.020
95-50-1	1,2-Dichlorobenzene	0.060U	0.060	0.014
541-73-1	1,3-Dichlorobenzene	0.060U	0.060	0.014
106-46-7	1,4-Dichlorobenzene	0.060U	0.060	0.015
75-71-8	Dichlorodifluoromethane	0.060U	0.060	0.013
75-34-3	1,1-Dichloroethane	0.060U	0.060	0.013
107-06-2	1,2-Dichloroethane	0.060U	0.060	0.013
75-35-4	1,1-Dichloroethene	0.060U	0.060	0.013
156-59-2	cis-1,2-Dichloroethene	0.060U	0.060	0.014
156-60-5	trans-1,2-Dichloroethene	0.060U	0.060	0.014
78-87-5	1,2-Dichloropropane	0.060U	0.060	0.017
10061-01-5	cis-1,3-Dichloropropene	0.060U	0.060	0.011
10061-02-6	trans-1,3-Dichloropropene	0.060U	0.060	0.011
100-41-4	Ethylbenzene	0.060U	0.060	0.012
591-78-6	2-Hexanone	3.0U	3.0	0.030

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	83		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.060U	0.060	0.013
79-20-9	Methyl Acetate	0.30U	0.30	0.039
1634-04-4	Methyl tert-Butyl Ether	0.060U	0.060	0.011
108-87-2	Methylcyclohexane	0.30U	0.30	0.022
75-09-2	Methylene Chloride	0.12U	0.12	0.032
78-93-3	2-Butanone (MEK)	0.91U	0.91	0.076
108-10-1	4-Methyl-2-pentanone (MIBK)	3.0U	3.0	0.024
100-42-5	Styrene	0.060U	0.060	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.060U	0.060	0.015
127-18-4	Tetrachloroethene	**0.040J**	0.060	0.017
108-88-3	Toluene	0.060U	0.060	0.013
120-82-1	1,2,4-Trichlorobenzene	0.060U	0.060	0.0085
71-55-6	1,1,1-Trichloroethane	0.060U	0.060	0.0083
79-00-5	1,1,2-Trichloroethane	0.060U	0.060	0.019
79-01-6	Trichloroethene	0.060U	0.060	0.013
*75-69-4	Trichlorofluoromethane	0.060U	0.060	0.016
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.060U	0.060	0.022
75-01-4	Vinyl Chloride	0.048U	0.048	0.010
1330-20-7	Xylene (Total)	0.18U	0.18	0.024

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*96*	*83-116*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K11004
Percent Solids:	83		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.014J**	0.020	0.00096
208-96-8	Acenaphthylene	0.020U	0.020	0.0010
98-86-2	Acetophenone	0.020U	0.020	0.012
*120-12-7	Anthracene	**0.026**	0.020	0.0010
1912-24-9	Atrazine	0.020U	0.020	0.012
100-52-7	Benzaldehyde	0.081U	0.081	0.012
*56-55-3	Benzo(a)anthracene	**0.075**	0.020	0.0017
*50-32-8	Benzo(a)pyrene	**0.055**	0.020	0.0010
*205-99-2	Benzo(b)fluoranthene	**0.082**	0.020	0.0021
*207-08-9	Benzo(k)fluoranthene	**0.039**	0.020	0.0027
*191-24-2	Benzo(g,h,i)perylene	**0.033J**	0.040	0.0010
92-52-4	1,1'-Biphenyl	0.020U	0.020	0.013
101-55-3	4-Bromophenyl Phenyl Ether	0.020U	0.020	0.0011
*85-68-7	Butyl Benzyl Phthalate	**0.015J**	0.040	0.0020
*105-60-2	Caprolactam	0.081U	0.081	0.013
86-74-8	Carbazole	**0.017J**	0.20	0.011
59-50-7	4-Chloro-3-methylphenol	0.020U	0.020	0.0045
*106-47-8	4-Chloroaniline	0.081U	0.081	0.011
111-91-1	Bis(2-chloroethoxy)methane	0.020U	0.020	0.0014
111-44-4	Bis(2-chloroethyl) Ether	0.020U	0.020	0.00096
108-60-1	Bis(2-chloroisopropyl) Ether	0.020U	0.020	0.0032
91-58-7	2-Chloronaphthalene	0.020U	0.020	0.0032
95-57-8	2-Chlorophenol	0.020U	0.020	0.00096
7005-72-3	4-Chlorophenyl Phenyl Ether	0.020U	0.020	0.00087
*218-01-9	Chrysene	**0.072**	0.020	0.0010
*53-70-3	Dibenz(a,h)anthracene	**0.0082J**	0.040	0.0015
132-64-9	Dibenzofuran	**0.013J**	0.020	0.00099
84-74-2	Di-n-butyl Phthalate	0.081U	0.081	0.017
91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.039

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K11004
Percent Solids:	83		

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.040U	0.040	0.0018
*84-66-2	Diethyl Phthalate	**0.0049J**	0.020	0.0029
105-67-9	2,4-Dimethylphenol	0.20U	0.20	0.036
131-11-3	Dimethyl Phthalate	0.020U	0.020	0.0022
534-52-1	4,6-Dinitro-2-methylphenol	0.20U	0.20	0.0066
51-28-5	2,4-Dinitrophenol	0.20U	0.20	0.046
121-14-2	2,4-Dinitrotoluene	0.040U	0.040	0.0060
606-20-2	2,6-Dinitrotoluene	0.020U	0.020	0.0019
117-84-0	Di-n-octyl Phthalate	0.020U	0.020	0.0014
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.018J**	0.040	0.0049
206-44-0	Fluoranthene	**0.16**	0.020	0.00068
86-73-7	Fluorene	**0.011J**	0.040	0.00073
118-74-1	Hexachlorobenzene	0.020U	0.020	0.0012
87-68-3	Hexachlorobutadiene	0.020U	0.020	0.00087
77-47-4	Hexachlorocyclopentadiene	0.020U	0.020	0.0033
67-72-1	Hexachloroethane	0.020U	0.020	0.0016
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.029J**	0.040	0.0037
78-59-1	Isophorone	0.020U	0.020	0.0013
91-57-6	2-Methylnaphthalene	**0.0037J**	0.020	0.0016
95-48-7	2-Methylphenol	0.020U	0.020	0.0040
*106-44-5	4-Methylphenol	0.020U	0.020	0.0024
91-20-3	Naphthalene	**0.0041J**	0.020	0.00062
88-74-4	2-Nitroaniline	0.020U	0.020	0.0071
99-09-2	3-Nitroaniline	0.040U	0.040	0.020
100-01-6	4-Nitroaniline	0.040U	0.040	0.019
98-95-3	Nitrobenzene	0.020U	0.020	0.0018
100-02-7	4-Nitrophenol	0.81U	0.81	0.032
88-75-5	2-Nitrophenol	0.020U	0.020	0.0018
86-30-6	N-Nitroso-diphenylamine	0.020U	0.020	0.0013
621-64-7	N-Nitroso-di-n-propylamine	0.020U	0.020	0.0026
87-86-5	Pentachlorophenol	0.20U	0.20	0.018

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/08/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K11004
Percent Solids:	83		

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**0.13**	0.020	0.00087
*108-95-2	Phenol	0.20U	0.20	0.0016
129-00-0	Pyrene	**0.16**	0.020	0.0015
88-06-2	2,4,6-Trichlorophenol	0.020U	0.020	0.0021
95-95-4	2,4,5-Trichlorophenol	0.020U	0.020	0.0047

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*60*	*33-113*
Phenol-d6	*62*	*30-115*
Nitrobenzene-d5	*59*	*33-131*
2-Fluorobiphenyl	*64*	*46-122*
2,4,6-Tribromophenol	*34*	*12-124*
o-Terphenyl	*71*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07
Percent Solids:	83		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.082**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:36	DSC	1213521
Arsenic	**1.6**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Barium	**6.4**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Beryllium	**0.084**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Cadmium	**0.024**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Chromium	**3.1**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Cobalt	**1.2**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Copper	**3.3**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Iron	**4100**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 13:58	CKD	1213263
Lead	**2.7**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Manganese	**130**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 11:38	DSC	1213264
Molybdenum	**0.14**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Mercury	0.047	U	0.047	0.0057	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:46	CKD	1213511
Nickel	**3.4**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Silver	**0.016**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Thallium	**0.029**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Vanadium	**4.2**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:45	DSC	1213264
Zinc	**13**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/09/12 08:36	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102512-DD-107**	Sampled:	10/25/12 16:45
Lab Sample ID:	**1210568-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/25/12 18:07

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**83**	0.1	0.1	%	1	USEPA-3550C	10/31/12 14:15	SKA	1213194

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/25/12 00:00
Lab Sample ID:	**1210568-09**	Sampled By:	TB
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg wet	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/07/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
*74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.012
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.010
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
79-20-9	Methyl Acetate	0.25U	0.25	0.032

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/25/12 00:00
Lab Sample ID:	**1210568-09**	Sampled By:	TB
Matrix:	Soil	Received:	10/25/12 18:07
Unit:	mg/kg wet	Prepared:	11/7/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/07/12 By: DLV
QC Batch:	1213661	Analytical Batch:	2K08014
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
*75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/25/12 00:00
Lab Sample ID:	**1210568-10**	Sampled By:	TB
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
*75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210568**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/25/12 00:00
Lab Sample ID:	**1210568-10**	Sampled By:	TB
Matrix:	Water	Received:	10/25/12 18:07
Unit:	ug/L	Prepared:	11/2/2012 By: BAG
Dilution Factor:	1	Analyzed:	11/02/12 By: BAG
QC Batch:	1213463	Analytical Batch:	2K05030

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
*75-09-2	Methylene Chloride	**0.46J**	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
*1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*100*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213096 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	10/31/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K01026			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*101*	*52-139*				
Tetrachloro-m-xylene				*91*	*26-118*				
Laboratory Control Sample					Analyzed:	10/31/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K01026			
PCB-1016		1.00	**0.848**	85	58-120	--	30	0.20	0.037
PCB-1260		1.00	**0.907**	91	62-131	--	30	0.20	0.039
Surrogates:									
Decachlorobiphenyl				*108*	*52-139*				
Tetrachloro-m-xylene				*77*	*26-118*				
Matrix Spike 1210568-06 GW-173690-102512-DD-105					Analyzed:	10/31/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K01026			
PCB-1016	0.20 U	1.00	**0.860**	86	56-120	--	30	0.20	0.037
PCB-1260	0.20 U	1.00	**0.884**	88	61-136	--	30	0.20	0.039
Surrogates:									
Decachlorobiphenyl				*106*	*52-139*				
Tetrachloro-m-xylene				*90*	*26-118*				
Matrix Spike Duplicate 1210568-06 GW-173690-102512-DD-105					Analyzed:	11/01/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K01026			
PCB-1016	0.20 U	1.00	**0.833**	83	56-120	3	30	0.20	0.037
PCB-1260	0.20 U	1.00	**0.864**	86	61-136	2	30	0.20	0.039
Surrogates:									
Decachlorobiphenyl				*103*	*52-139*				
Tetrachloro-m-xylene				*90*	*26-118*				
QC Batch: 1213317 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/07/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K08049			
PCB-1016			0.33 U					0.33	0.0017

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213317 (Continued) 3550C Sonication Extraction/USEPA-8082A									
Method Blank (Continued)					Analyzed:	11/07/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K08049			
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*97*	*45-135*				
Tetrachloro-m-xylene				*86*	*56-123*				
Laboratory Control Sample					Analyzed:	11/07/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K08049			
PCB-1248		0.170	**0.142 J**	83	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*83*	*45-135*				
Tetrachloro-m-xylene				*81*	*56-123*				
Matrix Spike 1210568-07 S-17360-102512-DD-106					Analyzed:	11/08/2012	By: ZZZ		
Unit: mg/kg dry					Analytical Batch:	2K09032			
PCB-1248	1.8 U	0.176	**0.262 J**	149	42-168	--	30	1.8	0.014
Surrogates:									
Decachlorobiphenyl				*80*	*45-135*				
Tetrachloro-m-xylene				*74*	*56-123*				
Matrix Spike Duplicate 1210568-07 S-17360-102512-DD-106					Analyzed:	11/08/2012	By: ZZZ		
Unit: mg/kg dry					Analytical Batch:	2K09032			
PCB-1248	1.8 U	0.173	**0.319 J**	**184**	42-168	19	30	1.8	0.014
Surrogates:									
Decachlorobiphenyl				*81*	*45-135*				
Tetrachloro-m-xylene				*76*	*56-123*				

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213463 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Acetone	5.0 U			5.0	1.1
Benzene	1.0 U			1.0	0.11
Bromodichloromethane	1.0 U			1.0	0.13
Bromoform	1.0 U			1.0	0.26
Bromomethane	1.0 U			1.0	0.21
Carbon Disulfide	5.0 U		--	5.0	0.23
Carbon Tetrachloride	1.0 U			1.0	0.26
Chlorobenzene	1.0 U			1.0	0.17
Chloroethane	1.0 U			1.0	0.14
Chloroform	**0.12 J**		--	1.0	0.098
Chloromethane	1.0 U			1.0	0.29
Cyclohexane	5.0 U			5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U			1.0	0.13
Dibromochloromethane	1.0 U			1.0	0.15
1,2-Dibromoethane	1.0 U			1.0	0.15
1,2-Dichlorobenzene	1.0 U		--	1.0	0.24
1,3-Dichlorobenzene	1.0 U		--	1.0	0.24
1,4-Dichlorobenzene	1.0 U			1.0	0.25
Dichlorodifluoromethane	1.0 U			1.0	0.21
1,1-Dichloroethane	1.0 U			1.0	0.18
1,2-Dichloroethane	1.0 U			1.0	0.21
1,1-Dichloroethene	1.0 U			1.0	0.21
cis-1,2-Dichloroethene	1.0 U			1.0	0.12
trans-1,2-Dichloroethene	1.0 U			1.0	0.20
1,2-Dichloropropane	1.0 U			1.0	0.28
cis-1,3-Dichloropropene	1.0 U			1.0	0.19
trans-1,3-Dichloropropene	1.0 U			1.0	0.19
Ethylbenzene	1.0 U			1.0	0.21
2-Hexanone	5.0 U			5.0	0.49
Isopropylbenzene	1.0 U			1.0	0.22
Methyl Acetate	**0.51 J**		--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U			1.0	0.19
Methylcyclohexane	5.0 U			5.0	0.37
Methylene Chloride	**0.46 J**		--	1.0	0.24
2-Butanone (MEK)	5.0 U			5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U			5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		**0.26 J**			--	1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*98*	*85-118*			
1,2-Dichloroethane-d4			*99*	*87-122*			
Toluene-d8			*97*	*85-113*			
4-Bromofluorobenzene			*100*	*82-110*			

Laboratory Control Sample Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Acetone	40.0	**38.5**	96	53-138	--	20	5.0	1.1
Benzene	40.0	**39.4**	99	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**41.0**	102	82-124	--	20	1.0	0.13
Bromoform	40.0	**34.7**	87	65-123	--	20	1.0	0.26
Bromomethane	40.0	**50.5**	126	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**47.7**	119	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**44.4**	111	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**38.2**	96	84-118	--	20	1.0	0.17
Chloroethane	40.0	**47.4**	118	76-124	--	20	1.0	0.14
Chloroform	40.0	**38.3**	96	82-119	--	20	1.0	0.098
Chloromethane	40.0	**43.9**	110	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**42.4**	106	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**35.2**	88	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**35.2**	88	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**39.1**	98	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**38.3**	96	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/02/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene	40.0	**38.1**	95	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**34.1**	85	79-122	--	20	1.0	0.25
Dichlorodifluoromethane	40.0	**44.6**	111	68-130	--	20	1.0	0.21
1,1-Dichloroethane	40.0	**39.7**	99	80-118	--	20	1.0	0.18
1,2-Dichloroethane	40.0	**37.5**	94	81-122	--	20	1.0	0.21
1,1-Dichloroethene	40.0	**40.8**	102	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**39.7**	99	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**39.9**	100	76-126	--	20	1.0	0.20
1,2-Dichloropropane	40.0	**39.5**	99	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**36.1**	90	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**36.5**	91	73-116	--	20	1.0	0.19
Ethylbenzene	40.0	**35.2**	88	87-119	--	20	1.0	0.21
2-Hexanone	40.0	**37.0**	93	55-141	--	20	5.0	0.49
Isopropylbenzene	40.0	**37.9**	95	76-126	--	20	1.0	0.22
Methyl Acetate	40.0	**37.8**	95	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**34.1**	85	72-128	--	20	1.0	0.19
Methylcyclohexane	40.0	**38.4**	96	78-126	--	20	5.0	0.37
Methylene Chloride	40.0	**40.3**	101	75-129	--	20	1.0	0.24
2-Butanone (MEK)	40.0	**35.3**	88	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**38.0**	95	60-142	--	20	5.0	0.40
Styrene	40.0	**36.3**	91	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**38.1**	95	70-137	--	20	1.0	0.26
Tetrachloroethene	40.0	**38.8**	97	81-117	--	20	1.0	0.23
Toluene	40.0	**38.8**	97	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**40.8**	102	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**41.5**	104	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**38.2**	95	83-121	--	20	1.0	0.20
Trichloroethene	40.0	**39.2**	98	82-119	--	20	1.0	0.21
Trichlorofluoromethane	40.0	**41.0**	102	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**40.7**	102	76-126	--	20	1.0	0.24
Vinyl Chloride	40.0	**41.3**	103	77-123	--	20	1.0	0.21
Xylene (Total)	120	**102**	**85**	86-119	--	20	3.0	0.39
Surrogates:								
Dibromofluoromethane			*99*	*85-118*				
1,2-Dichloroethane-d4			*98*	*87-122*				
Toluene-d8			*99*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/02/2012 By: BAG
Unit: ug/L Analytical Batch: 2K05030

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Surrogates (Continued):									
4-Bromofluorobenzene				*99*	*82-110*				

Matrix Spike 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/03/2012 By: BAG
Unit: ug/L Analytical Batch: 2K05030

Benzene	1.0 U	40.0	**42.0**	105	80-129	--	9	1.0	0.11
Bromodichloromethane	1.0 U	40.0	**41.0**	103	81-130	--	10	1.0	0.13
Bromoform	1.0 U	40.0	**33.1**	83	60-122	--	12	1.0	0.26
Bromomethane	1.0 U	40.0	**40.8**	102	44-140	--	35	1.0	0.21
Carbon Tetrachloride	1.0 U	40.0	**46.8**	117	78-137	--	11	1.0	0.26
Chlorobenzene	1.0 U	40.0	**39.2**	98	80-121	--	8	1.0	0.17
Chloroethane	1.0 U	40.0	**53.7**	134	72-137	--	14	1.0	0.14
Chloroform	0.210 J	40.0	**39.7**	99	79-128	--	9	1.0	0.098
Chloromethane	1.0 U	40.0	**48.5**	121	72-134	--	11	1.0	0.29
Cyclohexane	5.0 U	40.0	**46.4**	116	73-138	--	12	5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U	40.0	**38.4**	96	55-126	--	16	1.0	0.13
Dibromochloromethane	1.0 U	40.0	**34.1**	85	70-126	--	10	1.0	0.15
1,2-Dibromoethane	1.0 U	40.0	**38.6**	97	78-125	--	9	1.0	0.15
1,2-Dichlorobenzene	1.0 U	40.0	**38.9**	97	76-124	--	10	1.0	0.24
1,3-Dichlorobenzene	1.0 U	40.0	**38.5**	96	76-123	--	10	1.0	0.24
1,4-Dichlorobenzene	1.0 U	40.0	**34.2**	85	75-121	--	10	1.0	0.25
Dichlorodifluoromethane	1.0 U	40.0	**45.7**	114	64-138	--	13	1.0	0.21
1,1-Dichloroethane	1.0 U	40.0	**42.0**	105	76-129	--	13	1.0	0.18
1,2-Dichloroethane	1.0 U	40.0	**38.6**	97	74-131	--	9	1.0	0.21
1,1-Dichloroethene	1.0 U	40.0	**46.5**	116	74-134	--	11	1.0	0.21
cis-1,2-Dichloroethene	1.0 U	40.0	**41.5**	104	76-129	--	12	1.0	0.12
trans-1,2-Dichloroethene	1.0 U	40.0	**42.8**	107	71-137	--	15	1.0	0.20
1,2-Dichloropropane	1.0 U	40.0	**41.2**	103	79-128	--	9	1.0	0.28
cis-1,3-Dichloropropene	1.0 U	40.0	**34.1**	85	68-122	--	11	1.0	0.19
trans-1,3-Dichloropropene	1.0 U	40.0	**34.8**	87	66-117	--	12	1.0	0.19
Ethylbenzene	1.0 U	40.0	**36.7**	92	82-127	--	10	1.0	0.21
Isopropylbenzene	1.0 U	40.0	**39.7**	99	73-131	--	12	1.0	0.22
Methyl Acetate	0.670 J	40.0	**30.0**	73	40-133	--	16	5.0	0.42
Methyl tert-Butyl Ether	1.0 U	40.0	**33.4**	84	65-131	--	15	1.0	0.19
Methylcyclohexane	5.0 U	40.0	**40.2**	101	70-137	--	14	5.0	0.37
Methylene Chloride	0.250 J	40.0	**43.8**	109	75-133	--	10	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Matrix Spike (Continued) 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/03/2012 By: BAG
Unit: ug/L Analytical Batch: 2K05030

Styrene	1.0 U	40.0	**36.4**	91	75-129	--	10	1.0	0.20
1,1,2,2-Tetrachloroethane	1.0 U	40.0	**41.2**	103	71-129	--	10	1.0	0.26
Tetrachloroethene	8.95	40.0	**50.2**	103	75-126	--	10	1.0	0.23
Toluene	1.0 U	40.0	**40.8**	102	79-129	--	9	1.0	0.18
1,2,4-Trichlorobenzene	1.0 U	40.0	**40.6**	101	66-131	--	15	1.0	0.13
1,1,1-Trichloroethane	1.0 U	40.0	**44.1**	110	79-131	--	10	1.0	0.14
1,1,2-Trichloroethane	1.0 U	40.0	**39.1**	98	76-127	--	10	1.0	0.20
Trichloroethene	0.310 J	40.0	**40.7**	101	75-127	--	10	1.0	0.21
Trichlorofluoromethane	2.04	40.0	**49.1**	118	70-141	--	11	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	40.0	**46.4**	116	67-135	--	14	1.0	0.24
Vinyl Chloride	1.0 U	40.0	**45.9**	115	73-136	--	12	1.0	0.21
Xylene (Total)	3.0 U	120	**107**	89	78-130	--	9	3.0	0.39
Surrogates:									
Dibromofluoromethane				*101*	*85-118*				
1,2-Dichloroethane-d4				*100*	*87-122*				
Toluene-d8				*98*	*85-113*				
4-Bromofluorobenzene				*101*	*82-110*				

Matrix Spike Duplicate 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/03/2012 By: BAG
Unit: ug/L Analytical Batch: 2K05030

Benzene	1.0 U	40.0	**43.9**	110	80-129	4	9	1.0	0.11
Bromodichloromethane	1.0 U	40.0	**43.2**	108	81-130	5	10	1.0	0.13
Bromoform	1.0 U	40.0	**34.7**	87	60-122	5	12	1.0	0.26
Bromomethane	1.0 U	40.0	**50.6**	127	44-140	22	35	1.0	0.21
Carbon Tetrachloride	1.0 U	40.0	**49.7**	124	78-137	6	11	1.0	0.26
Chlorobenzene	1.0 U	40.0	**41.5**	104	80-121	6	8	1.0	0.17
Chloroethane	1.0 U	40.0	**54.4**	136	72-137	1	14	1.0	0.14
Chloroform	0.210 J	40.0	**41.9**	104	79-128	5	9	1.0	0.098
Chloromethane	1.0 U	40.0	**50.5**	126	72-134	4	11	1.0	0.29
Cyclohexane	5.0 U	40.0	**49.1**	123	73-138	6	12	5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U	40.0	**42.9**	107	55-126	11	16	1.0	0.13
Dibromochloromethane	1.0 U	40.0	**35.8**	89	70-126	5	10	1.0	0.15
1,2-Dibromoethane	1.0 U	40.0	**41.2**	103	78-125	6	9	1.0	0.15
1,2-Dichlorobenzene	1.0 U	40.0	**41.5**	104	76-124	6	10	1.0	0.24
1,3-Dichlorobenzene	1.0 U	40.0	**40.6**	102	76-123	5	10	1.0	0.24
1,4-Dichlorobenzene	1.0 U	40.0	**36.1**	90	75-121	6	10	1.0	0.25

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213463 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Matrix Spike Duplicate (Continued) 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/03/2012 By: BAG

Unit: ug/L Analytical Batch: 2K05030

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Dichlorodifluoromethane	1.0 U	40.0	**48.0**	120	64-138	5	13	1.0	0.21
1,1-Dichloroethane	1.0 U	40.0	**44.1**	110	76-129	5	13	1.0	0.18
1,2-Dichloroethane	1.0 U	40.0	**40.5**	101	74-131	5	9	1.0	0.21
1,1-Dichloroethene	1.0 U	40.0	**47.6**	119	74-134	2	11	1.0	0.21
cis-1,2-Dichloroethene	1.0 U	40.0	**43.9**	110	76-129	6	12	1.0	0.12
trans-1,2-Dichloroethene	1.0 U	40.0	**45.0**	112	71-137	5	15	1.0	0.20
1,2-Dichloropropane	1.0 U	40.0	**43.4**	108	79-128	5	9	1.0	0.28
cis-1,3-Dichloropropene	1.0 U	40.0	**36.2**	90	68-122	6	11	1.0	0.19
trans-1,3-Dichloropropene	1.0 U	40.0	**36.8**	92	66-117	6	12	1.0	0.19
Ethylbenzene	1.0 U	40.0	**38.4**	96	82-127	5	10	1.0	0.21
Isopropylbenzene	1.0 U	40.0	**42.1**	105	73-131	6	12	1.0	0.22
Methyl Acetate	0.670 J	40.0	**32.3**	79	40-133	7	16	5.0	0.42
Methyl tert-Butyl Ether	1.0 U	40.0	**35.5**	89	65-131	6	15	1.0	0.19
Methylcyclohexane	5.0 U	40.0	**42.3**	106	70-137	5	14	5.0	0.37
Methylene Chloride	0.250 J	40.0	**45.3**	113	75-133	3	10	1.0	0.24
Styrene	1.0 U	40.0	**38.3**	96	75-129	5	10	1.0	0.20
1,1,2,2-Tetrachloroethane	1.0 U	40.0	**43.4**	109	71-129	5	10	1.0	0.26
Tetrachloroethene	8.95	40.0	**52.7**	109	75-126	5	10	1.0	0.23
Toluene	1.0 U	40.0	**42.7**	107	79-129	5	9	1.0	0.18
1,2,4-Trichlorobenzene	1.0 U	40.0	**43.7**	109	66-131	7	15	1.0	0.13
1,1,1-Trichloroethane	1.0 U	40.0	**47.2**	118	79-131	7	10	1.0	0.14
1,1,2-Trichloroethane	1.0 U	40.0	**41.0**	102	76-127	5	10	1.0	0.20
Trichloroethene	0.310 J	40.0	**43.2**	107	75-127	6	10	1.0	0.21
Trichlorofluoromethane	2.04	40.0	**50.4**	121	70-141	3	11	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	40.0	**48.2**	121	67-135	4	14	1.0	0.24
Vinyl Chloride	1.0 U	40.0	**48.0**	120	73-136	5	12	1.0	0.21
Xylene (Total)	3.0 U	120	**111**	93	78-130	4	9	3.0	0.39
Surrogates:									
Dibromofluoromethane				*101*	*85-118*				
1,2-Dichloroethane-d4				*99*	*87-122*				
Toluene-d8				*98*	*85-113*				
4-Bromofluorobenzene				*100*	*82-110*				

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

QC Batch: 1213661 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank Analyzed: 11/07/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K08014

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acetone			0.75 U					0.75	0.054
Benzene			0.050 U					0.050	0.0071
Bromodichloromethane			0.050 U					0.050	0.0067
Bromoform			0.050 U					0.050	0.013
Bromomethane			0.050 U					0.050	0.021
Carbon Disulfide			0.25 U			--		0.25	0.012
Carbon Tetrachloride			0.050 U					0.050	0.017
Chlorobenzene			0.050 U					0.050	0.0084
Chloroethane			0.050 U					0.050	0.018
Chloroform			0.050 U					0.050	0.0084
Chloromethane			0.050 U					0.050	0.020
Cyclohexane			0.25 U					0.25	0.024
1,2-Dibromo-3-chloropropane			0.25 U					0.25	0.026
Dibromochloromethane			0.050 U					0.050	0.0076
1,2-Dibromoethane			0.050 U					0.050	0.016
1,2-Dichlorobenzene			0.050 U					0.050	0.012
1,3-Dichlorobenzene			0.050 U					0.050	0.012
1,4-Dichlorobenzene			0.050 U					0.050	0.012
Dichlorodifluoromethane			0.050 U					0.050	0.011
1,1-Dichloroethane			0.050 U					0.050	0.011
1,2-Dichloroethane			0.050 U					0.050	0.011
1,1-Dichloroethene			0.050 U					0.050	0.010
cis-1,2-Dichloroethene			0.050 U					0.050	0.011
trans-1,2-Dichloroethene			0.050 U					0.050	0.012
1,2-Dichloropropane			0.050 U					0.050	0.014
cis-1,3-Dichloropropene			0.050 U					0.050	0.0095
trans-1,3-Dichloropropene			0.050 U					0.050	0.0094
Ethylbenzene			0.050 U					0.050	0.010
2-Hexanone			2.5 U					2.5	0.025
Isopropylbenzene			0.050 U					0.050	0.011
Methyl Acetate			0.25 U					0.25	0.032
Methyl tert-Butyl Ether			0.050 U					0.050	0.0095
Methylcyclohexane			0.25 U					0.25	0.018
Methylene Chloride			0.10 U					0.10	0.027
2-Butanone (MEK)			0.75 U			--		0.75	0.063
4-Methyl-2-pentanone (MIBK)			2.5 U					2.5	0.020

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213661 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank (Continued) Analyzed: 11/07/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K08014

Styrene		0.050 U				0.050	0.010
1,1,2,2-Tetrachloroethane		0.050 U				0.050	0.013
Tetrachloroethene		0.050 U				0.050	0.014
Toluene		0.050 U				0.050	0.011
1,2,4-Trichlorobenzene		**0.012 J**			--	0.050	0.0070
1,1,1-Trichloroethane		0.050 U				0.050	0.0069
1,1,2-Trichloroethane		0.050 U				0.050	0.016
Trichloroethene		0.050 U				0.050	0.011
Trichlorofluoromethane		0.050 U				0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		0.050 U				0.050	0.018
Vinyl Chloride		0.040 U				0.040	0.0084
Xylene (Total)		0.15 U				0.15	0.020

Method Blank Analyzed: 11/07/2012 By: DLV
Unit: ug/L Analytical Batch: 2K08014

Surrogates:		
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

Laboratory Control Sample Analyzed: 11/07/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K08014

Acetone	2.00	**1.82**	91	64-130	--	20	0.75	0.054
Benzene	2.00	**1.99**	99	85-118	--	20	0.050	0.0071
Bromodichloromethane	2.00	**1.93**	96	80-123	--	20	0.050	0.0067
Bromoform	2.00	**1.99**	100	58-128	--	20	0.050	0.013
Bromomethane	2.00	**2.41**	121	57-139	--	20	0.050	0.021
Carbon Disulfide	2.00	**2.21**	111	65-138	--	20	0.25	0.012
Carbon Tetrachloride	2.00	**2.00**	100	76-125	--	20	0.050	0.017
Chlorobenzene	2.00	**1.97**	98	86-114	--	20	0.050	0.0084
Chloroethane	2.00	**2.18**	109	76-123	--	20	0.050	0.018
Chloroform	2.00	**1.95**	98	86-118	--	20	0.050	0.0084
Chloromethane	2.00	**2.12**	106	73-123	--	20	0.050	0.020
Cyclohexane	2.00	**2.03**	102	79-122	--	20	0.25	0.024
1,2-Dibromo-3-chloropropane	2.00	**1.94**	97	51-132	--	20	0.25	0.026
Dibromochloromethane	2.00	**1.96**	98	72-119	--	20	0.050	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213661 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K08014

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,2-Dibromoethane		2.00	**1.98**	99	81-118	--	20	0.050	0.016
1,2-Dichlorobenzene		2.00	**2.03**	102	82-124	--	20	0.050	0.012
1,3-Dichlorobenzene		2.00	**2.04**	102	85-119	--	20	0.050	0.012
1,4-Dichlorobenzene		2.00	**1.93**	96	85-119	--	20	0.050	0.012
Dichlorodifluoromethane		2.00	**2.20**	110	68-135	--	20	0.050	0.011
1,1-Dichloroethane		2.00	**1.95**	97	81-121	--	20	0.050	0.011
1,2-Dichloroethane		2.00	**1.92**	96	82-119	--	20	0.050	0.011
1,1-Dichloroethene		2.00	**2.00**	100	80-121	--	20	0.050	0.010
cis-1,2-Dichloroethene		2.00	**1.98**	99	85-118	--	20	0.050	0.011
trans-1,2-Dichloroethene		2.00	**2.05**	103	85-117	--	20	0.050	0.012
1,2-Dichloropropane		2.00	**1.95**	97	80-122	--	20	0.050	0.014
cis-1,3-Dichloropropene		2.00	**1.98**	99	79-121	--	20	0.050	0.0095
trans-1,3-Dichloropropene		2.00	**1.95**	98	73-125	--	20	0.050	0.0094
Ethylbenzene		2.00	**2.05**	102	84-116	--	20	0.050	0.010
2-Hexanone		2.00	**2.09 J**	104	63-131	--	20	2.5	0.025
Isopropylbenzene		2.00	**2.09**	105	82-125	--	20	0.050	0.011
Methyl Acetate		2.00	**1.67**	83	75-123	--	20	0.25	0.032
Methyl tert-Butyl Ether		2.00	**1.84**	92	81-119	--	20	0.050	0.0095
Methylcyclohexane		2.00	**2.03**	101	77-125	--	20	0.25	0.018
Methylene Chloride		2.00	**1.97**	98	78-123	--	20	0.10	0.027
2-Butanone (MEK)		2.00	**1.91**	95	68-130	--	20	0.75	0.063
4-Methyl-2-pentanone (MIBK)		2.00	**2.05 J**	103	68-133	--	20	2.5	0.020
Naphthalene		2.00	**1.84**	92	53-133	--	20	0.25	0.014
Styrene		2.00	**2.13**	106	79-115	--	20	0.050	0.010
1,1,2,2-Tetrachloroethane		2.00	**1.88**	94	75-125	--	20	0.050	0.013
Tetrachloroethene		2.00	**2.00**	100	85-116	--	20	0.050	0.014
Toluene		2.00	**2.00**	100	86-120	--	20	0.050	0.011
1,2,4-Trichlorobenzene		2.00	**2.04**	102	66-133	--	20	0.050	0.0070
1,1,1-Trichloroethane		2.00	**1.98**	99	84-121	--	20	0.050	0.0069
1,1,2-Trichloroethane		2.00	**1.93**	96	85-120	--	20	0.050	0.016
Trichloroethene		2.00	**2.00**	100	83-125	--	20	0.050	0.011
Trichlorofluoromethane		2.00	**3.77**	**189**	82-123	--	20	0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		2.00	**1.99**	100	81-122	--	20	0.050	0.018
Vinyl Chloride		2.00	**2.04**	102	77-124	--	20	0.040	0.0084
Xylene (Total)		6.00	**6.22**	104	84-117	--	20	0.15	0.020

Laboratory Control Sample Analyzed: 11/07/2012 By: DLV
Unit: ug/L Analytical Batch: 2K08014

Surrogates:

Dibromofluoromethane	*100*	*75-123*

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213661 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: DLV
Unit: ug/L Analytical Batch: 2K08014

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Surrogates (Continued):									
1,2-Dichloroethane-d4				*96*	*83-116*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*81-117*				

Matrix Spike 1210568-07 S-17360-102512-DD-106 Analyzed: 11/08/2012 By: DLV
Unit: mg/kg dry Analytical Batch: 2K08014

Acetone	0.83 U	2.20	**1.21**	**55**	56-144	--	18	0.83	0.060
Benzene	0.055 U	2.20	**2.16**	98	85-125	--	9	0.055	0.0078
Bromodichloromethane	0.055 U	2.20	**2.07**	94	78-124	--	9	0.055	0.0074
Bromoform	0.055 U	2.20	**1.98**	90	75-118	--	11	0.055	0.014
Bromomethane	0.055 U	2.20	**2.79**	127	70-135	--	24	0.055	0.024
Carbon Disulfide	0.28 U	2.20	**2.45**	**111**	45-108	--	21	0.28	0.013
Carbon Tetrachloride	0.055 U	2.20	**2.16**	98	71-130	--	14	0.055	0.019
Chlorobenzene	0.055 U	2.20	**2.15**	98	86-118	--	11	0.055	0.0092
Chloroethane	0.055 U	2.20	**3.12**	**142**	32-136	--	21	0.055	0.019
Chloroform	0.055 U	2.20	**2.08**	94	86-126	--	7	0.055	0.0092
Chloromethane	0.055 U	2.20	**2.27**	103	70-142	--	15	0.055	0.021
Cyclohexane	0.28 U	2.20	**2.21**	100	72-135	--	11	0.28	0.026
1,2-Dibromo-3-chloropropane	0.28 U	2.20	**1.70**	77	69-125	--	11	0.28	0.028
Dibromochloromethane	0.055 U	2.20	**2.05**	93	57-121	--	12	0.055	0.0084
1,2-Dibromoethane	0.055 U	2.20	**2.01**	91	72-124	--	11	0.055	0.018
1,2-Dichlorobenzene	0.055 U	2.20	**2.16**	98	85-121	--	10	0.055	0.013
1,3-Dichlorobenzene	0.055 U	2.20	**2.21**	101	86-116	--	8	0.055	0.013
1,4-Dichlorobenzene	0.055 U	2.20	**2.10**	95	87-115	--	9	0.055	0.014
Dichlorodifluoromethane	0.055 U	2.20	**2.34**	106	65-133	--	12	0.055	0.012
1,1-Dichloroethane	0.055 U	2.20	**2.07**	94	85-127	--	9	0.055	0.012
1,2-Dichloroethane	0.055 U	2.20	**1.99**	91	82-125	--	8	0.055	0.012
1,1-Dichloroethene	0.055 U	2.20	**2.14**	97	81-135	--	11	0.055	0.012
cis-1,2-Dichloroethene	0.055 U	2.20	**2.12**	96	88-125	--	9	0.055	0.012
trans-1,2-Dichloroethene	0.055 U	2.20	**2.13**	97	81-135	--	10	0.055	0.013
1,2-Dichloropropane	0.055 U	2.20	**2.12**	96	78-132	--	11	0.055	0.015
cis-1,3-Dichloropropene	0.055 U	2.20	**2.19**	100	70-124	--	10	0.055	0.010
trans-1,3-Dichloropropene	0.055 U	2.20	**2.10**	96	63-122	--	9	0.055	0.010
Ethylbenzene	0.109	2.20	**2.37**	103	80-122	--	10	0.055	0.011
2-Hexanone	2.8 U	2.20	**1.87 J**	85	49-135	--	16	2.8	0.027

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213661 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B									
Matrix Spike (Continued) 1210568-07 S-17360-102512-DD-106					Analyzed:		11/08/2012	By: DLV	
Unit: mg/kg dry					Analytical Batch:		2K08014		
Isopropylbenzene	0.055 U	2.20	**2.33**	106	84-120	--	9	0.055	0.012
Methyl Acetate	0.28 U	2.20	**1.31**	59	57-133	--	17	0.28	0.035
Methyl tert-Butyl Ether	0.055 U	2.20	**1.81**	82	63-134	--	11	0.055	0.010
Methylcyclohexane	0.0221 J	2.20	**2.30**	104	68-134	--	15	0.28	0.020
Methylene Chloride	0.0685 J	2.20	**2.21**	97	78-139	--	9	0.11	0.029
2-Butanone (MEK)	0.83 U	2.20	**1.50**	68	49-152	--	16	0.83	0.070
4-Methyl-2-pentanone (MIBK)	2.8 U	2.20	**1.86 J**	84	60-134	--	17	2.8	0.022
Naphthalene	0.277	2.20	**1.73**	**66**	67-119	--	15	0.28	0.016
Styrene	0.055 U	2.20	**2.32**	105	80-117	--	10	0.055	0.011
1,1,2,2-Tetrachloroethane	0.055 U	2.20	**1.66**	76	64-122	--	14	0.055	0.014
Tetrachloroethene	0.055 U	2.20	**2.24**	102	74-130	--	11	0.055	0.015
Toluene	0.0189	2.20	**2.22**	100	81-128	--	10	0.055	0.012
1,2,4-Trichlorobenzene	0.055 U	2.20	**2.03**	92	76-131	--	11	0.055	0.0077
1,1,1-Trichloroethane	0.055 U	2.20	**2.11**	96	84-126	--	9	0.055	0.0076
1,1,2-Trichloroethane	0.055 U	2.20	**2.00**	91	81-124	--	8	0.055	0.017
Trichloroethene	0.0129	2.20	**2.37**	107	90-130	--	12	0.055	0.012
Trichlorofluoromethane	0.0189	2.20	**3.93**	**178**	50-155	--	13	0.055	0.015
1,1,2-Trichloro-1,2,2-trifluoroethane	0.055 U	2.20	**2.14**	97	69-130	--	13	0.055	0.020
Vinyl Chloride	0.044 U	2.20	**2.19**	100	63-148	--	11	0.044	0.0092
Xylene (Total)	0.517	6.60	**7.33**	103	80-123	--	10	0.17	0.022
Matrix Spike 1210568-07 S-17360-102512-DD-106					Analyzed:		11/08/2012	By: DLV	
Unit: ug/L					Analytical Batch:		2K08014		
Surrogates:									
Dibromofluoromethane				*98*	*75-123*				
1,2-Dichloroethane-d4				*93*	*83-116*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*100*	*81-117*				
Matrix Spike Duplicate 1210568-07 S-17360-102512-DD-106					Analyzed:		11/08/2012	By: DLV	
Unit: mg/kg dry					Analytical Batch:		2K08014		
Acetone	0.83 U	2.20	**1.60**	73	56-144	**28**	18	0.83	0.060
Benzene	0.055 U	2.20	**2.27**	103	85-125	5	9	0.055	0.0078
Bromodichloromethane	0.055 U	2.20	**2.20**	100	78-124	6	9	0.055	0.0074
Bromoform	0.055 U	2.20	**2.17**	99	75-118	9	11	0.055	0.014
Bromomethane	0.055 U	2.20	**2.71**	123	70-135	3	24	0.055	0.024
Carbon Disulfide	0.28 U	2.20	**2.61**	**119**	45-108	6	21	0.28	0.013

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213661 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Matrix Spike Duplicate (Continued) 1210568-07 S-17360-102512-DD-106 Analyzed: 11/08/2012 By: DLV

Unit: mg/kg dry Analytical Batch: 2K08014

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Carbon Tetrachloride	0.055 U	2.20	**2.25**	102	71-130	4	14	0.055	0.019
Chlorobenzene	0.055 U	2.20	**2.26**	103	86-118	5	11	0.055	0.0092
Chloroethane	0.055 U	2.20	**2.89**	131	32-136	8	21	0.055	0.019
Chloroform	0.055 U	2.20	**2.20**	100	86-126	6	7	0.055	0.0092
Chloromethane	0.055 U	2.20	**2.49**	113	70-142	9	15	0.055	0.021
Cyclohexane	0.28 U	2.20	**2.33**	106	72-135	5	11	0.28	0.026
1,2-Dibromo-3-chloropropane	0.28 U	2.20	**2.07**	94	69-125	**20**	11	0.28	0.028
Dibromochloromethane	0.055 U	2.20	**2.20**	100	57-121	7	12	0.055	0.0084
1,2-Dibromoethane	0.055 U	2.20	**2.21**	100	72-124	9	11	0.055	0.018
1,2-Dichlorobenzene	0.055 U	2.20	**2.36**	107	85-121	9	10	0.055	0.013
1,3-Dichlorobenzene	0.055 U	2.20	**2.37**	108	86-116	7	8	0.055	0.013
1,4-Dichlorobenzene	0.055 U	2.20	**2.25**	102	87-115	7	9	0.055	0.014
Dichlorodifluoromethane	0.055 U	2.20	**2.54**	116	65-133	9	12	0.055	0.012
1,1-Dichloroethane	0.055 U	2.20	**2.21**	100	85-127	7	9	0.055	0.012
1,2-Dichloroethane	0.055 U	2.20	**2.14**	97	82-125	7	8	0.055	0.012
1,1-Dichloroethene	0.055 U	2.20	**2.28**	104	81-135	6	11	0.055	0.012
cis-1,2-Dichloroethene	0.055 U	2.20	**2.25**	102	88-125	6	9	0.055	0.012
trans-1,2-Dichloroethene	0.055 U	2.20	**2.25**	102	81-135	5	10	0.055	0.013
1,2-Dichloropropane	0.055 U	2.20	**2.25**	102	78-132	6	11	0.055	0.015
cis-1,3-Dichloropropene	0.055 U	2.20	**2.33**	106	70-124	6	10	0.055	0.010
trans-1,3-Dichloropropene	0.055 U	2.20	**2.25**	102	63-122	7	9	0.055	0.010
Ethylbenzene	0.109	2.20	**2.47**	107	80-122	4	10	0.055	0.011
2-Hexanone	2.8 U	2.20	**2.20 J**	100	49-135	16	16	2.8	0.027
Isopropylbenzene	0.055 U	2.20	**2.47**	112	84-120	6	9	0.055	0.012
Methyl Acetate	0.28 U	2.20	**1.78**	81	57-133	**31**	17	0.28	0.035
Methyl tert-Butyl Ether	0.055 U	2.20	**2.09**	95	63-134	**15**	11	0.055	0.010
Methylcyclohexane	0.0221 J	2.20	**2.44**	110	68-134	6	15	0.28	0.020
Methylene Chloride	0.0685 J	2.20	**2.40**	106	78-139	8	9	0.11	0.029
2-Butanone (MEK)	0.83 U	2.20	**1.80**	82	49-152	**18**	16	0.83	0.070
4-Methyl-2-pentanone (MIBK)	2.8 U	2.20	**2.16 J**	98	60-134	15	17	2.8	0.022
Naphthalene	0.277	2.20	**2.26**	90	67-119	**27**	15	0.28	0.016
Styrene	0.055 U	2.20	**2.44**	111	80-117	5	10	0.055	0.011
1,1,2,2-Tetrachloroethane	0.055 U	2.20	**1.74**	79	64-122	5	14	0.055	0.014
Tetrachloroethene	0.055 U	2.20	**2.32**	105	74-130	4	11	0.055	0.015
Toluene	0.0189	2.20	**2.31**	104	81-128	4	10	0.055	0.012
1,2,4-Trichlorobenzene	0.055 U	2.20	**2.41**	109	76-131	**17**	11	0.055	0.0077

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213661 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Matrix Spike Duplicate (Continued) 1210568-07 S-17360-102512-DD-106 Analyzed: 11/08/2012 By: DLV
Unit: mg/kg dry Analytical Batch: 2K08014

1,1,1-Trichloroethane	0.055 U	2.20	**2.23**	102	84-126	5	9	0.055	0.0076
1,1,2-Trichloroethane	0.055 U	2.20	**2.16**	98	81-124	8	8	0.055	0.017
Trichloroethene	0.0129	2.20	**2.59**	117	90-130	9	12	0.055	0.012
Trichlorofluoromethane	0.0189	2.20	**3.69**	**167**	50-155	6	13	0.055	0.015
1,1,2-Trichloro-1,2,2-trifluoroethane	0.055 U	2.20	**2.29**	104	69-130	7	13	0.055	0.020
Vinyl Chloride	0.044 U	2.20	**2.40**	109	63-148	9	11	0.044	0.0092
Xylene (Total)	0.517	6.60	**7.64**	108	80-123	4	10	0.17	0.022

Matrix Spike Duplicate 1210568-07 S-17360-102512-DD-106 Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K08014

Surrogates:

Dibromofluoromethane	*98*	*75-123*
1,2-Dichloroethane-d4	*95*	*83-116*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*99*	*81-117*

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Acenaphthene	0.50 U			0.50
Acenaphthylene	0.50 U			0.50
Acetophenone	0.50 U			0.50
Anthracene	0.50 U			0.50
Atrazine	0.50 U			0.50
Benzaldehyde	0.50 U			0.50
Benzo(a)anthracene	0.50 U		--	0.50
Benzo(a)pyrene	0.50 U		--	0.50
Benzo(b)fluoranthene	0.50 U			0.50
Benzo(k)fluoranthene	0.50 U		--	0.50
Benzo(g,h,i)perylene	0.50 U			0.50
1,1'-Biphenyl	0.50 U			0.50
4-Bromophenyl Phenyl Ether	0.50 U			0.50
Butyl Benzyl Phthalate	1.0 U		--	1.0
Caprolactam	1.0 U			1.0
Carbazole	0.50 U			0.50
4-Chloro-3-methylphenol	0.50 U			0.50
4-Chloroaniline	1.0 U			1.0
Bis(2-chloroethoxy)methane	0.50 U			0.50
Bis(2-chloroethyl) Ether	0.50 U			0.50
Bis(2-chloroisopropyl) Ether	0.50 U		--	0.50
2-Chloronaphthalene	0.50 U			0.50
2-Chlorophenol	0.50 U			0.50
4-Chlorophenyl Phenyl Ether	0.50 U			0.50
Chrysene	0.50 U		--	0.50
Dibenz(a,h)anthracene	0.50 U			0.50
Dibenzofuran	0.50 U			0.50
Di-n-butyl Phthalate	1.0 U		--	1.0
3,3´-Dichlorobenzidine	1.0 U			1.0
2,4-Dichlorophenol	0.50 U			0.50
Diethyl Phthalate	0.50 U		--	0.50
2,4-Dimethylphenol	1.0 U			1.0
Dimethyl Phthalate	0.50 U			0.50
4,6-Dinitro-2-methylphenol	5.0 U			5.0
2,4-Dinitrophenol	5.0 U			5.0
2,4-Dinitrotoluene	0.50 U			0.50

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

2,6-Dinitrotoluene			0.50 U					0.50	
Di-n-octyl Phthalate			0.50 U					0.50	
Bis(2-ethylhexyl) Phthalate			0.50 U			--		0.50	
Fluoranthene			0.50 U					0.50	
Fluorene			0.50 U					0.50	
Hexachlorobenzene			0.50 U					0.50	
Hexachlorobutadiene			0.50 U					0.50	
Hexachlorocyclopentadiene			0.50 U					0.50	
Hexachloroethane			0.50 U					0.50	
Indeno(1,2,3-cd)pyrene			0.50 U					0.50	
Isophorone			0.50 U					0.50	
2-Methylnaphthalene			0.50 U					0.50	
2-Methylphenol			0.50 U					0.50	
4-Methylphenol			0.50 U					0.50	
Naphthalene			0.50 U					0.50	
2-Nitroaniline			0.50 U					0.50	
3-Nitroaniline			1.0 U					1.0	
4-Nitroaniline			1.0 U					1.0	
Nitrobenzene			0.50 U					0.50	
4-Nitrophenol			5.0 U					5.0	
2-Nitrophenol			0.50 U					0.50	
N-Nitroso-diphenylamine			0.50 U					0.50	
N-Nitroso-di-n-propylamine			0.50 U					0.50	
Pentachlorophenol			0.50 U					0.50	
Phenanthrene			0.50 U					0.50	
Phenol			0.50 U					0.50	
Pyrene			0.50 U					0.50	
2,4,6-Trichlorophenol			0.50 U					0.50	
2,4,5-Trichlorophenol			0.50 U					0.50	
Surrogates:									
2-Fluorophenol				*43*	*20-70*				
Phenol-d6				*29*	*18-45*				
Nitrobenzene-d5				*71*	*31-123*				
2-Fluorobiphenyl				*73*	*25-113*				
2,4,6-Tribromophenol				*71*	*30-121*				
o-Terphenyl				*81*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**6.85**	68	53-126	--	20	0.50	
Acenaphthylene		10.0	**6.76**	68	62-133	--	20	0.50	
Acetophenone		10.0	**4.66**	**47**	58-115	--	20	0.50	
Anthracene		10.0	**7.00**	70	64-130	--	20	0.50	
Atrazine		10.0	**8.40**	84	60-140	--	20	0.50	
Benzaldehyde		10.0	**0.250 J**	**2**	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.83**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.26**	73	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.83**	78	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**6.70**	67	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**8.11**	81	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**6.98**	70	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**7.53**	75	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**8.64**	86	58-141	--	20	1.0	
Caprolactam		10.0	**6.99**	70	23-76	--	20	1.0	
Carbazole		10.0	**7.54**	75	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**6.78**	68	53-120	--	20	0.50	
4-Chloroaniline		10.0	**1.41**	**14**	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**5.69**	57	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**6.18**	62	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**5.91**	59	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.05**	70	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.30**	63	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**6.92**	69	57-122	--	20	0.50	
Chrysene		10.0	**7.37**	74	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**8.35**	84	57-130	--	20	0.50	
Dibenzofuran		10.0	**6.97**	70	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.21**	82	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**7.96**	**40**	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**6.51**	65	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.72**	77	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.91**	59	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.61**	76	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**7.10**	71	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**7.59**	76	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**7.52**	75	55-131	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**7.08**	71	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.61**	86	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**9.06**	91	60-136	--	20	0.50	
Fluoranthene		10.0	**8.00**	80	64-138	--	20	0.50	
Fluorene		10.0	**6.96**	70	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**7.24**	72	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**7.16**	72	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**5.92**	59	21-138	--	20	0.50	
Hexachloroethane		10.0	**6.56**	66	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**8.21**	82	57-129	--	20	0.50	
Isophorone		10.0	**6.09**	61	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**6.73**	67	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.73**	57	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.88**	59	33-122	--	20	0.50	
Naphthalene		10.0	**6.80**	68	50-127	--	20	0.50	
2-Nitroaniline		10.0	**7.08**	71	57-130	--	20	0.50	
3-Nitroaniline		10.0	**3.64**	**36**	49-144	--	20	1.0	
4-Nitroaniline		10.0	**5.54**	55	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.47**	65	53-121	--	20	0.50	
4-Nitrophenol		10.0	**6.41**	64	17-70	--	20	5.0	
2-Nitrophenol		10.0	**6.21**	62	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.66**	77	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**6.20**	62	49-125	--	20	0.50	
Pentachlorophenol		10.0	**5.41**	54	21-124	--	20	0.50	
Phenanthrene		10.0	**7.38**	74	63-126	--	20	0.50	
Phenol		10.0	**5.94**	59	22-60	--	20	0.50	
Pyrene		10.0	**7.99**	80	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.77**	68	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.58**	76	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*58*	*20-70*				
Phenol-d6				***55***	*18-45*				
Nitrobenzene-d5				*63*	*31-123*				
2-Fluorobiphenyl				*69*	*25-113*				
2,4,6-Tribromophenol				*74*	*30-121*				
o-Terphenyl				*76*	*42-125*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.50 U	10.0	**8.08**	81	46-120	--	12	0.50	
Acenaphthylene	0.50 U	10.0	**7.74**	77	50-133	--	14	0.50	
Acetophenone	0.50 U	10.0	**7.51**	75	51-117	--	13	0.50	
Anthracene	0.160 J	10.0	**6.72**	66	56-128	--	12	0.50	
Atrazine	0.50 U	10.0	**1.60**	**16**	53-134	--	40	0.50	
Benzaldehyde	0.50 U	10.0	**6.45**	64	50-150	--	40	0.50	
*Benzo(a)anthracene	0.240 J	10.0	**9.03**	88	54-130	--	12	0.50	
*Benzo(a)pyrene	0.50 U	10.0	**8.00**	80	51-135	--	14	0.50	
*Benzo(b)fluoranthene	0.230 J	10.0	**9.09**	89	47-138	--	21	0.50	
*Benzo(k)fluoranthene	0.140 J	10.0	**8.55**	84	49-136	--	16	0.50	
*Benzo(g,h,i)perylene	0.50 U	10.0	**6.58**	66	47-127	--	13	0.50	
1,1'-Biphenyl	0.50 U	10.0	**8.89**	89	47-116	--	40	0.50	
4-Bromophenyl Phenyl Ether	0.50 U	10.0	**8.13**	81	48-130	--	11	0.50	
*Butyl Benzyl Phthalate	1.0 U	10.0	**10.5**	105	44-149	--	15	1.0	
Caprolactam	1.0 U	10.0	**1.30**	**13**	50-150	--	40	1.0	
*Carbazole	0.50 U	10.0	**9.02**	90	57-143	--	16	0.50	
4-Chloro-3-methylphenol	0.50 U	10.0	**7.71**	77	46-120	--	13	0.50	
4-Chloroaniline	1.0 U	10.0	1.0 U	**0**	37-125	--	16	1.0	
Bis(2-chloroethoxy)methane	0.50 U	10.0	**6.71**	67	45-123	--	16	0.50	
Bis(2-chloroethyl) Ether	0.50 U	10.0	**7.33**	73	40-117	--	16	0.50	
Bis(2-chloroisopropyl) Ether	0.50 U	10.0	**7.22**	72	46-121	--	12	0.50	
2-Chloronaphthalene	0.50 U	10.0	**18.2**	**182**	48-125	--	12	0.50	
2-Chlorophenol	0.50 U	10.0	**7.31**	73	36-115	--	17	0.50	
4-Chlorophenyl Phenyl Ether	0.50 U	10.0	**7.79**	78	48-122	--	13	0.50	
*Chrysene	0.190 J	10.0	**8.10**	79	55-134	--	18	0.50	
*Dibenz(a,h)anthracene	0.50 U	10.0	**7.28**	73	49-131	--	10	0.50	
Dibenzofuran	0.50 U	10.0	**8.18**	82	49-126	--	11	0.50	
Di-n-butyl Phthalate	0.470 J	10.0	**6.75**	63	51-145	--	16	1.0	
*3,3´-Dichlorobenzidine	1.0 U	20.0	**0.340 J**	**2**	44-140	--	23	1.0	
2,4-Dichlorophenol	0.50 U	10.0	**8.19**	82	39-124	--	15	0.50	
Diethyl Phthalate	0.160 J	10.0	**5.30**	51	51-124	--	16	0.50	
2,4-Dimethylphenol	1.0 U	10.0	**3.87**	39	30-118	--	17	1.0	
Dimethyl Phthalate	0.50 U	10.0	**5.39**	54	51-130	--	12	0.50	
*4,6-Dinitro-2-methylphenol	5.0 U	10.0	**7.53**	75	30-132	--	31	5.0	
2,4-Dinitrophenol	5.0 U	10.0	**3.15 J**	32	24-114	--	40	5.0	
2,4-Dinitrotoluene	0.50 U	10.0	**5.18**	52	44-129	--	15	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike (Continued) 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	0.50 U	10.0	**7.90**	79	45-128	--	11	0.50	
*Di-n-octyl Phthalate	0.50 U	10.0	**10.3**	103	51-138	--	11	0.50	
*Bis(2-ethylhexyl) Phthalate	0.670	10.0	**12.8**	121	50-144	--	16	0.50	
Fluoranthene	0.270 J	10.0	**5.07**	48	45-148	--	22	0.50	
Fluorene	0.50 U	10.0	**7.81**	78	50-128	--	13	0.50	
Hexachlorobenzene	0.50 U	10.0	**10.8**	108	39-140	--	14	0.50	
Hexachlorobutadiene	0.50 U	10.0	**8.12**	81	31-129	--	14	0.50	
Hexachlorocyclopentadiene	0.50 U	10.0	**7.63**	76	16-120	--	22	0.50	
Hexachloroethane	0.50 U	10.0	**7.67**	77	33-123	--	15	0.50	
*Indeno(1,2,3-cd)pyrene	0.0800 J	10.0	**6.95**	69	53-125	--	14	0.50	
Isophorone	0.50 U	10.0	**7.37**	74	50-126	--	18	0.50	
2-Methylnaphthalene	0.50 U	10.0	**8.05**	80	50-136	--	15	0.50	
2-Methylphenol	0.50 U	10.0	**4.47**	45	35-97	--	13	0.50	
4-Methylphenol	0.50 U	10.0	**5.15**	52	25-112	--	16	0.50	
Naphthalene	0.0400 J	10.0	**9.31**	93	39-124	--	15	0.50	
2-Nitroaniline	0.50 U	10.0	**2.21**	**22**	42-131	--	21	0.50	
3-Nitroaniline	1.0 U	10.0	**0.510 J**	**5**	38-139	--	27	1.0	
4-Nitroaniline	1.0 U	10.0	**0.540 J**	**5**	27-143	--	21	1.0	
Nitrobenzene	0.50 U	10.0	**9.24**	92	41-129	--	16	0.50	
4-Nitrophenol	5.0 U	10.0	5.0 U	**0**	18-61	--	30	5.0	
2-Nitrophenol	0.50 U	10.0	**8.17**	82	35-127	--	17	0.50	
*N-Nitroso-diphenylamine	0.50 U	10.0	**7.91**	79	44-100	--	13	0.50	
N-Nitroso-di-n-propylamine	0.50 U	10.0	**7.52**	75	43-124	--	15	0.50	
*Pentachlorophenol	0.50 U	10.0	**6.42**	64	36-120	--	25	0.50	
Phenanthrene	0.200 J	10.0	**8.46**	83	53-128	--	13	0.50	
Phenol	0.50 U	10.0	**3.09**	31	22-52	--	19	0.50	
*Pyrene	0.470 J	10.0	**11.0**	106	55-134	--	16	0.50	
2,4,6-Trichlorophenol	0.50 U	10.0	**12.9**	**129**	42-124	--	17	0.50	
2,4,5-Trichlorophenol	0.50 U	10.0	**5.65**	56	50-120	--	16	0.50	
Surrogates:									
2-Fluorophenol				*35*	*20-70*				
Phenol-d6				*27*	*18-45*				
Nitrobenzene-d5				*74*	*31-123*				
2-Fluorobiphenyl				*75*	*25-113*				
**2,4,6-Tribromophenol*				*101*	*30-121*				
o-Terphenyl				*66*	*42-125*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike 1210568-06RE1 GW-173690-102512-DD-105 Analyzed: 11/13/2012 By: JLB

Unit: ug/L Analytical Batch: 2K19060

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	2.5 U	10.0	**9.50**	95	46-120	--	12	2.5	
Acenaphthylene	2.5 U	10.0	**8.75**	88	50-133	--	14	2.5	
Acetophenone	2.5 U	10.0	**7.20**	72	51-117	--	13	2.5	
Anthracene	0.250 J	10.0	**9.15**	89	56-128	--	12	2.5	
Atrazine	2.5 U	10.0	**5.15**	**52**	53-134	--	40	2.5	
Benzaldehyde	2.5 U	10.0	**5.85**	58	50-150	--	40	2.5	
Benzo(a)anthracene	0.350 J	10.0	**9.80**	94	54-130	--	12	2.5	
Benzo(a)pyrene	2.5 U	10.0	**8.60**	86	51-135	--	14	2.5	
Benzo(b)fluoranthene	2.5 U	10.0	**9.90**	99	47-138	--	21	2.5	
Benzo(k)fluoranthene	2.5 U	10.0	**10.0**	100	49-136	--	16	2.5	
Benzo(g,h,i)perylene	2.5 U	10.0	**9.15**	92	47-127	--	13	2.5	
1,1'-Biphenyl	2.5 U	10.0	**10.0**	100	47-116	--	40	2.5	
4-Bromophenyl Phenyl Ether	2.5 U	10.0	**10.2**	102	48-130	--	11	2.5	
Butyl Benzyl Phthalate	5.0 U	10.0	**11.6**	116	44-149	--	15	5.0	
Caprolactam	5.0 U	10.0	5.0 U	**0**	50-150	--	40	5.0	
*Carbazole	2.5 U	10.0	**8.50**	85	57-143	--	16	2.5	
4-Chloro-3-methylphenol	2.5 U	10.0	**7.95**	80	46-120	--	13	2.5	
4-Chloroaniline	5.0 U	10.0	5.0 U	**0**	37-125	--	16	5.0	
Bis(2-chloroethoxy)methane	2.5 U	10.0	**6.20**	62	45-123	--	16	2.5	
Bis(2-chloroethyl) Ether	2.5 U	10.0	**7.65**	76	40-117	--	16	2.5	
Bis(2-chloroisopropyl) Ether	2.5 U	10.0	**9.25**	92	46-121	--	12	2.5	
2-Chloronaphthalene	2.5 U	10.0	**7.65**	76	48-125	--	12	2.5	
2-Chlorophenol	2.5 U	10.0	**7.10**	71	36-115	--	17	2.5	
4-Chlorophenyl Phenyl Ether	2.5 U	10.0	**9.05**	90	48-122	--	13	2.5	
Chrysene	0.300 J	10.0	**10.8**	104	55-134	--	18	2.5	
Dibenz(a,h)anthracene	2.5 U	10.0	**9.25**	92	49-131	--	10	2.5	
Dibenzofuran	2.5 U	10.0	**9.10**	91	49-126	--	11	2.5	
Di-n-butyl Phthalate	5.0 U	10.0	**8.90**	89	51-145	--	16	5.0	
3,3´-Dichlorobenzidine	5.0 U	20.0	5.0 U	**0**	44-140	--	23	5.0	
2,4-Dichlorophenol	2.5 U	10.0	**6.00**	60	39-124	--	15	2.5	
Diethyl Phthalate	3.65	10.0	**12.0**	84	51-124	--	16	2.5	
2,4-Dimethylphenol	5.0 U	10.0	**3.20 J**	32	30-118	--	17	5.0	
Dimethyl Phthalate	2.5 U	10.0	**9.85**	98	51-130	--	12	2.5	
4,6-Dinitro-2-methylphenol	25 U	10.0	**9.20 J**	92	30-132	--	31	25	
2,4-Dinitrophenol	25 U	10.0	**14.4 J**	**144**	24-114	--	40	25	
2,4-Dinitrotoluene	2.5 U	10.0	**5.90**	59	44-129	--	15	2.5	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike (Continued) 1210568-06RE1 GW-173690-102512-DD-105 Analyzed: 11/13/2012 By: JLB

Unit: ug/L Analytical Batch: 2K19060

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	2.5 U	10.0	**9.15**	92	45-128	--	11	2.5	
Di-n-octyl Phthalate	2.5 U	10.0	**13.1**	131	51-138	--	11	2.5	
Bis(2-ethylhexyl) Phthalate	2.5 U	10.0	**14.4**	144	50-144	--	16	2.5	
Fluoranthene	0.450 J	10.0	**6.70**	62	45-148	--	22	2.5	
Fluorene	2.5 U	10.0	**9.35**	94	50-128	--	13	2.5	
Hexachlorobenzene	2.5 U	10.0	**10.5**	105	39-140	--	14	2.5	
Hexachlorobutadiene	2.5 U	10.0	**10.4**	104	31-129	--	14	2.5	
Hexachlorocyclopentadiene	2.5 U	10.0	**6.70**	67	16-120	--	22	2.5	
Hexachloroethane	2.5 U	10.0	**10.3**	103	33-123	--	15	2.5	
Indeno(1,2,3-cd)pyrene	0.200 J	10.0	**8.60**	84	53-125	--	14	2.5	
Isophorone	2.5 U	10.0	**9.50**	95	50-126	--	18	2.5	
2-Methylnaphthalene	2.5 U	10.0	**9.10**	91	50-136	--	15	2.5	
2-Methylphenol	2.5 U	10.0	**5.40**	54	35-97	--	13	2.5	
4-Methylphenol	2.5 U	10.0	**3.35**	34	25-112	--	16	2.5	
Naphthalene	2.5 U	10.0	**11.0**	110	39-124	--	15	2.5	
2-Nitroaniline	2.5 U	10.0	**5.55**	56	42-131	--	21	2.5	
3-Nitroaniline	5.0 U	10.0	**2.75 J**	**28**	38-139	--	27	5.0	
4-Nitroaniline	5.0 U	10.0	**2.60 J**	**26**	27-143	--	21	5.0	
Nitrobenzene	2.5 U	10.0	**9.45**	94	41-129	--	16	2.5	
4-Nitrophenol	25 U	10.0	25 U	**0**	18-61	--	30	25	
2-Nitrophenol	2.5 U	10.0	**8.85**	88	35-127	--	17	2.5	
N-Nitroso-diphenylamine	2.5 U	10.0	**9.35**	94	44-100	--	13	2.5	
N-Nitroso-di-n-propylamine	2.5 U	10.0	**9.05**	90	43-124	--	15	2.5	
Pentachlorophenol	2.5 U	10.0	**8.25**	82	36-120	--	25	2.5	
Phenanthrene	0.200 J	10.0	**11.6**	114	53-128	--	13	2.5	
Phenol	2.5 U	10.0	**1.75 J**	**18**	22-52	--	19	2.5	
Pyrene	0.600 J	10.0	**10.2**	96	55-134	--	16	2.5	
2,4,6-Trichlorophenol	2.5 U	10.0	**7.90**	79	42-124	--	17	2.5	
2,4,5-Trichlorophenol	2.5 U	10.0	**9.25**	92	50-120	--	16	2.5	
Surrogates:									
2-Fluorophenol				*34*	*20-70*				
Phenol-d6				***12***	*18-45*				
Nitrobenzene-d5				*74*	*31-123*				
2-Fluorobiphenyl				*82*	*25-113*				
2,4,6-Tribromophenol				*78*	*30-121*				
o-Terphenyl				*93*	*42-125*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.50 U	10.0	**8.03**	80	46-120	0.6	12	0.50	
Acenaphthylene	0.50 U	10.0	**7.24**	72	50-133	7	14	0.50	
Acetophenone	0.50 U	10.0	**6.90**	69	51-117	8	13	0.50	
Anthracene	0.160 J	10.0	**6.64**	65	56-128	1	12	0.50	
Atrazine	0.50 U	10.0	**0.170 J**	**2**	53-134	**162**	40	0.50	
Benzaldehyde	0.50 U	10.0	**6.16**	62	50-150	5	40	0.50	
*Benzo(a)anthracene	0.240 J	10.0	**8.29**	80	54-130	9	12	0.50	
*Benzo(a)pyrene	0.50 U	10.0	**7.55**	76	51-135	6	14	0.50	
*Benzo(b)fluoranthene	0.230 J	10.0	**10.0**	98	47-138	10	21	0.50	
*Benzo(k)fluoranthene	0.140 J	10.0	**7.64**	75	49-136	11	16	0.50	
*Benzo(g,h,i)perylene	0.50 U	10.0	**6.54**	65	47-127	0.6	13	0.50	
1,1'-Biphenyl	0.50 U	10.0	**9.17**	92	47-116	3	40	0.50	
4-Bromophenyl Phenyl Ether	0.50 U	10.0	**8.09**	81	48-130	0.5	11	0.50	
*Butyl Benzyl Phthalate	1.0 U	10.0	**9.93**	99	44-149	5	15	1.0	
Caprolactam	1.0 U	10.0	**1.08**	**11**	50-150	18	40	1.0	
*Carbazole	0.50 U	10.0	**5.62**	**56**	57-143	**46**	16	0.50	
4-Chloro-3-methylphenol	0.50 U	10.0	**8.01**	80	46-120	4	13	0.50	
4-Chloroaniline	1.0 U	10.0	**0.250 J**	**2**	37-125	--	16	1.0	
Bis(2-chloroethoxy)methane	0.50 U	10.0	**6.70**	67	45-123	0.1	16	0.50	
Bis(2-chloroethyl) Ether	0.50 U	10.0	**6.85**	68	40-117	7	16	0.50	
Bis(2-chloroisopropyl) Ether	0.50 U	10.0	**6.70**	67	46-121	7	12	0.50	
2-Chloronaphthalene	0.50 U	10.0	**17.5**	**175**	48-125	4	12	0.50	
2-Chlorophenol	0.50 U	10.0	**6.60**	66	36-115	10	17	0.50	
4-Chlorophenyl Phenyl Ether	0.50 U	10.0	**7.01**	70	48-122	11	13	0.50	
*Chrysene	0.190 J	10.0	**7.58**	74	55-134	7	18	0.50	
*Dibenz(a,h)anthracene	0.50 U	10.0	**7.18**	72	49-131	1	10	0.50	
Dibenzofuran	0.50 U	10.0	**8.05**	80	49-126	2	11	0.50	
Di-n-butyl Phthalate	0.470 J	10.0	**7.16**	67	51-145	6	16	1.0	
*3,3´-Dichlorobenzidine	1.0 U	20.0	**0.370 J**	**2**	44-140	8	23	1.0	
2,4-Dichlorophenol	0.50 U	10.0	**7.81**	78	39-124	5	15	0.50	
*Diethyl Phthalate	0.160 J	10.0	**5.72**	56	51-124	8	16	0.50	
2,4-Dimethylphenol	1.0 U	10.0	**3.47**	35	30-118	11	17	1.0	
Dimethyl Phthalate	0.50 U	10.0	**5.22**	52	51-130	3	12	0.50	
*4,6-Dinitro-2-methylphenol	5.0 U	10.0	**7.84**	78	30-132	4	31	5.0	
2,4-Dinitrophenol	5.0 U	10.0	**3.04 J**	30	24-114	4	40	5.0	
2,4-Dinitrotoluene	0.50 U	10.0	**4.62**	46	44-129	11	15	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate (Continued) 1210568-06 GW-173690-102512-DD-105 Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
*2,6-Dinitrotoluene	0.50 U	10.0	**8.94**	89	45-128	**12**	11	0.50	
*Di-n-octyl Phthalate	0.50 U	10.0	**9.88**	99	51-138	4	11	0.50	
*Bis(2-ethylhexyl) Phthalate	0.670	10.0	**12.0**	113	50-144	6	16	0.50	
Fluoranthene	0.270 J	10.0	**5.32**	50	45-148	5	22	0.50	
Fluorene	0.50 U	10.0	**7.14**	71	50-128	9	13	0.50	
Hexachlorobenzene	0.50 U	10.0	**10.6**	106	39-140	1	14	0.50	
Hexachlorobutadiene	0.50 U	10.0	**7.87**	79	31-129	3	14	0.50	
Hexachlorocyclopentadiene	0.50 U	10.0	**7.13**	71	16-120	7	22	0.50	
Hexachloroethane	0.50 U	10.0	**7.47**	75	33-123	3	15	0.50	
*Indeno(1,2,3-cd)pyrene	0.0800 J	10.0	**7.00**	69	53-125	0.7	14	0.50	
Isophorone	0.50 U	10.0	**6.81**	68	50-126	8	18	0.50	
2-Methylnaphthalene	0.50 U	10.0	**7.73**	77	50-136	4	15	0.50	
2-Methylphenol	0.50 U	10.0	**4.58**	46	35-97	2	13	0.50	
4-Methylphenol	0.50 U	10.0	**4.53**	45	25-112	13	16	0.50	
Naphthalene	0.0400 J	10.0	**9.35**	93	39-124	0.4	15	0.50	
2-Nitroaniline	0.50 U	10.0	**0.590**	**6**	42-131	**116**	21	0.50	
3-Nitroaniline	1.0 U	10.0	**0.600 J**	**6**	38-139	16	27	1.0	
4-Nitroaniline	1.0 U	10.0	**0.560 J**	**6**	27-143	4	21	1.0	
Nitrobenzene	0.50 U	10.0	**8.95**	90	41-129	3	16	0.50	
4-Nitrophenol	5.0 U	10.0	5.0 U	**0**	18-61	--	30	5.0	
2-Nitrophenol	0.50 U	10.0	**7.88**	79	35-127	4	17	0.50	
*N-Nitroso-diphenylamine	0.50 U	10.0	**6.82**	68	44-100	**15**	13	0.50	
N-Nitroso-di-n-propylamine	0.50 U	10.0	**7.11**	71	43-124	6	15	0.50	
*Pentachlorophenol	0.50 U	10.0	**5.98**	60	36-120	7	25	0.50	
Phenanthrene	0.200 J	10.0	**7.58**	74	53-128	11	13	0.50	
Phenol	0.50 U	10.0	**2.78**	28	22-52	11	19	0.50	
*Pyrene	0.470 J	10.0	**10.5**	100	55-134	5	16	0.50	
2,4,6-Trichlorophenol	0.50 U	10.0	**11.5**	115	42-124	11	17	0.50	
2,4,5-Trichlorophenol	0.50 U	10.0	**6.45**	64	50-120	13	16	0.50	
Surrogates:									
2-Fluorophenol				*33*	*20-70*				
Phenol-d6				*24*	*18-45*				
Nitrobenzene-d5				*75*	*31-123*				
2-Fluorobiphenyl				*74*	*25-113*				
**2,4,6-Tribromophenol*				*91*	*30-121*				
o-Terphenyl				*72*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate 1210568-06RE1 GW-173690-102512-DD-105 Analyzed: 11/13/2012 By: JLB

Unit: ug/L Analytical Batch: 2K19060

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	2.5 U	10.0	**9.00**	90	46-120	5	12	2.5	
Acenaphthylene	2.5 U	10.0	**8.10**	81	50-133	8	14	2.5	
Acetophenone	2.5 U	10.0	**5.50**	55	51-117	**27**	13	2.5	
Anthracene	0.250 J	10.0	**8.45**	82	56-128	8	12	2.5	
Atrazine	2.5 U	10.0	**4.90**	**49**	53-134	5	40	2.5	
Benzaldehyde	2.5 U	10.0	**4.90**	**49**	50-150	18	40	2.5	
Benzo(a)anthracene	0.350 J	10.0	**9.10**	88	54-130	7	12	2.5	
Benzo(a)pyrene	2.5 U	10.0	**7.30**	73	51-135	**16**	14	2.5	
Benzo(b)fluoranthene	2.5 U	10.0	**9.20**	92	47-138	7	21	2.5	
Benzo(k)fluoranthene	2.5 U	10.0	**9.85**	98	49-136	2	16	2.5	
Benzo(g,h,i)perylene	2.5 U	10.0	**8.25**	82	47-127	10	13	2.5	
1,1'-Biphenyl	2.5 U	10.0	**9.95**	100	47-116	1	40	2.5	
4-Bromophenyl Phenyl Ether	2.5 U	10.0	**8.30**	83	48-130	**20**	11	2.5	
Butyl Benzyl Phthalate	5.0 U	10.0	**11.6**	116	44-149	0	15	5.0	
Caprolactam	5.0 U	10.0	**2.75 J**	**28**	50-150	--	40	5.0	
Carbazole	2.5 U	10.0	**8.35**	84	57-143	2	16	2.5	
4-Chloro-3-methylphenol	2.5 U	10.0	**4.25**	**42**	46-120	**61**	13	2.5	
4-Chloroaniline	5.0 U	10.0	5.0 U	**0**	37-125	--	16	5.0	
Bis(2-chloroethoxy)methane	2.5 U	10.0	**5.90**	59	45-123	5	16	2.5	
Bis(2-chloroethyl) Ether	2.5 U	10.0	**5.25**	52	40-117	**37**	16	2.5	
Bis(2-chloroisopropyl) Ether	2.5 U	10.0	**8.85**	88	46-121	4	12	2.5	
2-Chloronaphthalene	2.5 U	10.0	**7.65**	76	48-125	0	12	2.5	
2-Chlorophenol	2.5 U	10.0	**6.55**	66	36-115	8	17	2.5	
4-Chlorophenyl Phenyl Ether	2.5 U	10.0	**8.95**	90	48-122	1	13	2.5	
Chrysene	0.300 J	10.0	**11.6**	112	55-134	7	18	2.5	
Dibenz(a,h)anthracene	2.5 U	10.0	**9.05**	90	49-131	2	10	2.5	
Dibenzofuran	2.5 U	10.0	**8.50**	85	49-126	7	11	2.5	
Di-n-butyl Phthalate	5.0 U	10.0	**8.20**	82	51-145	8	16	5.0	
3,3´-Dichlorobenzidine	5.0 U	20.0	5.0 U	**0**	44-140	--	23	5.0	
2,4-Dichlorophenol	2.5 U	10.0	**5.05**	50	39-124	**17**	15	2.5	
Diethyl Phthalate	3.65	10.0	**12.1**	84	51-124	0.4	16	2.5	
2,4-Dimethylphenol	5.0 U	10.0	**2.75 J**	**28**	30-118	15	17	5.0	
Dimethyl Phthalate	2.5 U	10.0	**9.60**	96	51-130	3	12	2.5	
4,6-Dinitro-2-methylphenol	25 U	10.0	**9.65 J**	96	30-132	5	31	25	
2,4-Dinitrophenol	25 U	10.0	**13.0 J**	**130**	24-114	11	40	25	
2,4-Dinitrotoluene	2.5 U	10.0	**6.15**	62	44-129	4	15	2.5	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate (Continued) 1210568-06RE1 GW-173690-102512-DD-1(Analyzed: 11/13/2012 By: JLB

Unit: ug/L Analytical Batch: 2K19060

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	2.5 U	10.0	**8.90**	89	45-128	3	11	2.5	
Di-n-octyl Phthalate	2.5 U	10.0	**13.0**	130	51-138	0.8	11	2.5	
Bis(2-ethylhexyl) Phthalate	2.5 U	10.0	**14.0**	140	50-144	2	16	2.5	
Fluoranthene	0.450 J	10.0	**9.45**	90	45-148	**34**	22	2.5	
Fluorene	2.5 U	10.0	**8.75**	88	50-128	7	13	2.5	
Hexachlorobenzene	2.5 U	10.0	**9.05**	90	39-140	**15**	14	2.5	
Hexachlorobutadiene	2.5 U	10.0	**9.95**	100	31-129	4	14	2.5	
Hexachlorocyclopentadiene	2.5 U	10.0	**6.50**	65	16-120	3	22	2.5	
Hexachloroethane	2.5 U	10.0	**9.90**	99	33-123	4	15	2.5	
Indeno(1,2,3-cd)pyrene	0.200 J	10.0	**8.80**	86	53-125	2	14	2.5	
Isophorone	2.5 U	10.0	**8.60**	86	50-126	10	18	2.5	
2-Methylnaphthalene	2.5 U	10.0	**8.85**	88	50-136	3	15	2.5	
2-Methylphenol	2.5 U	10.0	**3.80**	38	35-97	**35**	13	2.5	
4-Methylphenol	2.5 U	10.0	**2.95**	30	25-112	13	16	2.5	
Naphthalene	2.5 U	10.0	**10.4**	104	39-124	6	15	2.5	
2-Nitroaniline	2.5 U	10.0	**4.25**	42	42-131	**27**	21	2.5	
3-Nitroaniline	5.0 U	10.0	**2.95 J**	**30**	38-139	7	27	5.0	
4-Nitroaniline	5.0 U	10.0	**2.70 J**	27	27-143	4	21	5.0	
Nitrobenzene	2.5 U	10.0	**9.50**	95	41-129	0.5	16	2.5	
4-Nitrophenol	25 U	10.0	25 U	**0**	18-61	--	30	25	
2-Nitrophenol	2.5 U	10.0	**5.55**	56	35-127	**46**	17	2.5	
N-Nitroso-diphenylamine	2.5 U	10.0	**8.20**	82	44-100	13	13	2.5	
N-Nitroso-di-n-propylamine	2.5 U	10.0	**7.85**	78	43-124	14	15	2.5	
Pentachlorophenol	2.5 U	10.0	**5.85**	58	36-120	**34**	25	2.5	
Phenanthrene	0.200 J	10.0	**9.20**	90	53-128	**23**	13	2.5	
Phenol	2.5 U	10.0	**0.900 J**	**9**	22-52	**64**	19	2.5	
Pyrene	0.600 J	10.0	**10.2**	96	55-134	0.5	16	2.5	
2,4,6-Trichlorophenol	2.5 U	10.0	**6.95**	70	42-124	13	17	2.5	
2,4,5-Trichlorophenol	2.5 U	10.0	**6.95**	70	50-120	**28**	16	2.5	
Surrogates:									
2-Fluorophenol				*32*	*20-70*				
Phenol-d6				***7***	*18-45*				
Nitrobenzene-d5				*54*	*31-123*				
2-Fluorobiphenyl				*78*	*25-113*				
2,4,6-Tribromophenol				*62*	*30-121*				
o-Terphenyl				*83*	*42-125*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213430 3550C Sonication Extraction/USEPA-8270C

Method Blank — Analyzed: 11/08/2012 By: JLB
Unit: mg/kg wet — Analytical Batch: 2K11004

Acenaphthene	0.017 U			0.017	0.00079
Acenaphthylene	0.017 U			0.017	0.00082
Acetophenone	0.017 U			0.017	0.0099
Anthracene	**0.0014 J**		--	0.017	0.00086
Atrazine	0.017 U		--	0.017	0.0097
Benzaldehyde	0.067 U			0.067	0.0096
Benzo(a)anthracene	**0.0076 J**		--	0.017	0.0014
Benzo(a)pyrene	**0.0048 J**		--	0.017	0.00086
*Benzo(b)fluoranthene	**0.0080 J**		--	0.017	0.0017
*Benzo(k)fluoranthene	**0.0062 J**		--	0.017	0.0022
Benzo(g,h,i)perylene	**0.0059 J**		--	0.033	0.00082
1,1'-Biphenyl	0.017 U		--	0.017	0.011
4-Bromophenyl Phenyl Ether	0.017 U			0.017	0.00094
Butyl Benzyl Phthalate	**0.0062 J**		--	0.033	0.0017
Caprolactam	0.067 U		--	0.067	0.011
Carbazole	0.17 U		--	0.17	0.0089
4-Chloro-3-methylphenol	0.017 U			0.017	0.0038
4-Chloroaniline	0.067 U			0.067	0.0088
Bis(2-chloroethoxy)methane	0.017 U			0.017	0.0011
Bis(2-chloroethyl) Ether	0.017 U			0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.017 U		--	0.017	0.0027
2-Chloronaphthalene	0.017 U			0.017	0.0026
2-Chlorophenol	0.017 U			0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.017 U			0.017	0.00072
Chrysene	**0.0087 J**		--	0.017	0.00086
Dibenz(a,h)anthracene	**0.0045 J**		--	0.033	0.0013
Dibenzofuran	0.017 U			0.017	0.00082
Di-n-butyl Phthalate	**0.015 J**		--	0.067	0.014
3,3´-Dichlorobenzidine	0.83 U			0.83	0.032
2,4-Dichlorophenol	0.033 U			0.033	0.0015
Diethyl Phthalate	**0.0045 J**		--	0.017	0.0024
2,4-Dimethylphenol	0.17 U			0.17	0.030
Dimethyl Phthalate	0.017 U		--	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.17 U			0.17	0.0055
2,4-Dinitrophenol	0.17 U			0.17	0.038
2,4-Dinitrotoluene	0.033 U			0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213430 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/08/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K11004

2,6-Dinitrotoluene	0.017 U			0.017	0.0016
Di-n-octyl Phthalate	**0.0066 J**		--	0.017	0.0011
Bis(2-ethylhexyl) Phthalate	**0.018 J**		--	0.033	0.0041
Fluoranthene	**0.0069 J**		--	0.017	0.00056
Fluorene	0.033 U			0.033	0.00060
Hexachlorobenzene	0.017 U			0.017	0.0010
Hexachlorobutadiene	0.017 U			0.017	0.00072
Hexachlorocyclopentadiene	0.017 U			0.017	0.0027
Hexachloroethane	0.017 U			0.017	0.0013
Indeno(1,2,3-cd)pyrene	**0.0059 J**		--	0.033	0.0031
Isophorone	0.017 U		--	0.017	0.0010
2-Methylnaphthalene	0.017 U			0.017	0.0014
2-Methylphenol	0.017 U			0.017	0.0034
4-Methylphenol	0.017 U			0.017	0.0020
Naphthalene	0.017 U			0.017	0.00051
2-Nitroaniline	0.017 U			0.017	0.0059
3-Nitroaniline	0.033 U			0.033	0.016
4-Nitroaniline	0.033 U			0.033	0.016
Nitrobenzene	0.017 U			0.017	0.0015
4-Nitrophenol	0.67 U			0.67	0.027
2-Nitrophenol	0.017 U			0.017	0.0015
N-Nitroso-diphenylamine	0.017 U			0.017	0.0010
N-Nitroso-di-n-propylamine	0.017 U			0.017	0.0022
Pentachlorophenol	0.17 U			0.17	0.015
Phenanthrene	**0.0017 J**		--	0.017	0.00072
Phenol	0.17 U		--	0.17	0.0013
Pyrene	**0.0069 J**		--	0.017	0.0012
2,4,6-Trichlorophenol	0.017 U			0.017	0.0017
2,4,5-Trichlorophenol	0.017 U			0.017	0.0039

Surrogates:

2-Fluorophenol	*57*	*33-113*
Phenol-d6	*59*	*30-115*
Nitrobenzene-d5	*60*	*33-131*
2-Fluorobiphenyl	*64*	*46-122*
2,4,6-Tribromophenol	*65*	*12-124*
o-Terphenyl	*72*	*20-155*

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213430 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/08/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K11004

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		0.327	**0.278**	85	55-113	--	20	0.017	0.00079
Acenaphthylene		0.327	**0.280**	86	56-138	--	20	0.017	0.00082
Acetophenone		0.327	**0.262**	80	26-127	--	20	0.017	0.0099
Anthracene		0.327	**0.293**	90	63-134	--	20	0.017	0.00086
Atrazine		0.327	**0.327**	100	52-125	--	20	0.017	0.0097
*Benzaldehyde		0.327	**0.219**	67	10-126	--	20	0.067	0.0096
Benzo(a)anthracene		0.327	**0.297**	91	53-142	--	20	0.017	0.0014
Benzo(a)pyrene		0.327	**0.297**	91	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene		0.327	**0.303**	93	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene		0.327	**0.268**	82	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene		0.327	**0.317**	97	47-141	--	20	0.033	0.00082
1,1'-Biphenyl		0.327	**0.256**	78	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether		0.327	**0.296**	91	61-124	--	20	0.017	0.00094
Butyl Benzyl Phthalate		0.327	**0.330**	101	51-145	--	20	0.033	0.0017
Caprolactam		0.327	**0.115**	**35**	44-130	--	20	0.067	0.011
Carbazole		0.327	**0.336**	103	76-126	--	20	0.17	0.0089
4-Chloro-3-methylphenol		0.327	**0.310**	95	57-124	--	20	0.017	0.0038
4-Chloroaniline		0.327	**0.253**	**77**	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane		0.327	**0.239**	73	57-121	--	20	0.017	0.0011
Bis(2-chloroethyl) Ether		0.327	**0.258**	79	54-112	--	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether		0.327	**0.242**	74	62-116	--	20	0.017	0.0027
2-Chloronaphthalene		0.327	**0.285**	87	67-111	--	20	0.017	0.0026
2-Chlorophenol		0.327	**0.254**	78	62-118	--	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether		0.327	**0.271**	83	62-114	--	20	0.017	0.00072
Chrysene		0.327	**0.290**	89	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene		0.327	**0.330**	101	52-142	--	20	0.033	0.0013
Dibenzofuran		0.327	**0.283**	86	65-119	--	20	0.017	0.00082
Di-n-butyl Phthalate		0.327	**0.321**	98	65-140	--	20	0.067	0.014
3,3´-Dichlorobenzidine		0.654	**0.583 J**	89	10-107	--	20	0.83	0.032
2,4-Dichlorophenol		0.327	**0.281**	86	50-128	--	20	0.033	0.0015
Diethyl Phthalate		0.327	**0.308**	94	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol		0.327	**0.247**	76	40-122	--	20	0.17	0.030
Dimethyl Phthalate		0.327	**0.299**	92	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol		0.327	**0.304**	93	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol		0.327	**0.266**	81	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene		0.327	**0.304**	93	51-128	--	20	0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213430 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K11004

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.327	**0.297**	91	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.327	**0.322**	98	63-132	--	20	0.017	0.0011
Bis(2-ethylhexyl) Phthalate		0.327	**0.306**	94	50-140	--	20	0.033	0.0041
Fluoranthene		0.327	**0.299**	91	66-140	--	20	0.017	0.00056
Fluorene		0.327	**0.284**	87	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.327	**0.285**	87	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.327	**0.253**	77	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.327	**0.229**	70	34-124	--	20	0.017	0.0027
Hexachloroethane		0.327	**0.234**	71	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.327	**0.325**	99	53-135	--	20	0.033	0.0031
Isophorone		0.327	**0.237**	73	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.327	**0.272**	83	56-124	--	20	0.017	0.0014
2-Methylphenol		0.327	**0.220**	67	58-113	--	20	0.017	0.0034
4-Methylphenol		0.327	**0.500**	**153**	58-132	--	20	0.017	0.0020
Naphthalene		0.327	**0.260**	80	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.327	**0.295**	90	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.327	**0.262**	80	19-86	--	20	0.033	0.016
4-Nitroaniline		0.327	**0.281**	86	26-125	--	20	0.033	0.016
Nitrobenzene		0.327	**0.257**	79	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.327	**0.126 J**	39	36-131	--	20	0.67	0.027
2-Nitrophenol		0.327	**0.254**	78	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.327	**0.309**	95	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.327	**0.261**	80	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.327	**0.201**	61	19-117	--	20	0.17	0.015
Phenanthrene		0.327	**0.293**	90	58-134	--	20	0.017	0.00072
Phenol		0.327	**0.143 J**	**44**	53-120	--	20	0.17	0.0013
Pyrene		0.327	**0.303**	93	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.327	**0.292**	89	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.327	**0.339**	104	61-126	--	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*44*	*33-113*				
Phenol-d6				*31*	*30-115*				
Nitrobenzene-d5				*74*	*33-131*				
2-Fluorobiphenyl				*72*	*46-122*				
2,4,6-Tribromophenol				*84*	*12-124*				
o-Terphenyl				*82*	*20-155*				

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**47.6**	ug/L	95	80-120		20	1.0	0.15
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	1.68	50.0	**51.8**	ug/L	100	75-125		20	1.0	0.15
Matrix Spike Duplicate	1.68	50.0	**52.0**	ug/L	101	75-125	0.4	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**45.1**	ug/L	90	80-120		20	1.0	0.18
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	1.60	50.0	**49.7**	ug/L	96	75-125		20	1.0	0.18
Matrix Spike Duplicate	1.60	50.0	**50.6**	ug/L	98	75-125	2	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120		20	1.0	0.14
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	29.2	50.0	**78.4**	ug/L	98	75-125		20	1.0	0.14
Matrix Spike Duplicate	29.2	50.0	**79.1**	ug/L	100	75-125	0.9	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**50.3**	ug/L	101	80-120		20	1.0	0.11
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	<RL	50.0	**50.9**	ug/L	102	75-125		20	1.0	0.11
Matrix Spike Duplicate	<RL	50.0	**51.3**	ug/L	103	75-125	0.8	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.038

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cadmium/USEPA-6020A (Continued)										
QC Batch: 1213305 (Continued) (3020A Digestion)								Analyzed: 11/02/2012	By: MSM	
Laboratory Control Sample		50.0	**47.2**	ug/L	94	80-120		20	0.20	0.038
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	0.0586	50.0	**49.2**	ug/L	98	75-125		20	0.20	0.038
Matrix Spike Duplicate	0.0586	50.0	**50.4**	ug/L	101	75-125	2	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)								Analyzed: 11/02/2012	By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.20
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.20
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	0.458	50.0	**54.0**	ug/L	107	75-125		20	1.0	0.20
Matrix Spike Duplicate	0.458	50.0	**54.1**	ug/L	107	75-125	0.2	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)								Analyzed: 11/02/2012	By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**52.1**	ug/L	104	80-120		20	1.0	0.050
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	4.61	50.0	**58.7**	ug/L	108	75-125		20	1.0	0.050
Matrix Spike Duplicate	4.61	50.0	**57.9**	ug/L	107	75-125	1	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)								Analyzed: 11/02/2012	By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.13
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	6.29	50.0	**55.5**	ug/L	98	75-125		20	1.0	0.13
Matrix Spike Duplicate	6.29	50.0	**55.4**	ug/L	98	75-125	0.2	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213303 (3010A Digestion)								Analyzed: 11/05/2012	By: KLV	
Method Blank			20 U	ug/L					20	6.5

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Iron/USEPA-6010C (Continued)										
QC Batch: 1213303 (Continued) (3010A Digestion)							Analyzed: 11/05/2012		By: KLV	
Laboratory Control Sample		400	**403**	ug/L	101	80-120		20	20	6.5
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	518	400	**793**	ug/L	**69**	75-125		20	20	6.5
Matrix Spike Duplicate	518	400	**787**	ug/L	**67**	75-125	0.7	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**52.6**	ug/L	105	80-120		20	1.0	0.15
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	0.846	50.0	**55.5**	ug/L	109	75-125		20	1.0	0.15
Matrix Spike Duplicate	0.846	50.0	**56.4**	ug/L	111	75-125	2	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**53.3**	ug/L	107	80-120		20	1.0	0.14
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/05/2012		By: MSM	
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	98.1	50.0	**144**	ug/L	91	75-125		20	5.0	0.70
Matrix Spike Duplicate	98.1	50.0	**151**	ug/L	105	75-125	5	20	5.0	0.70
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213552 (7470A Digestion - Dissolved)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**1.95**	ug/L	98	80-120		20	0.20	0.055
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	<RL	2.00	**2.00**	ug/L	100	80-120		20	0.20	0.055
Matrix Spike Duplicate	<RL	2.00	**2.05**	ug/L	103	80-120	3	20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.075

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213305 (Continued) (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	1.0	0.075
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	9.89	50.0	**63.9**	ug/L	108	75-125		20	1.0	0.075
Matrix Spike Duplicate	9.89	50.0	**65.1**	ug/L	110	75-125	2	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.17
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	10.2	50.0	**61.3**	ug/L	102	75-125		20	1.0	0.17
Matrix Spike Duplicate	10.2	50.0	**60.9**	ug/L	101	75-125	0.7	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**41.3**	ug/L	83	80-120		20	1.0	0.31
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	0.789	50.0	**45.4**	ug/L	89	75-125		20	1.0	0.31
Matrix Spike Duplicate	0.789	50.0	**47.0**	ug/L	93	75-125	3	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**49.6**	ug/L	99	80-120		20	0.20	0.037
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	<RL	50.0	**47.5**	ug/L	95	75-125		20	0.20	0.037
Matrix Spike Duplicate	<RL	50.0	**48.9**	ug/L	98	75-125	3	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			**0.069 J**	ug/L					1.0	0.027

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Thallium/USEPA-6020A (Continued)										
QC Batch: 1213305 (Continued) (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Laboratory Control Sample		50.0	**52.9**	ug/L	106	80-120		20	1.0	0.027
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	0.167	50.0	**56.8**	ug/L	113	75-125		20	1.0	0.027
Matrix Spike Duplicate	0.167	50.0	**57.0**	ug/L	114	75-125	0.3	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample		50.0	**52.4**	ug/L	105	80-120		20	1.0	0.066
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	1.97	50.0	**58.4**	ug/L	113	75-125		20	1.0	0.066
Matrix Spike Duplicate	1.97	50.0	**59.1**	ug/L	114	75-125	1	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			10 U	ug/L					10	1.5
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120		20	10	1.5
1210568-06 [GW-173690-102512-DD-105]										
Matrix Spike	14.1	50.0	**57.1**	ug/L	86	75-125		20	10	1.5
Matrix Spike Duplicate	14.1	50.0	**57.3**	ug/L	86	75-125	0.3	20	10	1.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213521 (3050B Digestion)								Analyzed: 11/06/2012	By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample		4.00	**3.50**	mg/kg dry wt.	87	80-120		20	0.10	0.024
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	1.23	3.98	**4.97**	mg/kg dry wt.	94	75-125		20	0.10	0.024
Matrix Spike Duplicate	1.23	3.91	**4.89**	mg/kg dry wt.	93	75-125	2	20	0.10	0.024
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)								Analyzed: 11/07/2012	By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.016
Laboratory Control Sample		4.00	**3.98**	mg/kg dry wt.	100	80-120		20	0.10	0.016
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	2.53	3.99	**6.06**	mg/kg dry wt.	88	75-125		20	0.10	0.016
Matrix Spike Duplicate	2.53	3.97	**6.43**	mg/kg dry wt.	98	75-125	6	20	0.10	0.016
Analyte: Barium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)								Analyzed: 11/07/2012	By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.012
Laboratory Control Sample		4.00	**4.03**	mg/kg dry wt.	101	80-120		20	1.0	0.012
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	66.1	3.99	**80.0**	mg/kg dry wt.	**348**	75-125		20	10	0.12
Matrix Spike Duplicate	66.1	3.97	**69.6**	mg/kg dry wt.	87	75-125	14	20	10	0.12
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)								Analyzed: 11/07/2012	By: DSC	
Method Blank			0.50 U	mg/kg dry wt.					0.50	0.020
Laboratory Control Sample		4.00	**3.97**	mg/kg dry wt.	99	80-120		20	0.50	0.020
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	0.246	3.99	**4.26**	mg/kg dry wt.	101	75-125		20	0.50	0.020
Matrix Spike Duplicate	0.246	3.97	**4.31**	mg/kg dry wt.	102	75-125	1	20	0.50	0.020
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)								Analyzed: 11/07/2012	By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0033

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cadmium/USEPA-6020A (Continued)										
QC Batch: 1213264 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Laboratory Control Sample		4.00	**3.99**	mg/kg dry wt.	100	80-120		20	0.050	0.0033
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	0.132	3.99	**4.31**	mg/kg dry wt.	105	75-125		20	0.050	0.0033
Matrix Spike Duplicate	0.132	3.97	**4.36**	mg/kg dry wt.	106	75-125	1	20	0.050	0.0033
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.014
Laboratory Control Sample		4.00	**3.91**	mg/kg dry wt.	98	80-120		20	1.0	0.014
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	10.8	3.99	**15.3**	mg/kg dry wt.	112	75-125		20	10	0.14
Matrix Spike Duplicate	10.8	3.97	**13.5**	mg/kg dry wt.	**68**	75-125	12	20	10	0.14
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0064
Laboratory Control Sample		4.00	**3.91**	mg/kg dry wt.	98	80-120		20	1.0	0.0064
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	2.51	3.99	**6.06**	mg/kg dry wt.	89	75-125		20	1.0	0.0064
Matrix Spike Duplicate	2.51	3.97	**6.17**	mg/kg dry wt.	92	75-125	2	20	1.0	0.0064
Analyte: Copper/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.025
Laboratory Control Sample		4.00	**4.11**	mg/kg dry wt.	103	80-120		20	1.0	0.025
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	14.7	3.99	**14.4**	mg/kg dry wt.	**0**	75-125		20	10	0.25
Matrix Spike Duplicate	14.7	3.97	**14.9**	mg/kg dry wt.	**4**	75-125	3	20	10	0.25
Analyte: Iron/USEPA-6010C										
QC Batch: 1213263 (3050B Digestion)							Analyzed: 11/07/2012		By: CKD	
Method Blank			**0.76 J**	mg/kg dry wt.					5.0	0.62

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Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Iron/USEPA-6010C (Continued)										
QC Batch: 1213263 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: CKD	
Laboratory Control Sample		25.0	**25.5**	mg/kg dry wt.	102	80-120		20	5.0	0.62
Analyte: Lead/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0066
Laboratory Control Sample		4.00	**4.04**	mg/kg dry wt.	101	80-120		20	1.0	0.0066
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.023
Laboratory Control Sample		4.00	**3.92**	mg/kg dry wt.	98	80-120		20	1.0	0.023
Analyte: Mercury/USEPA-7471A										
QC Batch: 1213511 (7471A Mercury Digestion)							Analyzed: 11/06/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0061
Laboratory Control Sample		0.333	**0.355**	mg/kg dry wt.	106	80-120		20	0.050	0.0061
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	0.0165	0.308	**0.365**	mg/kg dry wt.	113	80-120		20	0.046	0.0056
Matrix Spike Duplicate	0.0165	0.320	**0.375**	mg/kg dry wt.	112	80-120	3	20	0.050	0.0061
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0081
Laboratory Control Sample		4.00	**3.97**	mg/kg dry wt.	99	80-120		20	1.0	0.0081
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	1.73	3.99	**4.98**	mg/kg dry wt.	82	75-125		20	1.0	0.0081
Matrix Spike Duplicate	1.73	3.97	**5.01**	mg/kg dry wt.	83	75-125	0.7	20	1.0	0.0081
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.016

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Nickel/USEPA-6020A (Continued)										
QC Batch: 1213264 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Laboratory Control Sample		4.00	**3.89**	mg/kg dry wt.	97	80-120		20	1.0	0.016
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	7.42	3.99	**11.4**	mg/kg dry wt.	99	75-125		20	10	0.16
Matrix Spike Duplicate	7.42	3.97	**11.1**	mg/kg dry wt.	92	75-125	3	20	10	0.16
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.033
Laboratory Control Sample		4.00	**3.92**	mg/kg dry wt.	98	80-120		20	0.10	0.033
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	0.102	3.99	**3.88**	mg/kg dry wt.	95	75-125		20	0.10	0.033
Matrix Spike Duplicate	0.102	3.97	**4.17**	mg/kg dry wt.	102	75-125	7	20	0.10	0.033
Analyte: Silver/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0039
Laboratory Control Sample		4.00	**4.01**	mg/kg dry wt.	100	80-120		20	0.050	0.0039
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	0.0749	3.99	**3.99**	mg/kg dry wt.	98	75-125		20	0.050	0.0039
Matrix Spike Duplicate	0.0749	3.97	**4.07**	mg/kg dry wt.	101	75-125	2	20	0.050	0.0039
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0026
Laboratory Control Sample		4.00	**4.01**	mg/kg dry wt.	100	80-120		20	0.050	0.0026
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	0.0384	3.99	**4.04**	mg/kg dry wt.	100	75-125		20	0.050	0.0026
Matrix Spike Duplicate	0.0384	3.97	**4.03**	mg/kg dry wt.	101	75-125	0.08	20	0.050	0.0026
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			**0.019 J**	mg/kg dry wt.					0.10	0.0097

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Vanadium/USEPA-6020A (Continued)										
QC Batch: 1213264 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Laboratory Control Sample		4.00	**3.89**	mg/kg dry wt.	97	80-120		20	0.10	0.0097
1210568-07 [S-17360-102512-DD-106]										
Matrix Spike	12.9	3.99	**14.6**	mg/kg dry wt.	**45**	75-125		20	1.0	0.097
Matrix Spike Duplicate	12.9	3.97	**15.3**	mg/kg dry wt.	**60**	75-125	4	20	1.0	0.097
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213641 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			**0.38 J**	mg/kg dry wt.					1.0	0.28
Laboratory Control Sample		8.00	**8.29**	mg/kg dry wt.	104	80-120		20	1.0	0.28

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical / Chemical Parameters by EPA / APHA / ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213194 (General Inorganic Prep)							Analyzed: 10/31/2012		By: SKA	
Method Blank			0.1 U	%					0.1	
1210568-07 [S-17360-102512-DD-106]										
Duplicate	91		**91**	%			0.3	5	0.1	

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CHAIN OF CUSTODY RECORD

#66-W (WATER) #67G-W (MEOH) COC NO. PL- 09738

PAGE 1 OF 1

(See Reverse Side for Instructions)

1210568

CRT 5 (30-28)

Project No/ Phase/Task Code: 017360 - 105121	Laboratory Name: Tri-Matrix
Project Name: GM-Racer-Grand Rapids, Stage III	Lab Contact: Jennifer Rice
Project Location: Grand Rapids MI	Lab Location: Grand Rapids, MI
Chemistry Contact: Paul Wiseman	Lab Quote No:
Sampler(s): Dan Deitner	SSOW ID: 11980-105121-01
	Cooler No: soil - tm1734 water - tm2734
	Carrier: drop off at lab
	Airbill No: —
	Date Shipped: 10-25-12

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	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other: Lab Filter Required	Total Containers/Sample	Analysis Requested: TCL VOC	TCL SVOC	TAL Metals	PCBs	Lab Filter TAL Metals (as received)	MS/MSD Request	Comments/ Special Instructions:
01	S-17360-102512-DD-100	10-25-12	1150	SO	G	1					1			2	X	X	X	X		03	
02	S-17360-10252-DD-102	10-25-12	1215	SO	G	1					1			2	X	X	X	X			
03	S-17360-102512-DD-101	10-25-12	1355	SO	G	1					1			2	X	X	X	X			
04	S-17360-102512-DD-103	10-25-12	1425	SO	G	1					1			2	X	X	X	X			
05	S-17360-102512-DD-104	10-25-12	1435	SO	G	1					1			2	X	X	X	X			
06	GW-17360-102512-DD-105	10-25-12	1530	WG	G	6	9						2	17	X	X		X	X	05	added volume for MS/MSD
07	S-17360-102512-DD-106	10-25-12	1610	SO	G	2					3			5	X	X	X	X		04	added volume for MS/MSD
08	S-17360-102512-DD-107	10-25-12	1645	SO	G	1					1			2	X	X	X	X		03	
09	trip blank	10-25-12	—	SOIL	—						1			1	X					02	soil trip blank
10	trip blank	10-25-12	—	WG	—		1							1	X					01	water trip blank
11																					
12																					
13																					
14																					
15																					

Dan Deitner 10-25-12

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: 36

All Samples in Cooler must be on COC

Notes/ Special Requirements: Please Lab Filter Groundwater Sample For TAL metals (submitted unpreserved)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitner	CRA	10-25-12		1. J. Hardin	TRIMATRIX	10/25/12	1807
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

TRIMATRIX LABORATORIES

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRC | Work Order #: New / Add To: 1210528

Receipt Record Page/Line #: 30-28 | Project Chemist: JLR | Sample #s:

Recorded by (initials/date): JN 10/25/12

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 2

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
JN1734	1849	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
JN2734	1855	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
Cooler #	Time	☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
Cooler #	Time	☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container

Cooler #	Recorded °C	Correction Factor °C	Actual °C
JN1734	Temp Blank: 0		2.7
	TB location: (Representative) / Not Representative		
	1 4.4	0	4.4
	2 3.1	0	3.1
	3 3.6	0	3.6
	Average °C		4.4
	☐ Cooler ID on COC?		
	☑ VOC Trip Blank received? (MEOH)		
JN2734	Temp Blank: 0		2.1
	TB location: (Representative) / Not Representative		
	1 5.3	0	5.3
	2 5.5	0	5.5
	3 6.8	0	6.8
	Average °C		5.9
	☐ Cooler ID on COC?		
	☑ VOC Trip Blank received? (WTR)		
Cooler #	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		
Cooler #	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☑ Other CRC

COC ID Numbers: 12-09738

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☐	☑	Samples chemically preserved correctly?
☐	☑		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☑ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
10/25/12	10/25/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRC	Work Order #: 1210568
Receipt Log #: 30-28	Completed By (initials/date): DKT 10/25/12
	Project Chemist: JLR

COC ID #: PL-09738 | Adjusted by: | Date:

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6						7.7		
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Ph Strip Lot #

☑ HC137671

☐

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #: | Adjusted by: | Date:

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T01Y12-012

Work Orders:
1210587

Date:
November 14, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T01Y12-012

SDG Executive Summary

This case narrative applies to samples received on October 26, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/14/12

Date

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Sample Receipt and Login -- Work Order: 1210587

TriMatrix Laboratories received the cooler(s) for this work order on October 26, 2012, at 17:30. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
GW-17360-102612-JV-023	1210587-01	Water	10/26/2012
GW-17360-102612-JV-024	1210587-02	Water	10/26/2012
GW-17360-102612-JV-025	1210587-03	Water	10/26/2012
GW-17360-102612-JV-026	1210587-04	Water	10/26/2012
GW-17360-102612-JV-027	1210587-05	Water	10/26/2012
GW-17360-102612-EB-028	1210587-06	Water	10/26/2012
GW-17360-102612-EB-029	1210587-07	Water	10/26/2012
GW-17360-102612-EB-030	1210587-08	Water	10/26/2012
GW-17360-102612-EB-031	1210587-09	Water	10/26/2012
WG-17360-102612-EB-032	1210587-10	Water	10/26/2012
GW-17360-102612-JV-033	1210587-11	Water	10/26/2012
GW-17360-102612-JV-034	1210587-12	Water	10/26/2012
GW-17360-102612-EB-035	1210587-13	Water	10/26/2012
TB-17360-102612-EB	1210587-14	Water	10/26/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP because client specific matrix QC was not requested. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8260B

Sample:		
	1210587-01	GW-17360-102612-JV-023
	1210587-02	GW-17360-102612-JV-024
	1210587-03	GW-17360-102612-JV-025
	1210587-04	GW-17360-102612-JV-026
	1210587-05	GW-17360-102612-JV-027
	1210587-06	GW-17360-102612-EB-028
	1210587-07	GW-17360-102612-EB-029
	1210587-08	GW-17360-102612-EB-030
	1210587-09	GW-17360-102612-EB-031
	1210587-10	WG-17360-102612-EB-032
	1210587-11	GW-17360-102612-JV-033
	1210587-12	GW-17360-102612-JV-034
	1210587-13	GW-17360-102612-EB-035
	1210587-14	TB-17360-102612-EB

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210587-01	GW-17360-102612-JV-023	Carbon Disulfide
	1210587-02	GW-17360-102612-JV-024	Carbon Disulfide
	1210587-03	GW-17360-102612-JV-025	Carbon Disulfide
	1210587-04	GW-17360-102612-JV-026	Carbon Disulfide
	1210587-05	GW-17360-102612-JV-027	Carbon Disulfide
	1210587-06	GW-17360-102612-EB-028	Carbon Disulfide
	1210587-07	GW-17360-102612-EB-029	Carbon Disulfide
	1210587-08	GW-17360-102612-EB-030	Carbon Disulfide
	1210587-09	GW-17360-102612-EB-031	Carbon Disulfide
	1210587-10	WG-17360-102612-EB-032	Carbon Disulfide
	1210587-11	GW-17360-102612-JV-033	Carbon Disulfide
	1210587-12	GW-17360-102612-JV-034	Carbon Disulfide
	1210587-13	GW-17360-102612-EB-035	Carbon Disulfide
	1210587-14	TB-17360-102612-EB	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210587-01	GW-17360-102612-JV-023	Carbon Disulfide

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (Continued)

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

1210587-02	GW-17360-102612-JV-024	Carbon Disulfide
1210587-03	GW-17360-102612-JV-025	Carbon Disulfide
1210587-04	GW-17360-102612-JV-026	Carbon Disulfide
1210587-05	GW-17360-102612-JV-027	Carbon Disulfide
1210587-06	GW-17360-102612-EB-028	Carbon Disulfide
1210587-07	GW-17360-102612-EB-029	Carbon Disulfide
1210587-08	GW-17360-102612-EB-030	Carbon Disulfide
1210587-09	GW-17360-102612-EB-031	Carbon Disulfide
1210587-10	WG-17360-102612-EB-032	Carbon Disulfide
1210587-11	GW-17360-102612-JV-033	Carbon Disulfide
1210587-12	GW-17360-102612-JV-034	Carbon Disulfide
1210587-13	GW-17360-102612-EB-035	Carbon Disulfide
1210587-14	TB-17360-102612-EB	Carbon Disulfide

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte: 2K08005-CRL1 Selenium

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-023**	Sampled:	10/26/12 09:28
Lab Sample ID:	**1210587-01**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	**1.0J**	5.0	0.42

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-023**	Sampled:	10/26/12 09:28
Lab Sample ID:	**1210587-01**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	**0.17J**	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.36J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-024**	Sampled:	10/26/12 09:52
Lab Sample ID:	**1210587-02**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.15J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-024**	Sampled:	10/26/12 09:52
Lab Sample ID:	**1210587-02**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	**0.38J**	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**2.4**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-025**	Sampled:	10/26/12 10:28
Lab Sample ID:	**1210587-03**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.53J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-025**	Sampled:	10/26/12 10:28
Lab Sample ID:	**1210587-03**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**4.1**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-026**	Sampled:	10/26/12 11:42
Lab Sample ID:	**1210587-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**0.51J**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**7.0**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-026**	Sampled:	10/26/12 11:42
Lab Sample ID:	**1210587-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	**1.2**	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**24**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	**1.0**	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-026**	Sampled:	10/26/12 11:42
Lab Sample ID:	**1210587-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Arsenic	**0.37**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Barium	**110**		5.0	0.68	ug/L	5	USEPA-6020A	11/06/12 16:52	MSM	1213345
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/08/12 09:21	DSC	1213345
Cadmium	**0.49**		0.20	0.038	ug/L	1	USEPA-6020A	11/06/12 12:44	MSM	1213345
Chromium	1.0	U	1.0	0.20	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Cobalt	**0.46**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Copper	**1.4**		1.0	0.13	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Iron	**160**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 16:27	KLV	1213344
Lead	**1.7**		1.0	0.15	ug/L	1	USEPA-6020A	11/06/12 12:44	MSM	1213345
Manganese	**87**		1.0	0.14	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Molybdenum	**0.35**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	11/06/12 12:44	MSM	1213345
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 16:59	CKD	1213558
Nickel	**2.3**		1.0	0.17	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Selenium	**0.59**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/08/12 09:21	DSC	1213345
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/06/12 12:44	MSM	1213345
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/06/12 12:44	MSM	1213345
Vanadium	**0.18**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	11/07/12 15:28	MSM	1213345
Zinc	**1700**		250	38	ug/L	25	USEPA-6020A	11/07/12 16:01	MSM	1213345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-027**	Sampled:	10/26/12 12:27
Lab Sample ID:	**1210587-05**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**0.28J**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**1.1**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-027**	Sampled:	10/26/12 12:27
Lab Sample ID:	**1210587-05**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.37J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**5.0**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-028**	Sampled:	10/26/12 09:50
Lab Sample ID:	**1210587-06**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.14J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-028**	Sampled:	10/26/12 09:50
Lab Sample ID:	**1210587-06**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	**0.67J**	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**2.0**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-029**	Sampled:	10/26/12 10:55
Lab Sample ID:	**1210587-07**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	**3.9**	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	**2.4**	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-029**	Sampled:	10/26/12 10:55
Lab Sample ID:	**1210587-07**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-030**	Sampled:	10/26/12 12:50
Lab Sample ID:	**1210587-08**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**1.2**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-030**	Sampled:	10/26/12 12:50
Lab Sample ID:	**1210587-08**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213651	Analytical Batch:	2K08017

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**3.2**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*105*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-031**	Sampled:	10/26/12 13:40
Lab Sample ID:	**1210587-09**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-031**	Sampled:	10/26/12 13:40
Lab Sample ID:	**1210587-09**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/07/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.96J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.25J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**WG-17360-102612-EB-032**	Sampled:	10/26/12 15:10
Lab Sample ID:	**1210587-10**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.62J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**0.32J**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**WG-17360-102612-EB-032**	Sampled:	10/26/12 15:10
Lab Sample ID:	**1210587-10**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.36J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**2.4**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**WG-17360-102612-EB-032**	Sampled:	10/26/12 15:10
Lab Sample ID:	**1210587-10**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Arsenic	**0.40**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Barium	**75**		1.0	0.14	ug/L	1	USEPA-6020A	11/06/12 15:56	MSM	1213345
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/08/12 09:25	DSC	1213345
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/06/12 12:52	MSM	1213345
Chromium	1.0	U	1.0	0.20	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Cobalt	**4.4**		1.0	0.050	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Copper	**1.2**		1.0	0.13	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Iron	**30**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 16:31	KLV	1213344
Lead	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/06/12 12:52	MSM	1213345
Manganese	**54**		1.0	0.14	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Molybdenum	**6.3**		1.0	0.075	ug/L	1	USEPA-6020A	11/06/12 12:52	MSM	1213345
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 17:05	CKD	1213558
Nickel	**3.2**		1.0	0.17	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Selenium	**0.91**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/08/12 09:25	DSC	1213345
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/06/12 12:52	MSM	1213345
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/06/12 12:52	MSM	1213345
Vanadium	**0.79**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345
Zinc	**3.8**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/07/12 15:30	MSM	1213345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-033**	Sampled:	10/26/12 13:28
Lab Sample ID:	**1210587-11**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**30**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-033**	Sampled:	10/26/12 13:28
Lab Sample ID:	**1210587-11**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.38J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.30J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-034**	Sampled:	10/26/12 15:22
Lab Sample ID:	**1210587-12**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**10**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-JV-034**	Sampled:	10/26/12 15:22
Lab Sample ID:	**1210587-12**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.25J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.22J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-035**	Sampled:	10/26/12 15:45
Lab Sample ID:	**1210587-13**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**1.1**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-EB-035**	Sampled:	10/26/12 15:45
Lab Sample ID:	**1210587-13**	Sampled By:	CRA
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**21**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**TB-17360-102612-EB**	Sampled:	10/26/12 00:00
Lab Sample ID:	**1210587-14**	Sampled By:	TB
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210587**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**TB-17360-102612-EB**	Sampled:	10/26/12 00:00
Lab Sample ID:	**1210587-14**	Sampled By:	TB
Matrix:	Water	Received:	10/26/12 17:30
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213651 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08017

Acetone	**1.8 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U	--	1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U	--	1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	5.0 U		5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213651 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08017

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*96*	*85-118*			
1,2-Dichloroethane-d4			*101*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*96*	*82-110*			

Laboratory Control Sample Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08017

Acetone	40.0	**43.0**	108	53-138	--	20	5.0	1.1
Benzene	40.0	**38.6**	97	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**39.3**	98	82-124	--	20	1.0	0.13
Bromoform	40.0	**35.7**	89	65-123	--	20	1.0	0.26
Bromomethane	40.0	**41.9**	105	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**71.7**	**179**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**39.4**	98	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**39.6**	99	84-118	--	20	1.0	0.17
Chloroethane	40.0	**36.9**	92	76-124	--	20	1.0	0.14
Chloroform	40.0	**38.4**	96	82-119	--	20	1.0	0.098
Chloromethane	40.0	**37.4**	93	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**37.1**	93	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**37.5**	94	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**36.9**	92	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**41.6**	104	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**41.4**	103	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213651 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08017

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**41.0**	103	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**39.5**	99	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**33.5**	84	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**38.6**	97	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**38.7**	97	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**38.3**	96	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**39.6**	99	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**39.4**	99	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**39.0**	98	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.4**	93	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.7**	92	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**41.6**	104	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**43.6**	109	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**38.1**	95	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**37.9**	95	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**42.8**	107	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**37.2**	93	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**37.4**	93	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**46.6**	116	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**42.9**	107	60-142	--	20	5.0	0.40
Styrene		40.0	**38.1**	95	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.1**	103	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**39.6**	99	81-117	--	20	1.0	0.23
Toluene		40.0	**38.6**	96	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**37.3**	93	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**40.0**	100	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**39.4**	99	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**38.4**	96	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**37.9**	95	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**38.3**	96	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**37.0**	92	77-123	--	20	1.0	0.21
Xylene (Total)		120	**123**	103	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*98*	*85-118*				
1,2-Dichloroethane-d4				*99*	*87-122*				
Toluene-d8				*99*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213651 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: LEW
Unit: ug/L Analytical Batch: 2K08017

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Surrogates (Continued):									
4-Bromofluorobenzene				*100*	*82-110*				

Laboratory Control Sample Duplicate Analyzed: 11/07/2012 By: LEW
Unit: ug/L Analytical Batch: 2K08017

Acetone	40.0	**48.7**	122	53-138	12	20	5.0	1.1
Benzene	40.0	**37.8**	94	84-119	2	20	1.0	0.11
Bromodichloromethane	40.0	**39.1**	98	82-124	0.5	20	1.0	0.13
Bromoform	40.0	**36.1**	90	65-123	1	20	1.0	0.26
Bromomethane	40.0	**40.6**	101	55-142	3	20	1.0	0.21
Carbon Disulfide	40.0	**70.0**	**175**	70-131	2	20	5.0	0.23
Carbon Tetrachloride	40.0	**37.8**	94	79-127	4	20	1.0	0.26
Chlorobenzene	40.0	**38.9**	97	84-118	2	20	1.0	0.17
Chloroethane	40.0	**35.1**	88	76-124	5	20	1.0	0.14
Chloroform	40.0	**37.6**	94	82-119	2	20	1.0	0.098
Chloromethane	40.0	**36.2**	91	73-125	3	20	1.0	0.29
Cyclohexane	40.0	**36.0**	90	77-130	3	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**40.1**	100	58-130	7	20	1.0	0.13
Dibromochloromethane	40.0	**37.1**	93	74-121	0.6	20	1.0	0.15
1,2-Dibromoethane	40.0	**41.8**	104	84-125	0.5	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**42.1**	105	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene	40.0	**40.8**	102	81-124	0.6	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**39.4**	99	79-122	0.08	20	1.0	0.25
Dichlorodifluoromethane	40.0	**31.5**	79	68-130	6	20	1.0	0.21
1,1-Dichloroethane	40.0	**38.0**	95	80-118	2	20	1.0	0.18
1,2-Dichloroethane	40.0	**38.6**	97	81-122	0.3	20	1.0	0.21
1,1-Dichloroethene	40.0	**36.9**	92	77-123	4	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**38.9**	97	84-119	2	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**38.0**	95	76-126	4	20	1.0	0.20
1,2-Dichloropropane	40.0	**38.7**	97	82-122	1	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**37.2**	93	77-120	0.4	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**37.0**	93	73-116	1	20	1.0	0.19
Ethylbenzene	40.0	**40.8**	102	87-119	2	20	1.0	0.21
2-Hexanone	40.0	**45.0**	112	55-141	3	20	5.0	0.49
Isopropylbenzene	40.0	**37.5**	94	76-126	2	20	1.0	0.22
Methyl Acetate	40.0	**39.1**	98	67-129	3	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213651 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08017

Methyl tert-Butyl Ether	40.0	**43.2**	108	72-128	1	20	1.0	0.19
Methylcyclohexane	40.0	**35.8**	89	78-126	4	20	5.0	0.37
Methylene Chloride	40.0	**37.2**	93	75-129	0.6	20	1.0	0.24
2-Butanone (MEK)	40.0	**49.4**	123	52-142	6	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**44.3**	111	60-142	3	20	5.0	0.40
Styrene	40.0	**37.2**	93	84-120	2	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**42.2**	105	70-137	3	20	1.0	0.26
Tetrachloroethene	40.0	**38.3**	96	81-117	4	20	1.0	0.23
Toluene	40.0	**37.6**	94	85-118	3	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**38.8**	97	75-125	4	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**38.4**	96	81-122	4	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**39.3**	98	83-121	0.2	20	1.0	0.20
Trichloroethene	40.0	**37.2**	93	82-119	3	20	1.0	0.21
Trichlorofluoromethane	40.0	**36.1**	90	76-128	5	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**36.1**	90	76-126	6	20	1.0	0.24
Vinyl Chloride	40.0	**35.0**	87	77-123	6	20	1.0	0.21
Xylene (Total)	120	**119**	99	86-119	4	20	3.0	0.39
Surrogates:								
Dibromofluoromethane			*98*	*85-118*				
1,2-Dichloroethane-d4			*99*	*87-122*				
Toluene-d8			*98*	*85-113*				
4-Bromofluorobenzene			*100*	*82-110*				

QC Batch: 1213657 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Acetone	5.0 U		--	5.0	1.1
Benzene	1.0 U			1.0	0.11
Bromodichloromethane	1.0 U			1.0	0.13
Bromoform	1.0 U			1.0	0.26
Bromomethane	1.0 U			1.0	0.21
Carbon Disulfide	5.0 U		--	5.0	0.23
Carbon Tetrachloride	1.0 U			1.0	0.26
Chlorobenzene	1.0 U			1.0	0.17
Chloroethane	1.0 U			1.0	0.14
Chloroform	1.0 U			1.0	0.098

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Chloromethane			1.0 U					1.0	0.29
Cyclohexane			5.0 U					5.0	0.18
1,2-Dibromo-3-chloropropane			1.0 U					1.0	0.13
Dibromochloromethane			1.0 U					1.0	0.15
1,2-Dibromoethane			1.0 U					1.0	0.15
1,2-Dichlorobenzene			1.0 U					1.0	0.24
1,3-Dichlorobenzene			1.0 U					1.0	0.24
1,4-Dichlorobenzene			1.0 U					1.0	0.25
Dichlorodifluoromethane			1.0 U					1.0	0.21
1,1-Dichloroethane			1.0 U					1.0	0.18
1,2-Dichloroethane			1.0 U					1.0	0.21
1,1-Dichloroethene			1.0 U					1.0	0.21
cis-1,2-Dichloroethene			1.0 U					1.0	0.12
trans-1,2-Dichloroethene			1.0 U					1.0	0.20
1,2-Dichloropropane			1.0 U					1.0	0.28
cis-1,3-Dichloropropene			1.0 U					1.0	0.19
trans-1,3-Dichloropropene			1.0 U					1.0	0.19
Ethylbenzene			1.0 U					1.0	0.21
2-Hexanone			5.0 U					5.0	0.49
Isopropylbenzene			1.0 U					1.0	0.22
Methyl Acetate			5.0 U					5.0	0.42
Methyl tert-Butyl Ether			1.0 U					1.0	0.19
Methylcyclohexane			5.0 U					5.0	0.37
Methylene Chloride			1.0 U					1.0	0.24
2-Butanone (MEK)			5.0 U					5.0	0.63
4-Methyl-2-pentanone (MIBK)			5.0 U					5.0	0.40
Styrene			1.0 U					1.0	0.20
1,1,2,2-Tetrachloroethane			1.0 U					1.0	0.26
Tetrachloroethene			1.0 U					1.0	0.23
Toluene			1.0 U					1.0	0.18
1,2,4-Trichlorobenzene			1.0 U					1.0	0.13
1,1,1-Trichloroethane			1.0 U					1.0	0.14
1,1,2-Trichloroethane			1.0 U					1.0	0.20
Trichloroethene			1.0 U					1.0	0.21
Trichlorofluoromethane			1.0 U					1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane			1.0 U					1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/07/2012 By: LEW
Unit: ug/L Analytical Batch: 2K08019

Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*104*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/07/2012 By: LEW
Unit: ug/L Analytical Batch: 2K08019

Acetone	40.0	**50.2**	126	53-138	--	20	5.0	1.1
Benzene	40.0	**41.1**	103	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**41.9**	105	82-124	--	20	1.0	0.13
Bromoform	40.0	**38.0**	95	65-123	--	20	1.0	0.26
Bromomethane	40.0	**42.2**	106	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**70.5**	**176**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**42.9**	107	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**41.7**	104	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.5**	99	76-124	--	20	1.0	0.14
Chloroform	40.0	**41.5**	104	82-119	--	20	1.0	0.098
Chloromethane	40.0	**39.6**	99	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**39.3**	98	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**40.6**	102	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**39.4**	98	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**43.6**	109	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.2**	108	81-124	--	20	1.0	0.24
1,3-Dichlorobenzene	40.0	**43.1**	108	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**41.5**	104	79-122	--	20	1.0	0.25
Dichlorodifluoromethane	40.0	**37.9**	95	68-130	--	20	1.0	0.21
1,1-Dichloroethane	40.0	**40.7**	102	80-118	--	20	1.0	0.18
1,2-Dichloroethane	40.0	**41.7**	104	81-122	--	20	1.0	0.21
1,1-Dichloroethene	40.0	**41.0**	103	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**42.3**	106	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**41.4**	103	76-126	--	20	1.0	0.20
1,2-Dichloropropane	40.0	**41.7**	104	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**37.8**	94	77-120	--	20	1.0	0.19

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: LEW
Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
trans-1,3-Dichloropropene		40.0	**36.8**	92	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**44.1**	110	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**41.1**	103	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**39.6**	99	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**39.7**	99	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**42.7**	107	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**39.3**	98	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**38.8**	97	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**46.7**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**41.7**	104	60-142	--	20	5.0	0.40
Styrene		40.0	**40.0**	100	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**42.8**	107	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**42.4**	106	81-117	--	20	1.0	0.23
Toluene		40.0	**41.2**	103	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**38.5**	96	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**42.1**	105	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**42.1**	105	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**41.5**	104	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**42.8**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**41.6**	104	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)		120	**129**	107	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*103*	*87-122*				
Toluene-d8				*101*	*85-113*				
4-Bromofluorobenzene				*101*	*82-110*				

Laboratory Control Sample Duplicate Analyzed: 11/07/2012 By: LEW
Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acetone		40.0	**51.0**	127	53-138	1	20	5.0	1.1
Benzene		40.0	**39.3**	98	84-119	5	20	1.0	0.11
Bromodichloromethane		40.0	**40.7**	102	82-124	3	20	1.0	0.13
Bromoform		40.0	**37.9**	95	65-123	0.2	20	1.0	0.26
Bromomethane		40.0	**44.2**	110	55-142	4	20	1.0	0.21
Carbon Disulfide		40.0	**69.9**	**175**	70-131	0.8	20	5.0	0.23

Continued on next page

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Carbon Tetrachloride	40.0	**40.1**	100	79-127	7	20	1.0	0.26
Chlorobenzene	40.0	**40.0**	100	84-118	4	20	1.0	0.17
Chloroethane	40.0	**37.2**	93	76-124	6	20	1.0	0.14
Chloroform	40.0	**39.6**	99	82-119	5	20	1.0	0.098
Chloromethane	40.0	**39.0**	97	73-125	2	20	1.0	0.29
Cyclohexane	40.0	**37.5**	94	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**41.1**	103	58-130	1	20	1.0	0.13
Dibromochloromethane	40.0	**38.3**	96	74-121	3	20	1.0	0.15
1,2-Dibromoethane	40.0	**43.0**	107	84-125	2	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**42.3**	106	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene	40.0	**41.6**	104	81-124	4	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**40.3**	101	79-122	3	20	1.0	0.25
Dichlorodifluoromethane	40.0	**34.9**	87	68-130	8	20	1.0	0.21
1,1-Dichloroethane	40.0	**39.7**	99	80-118	2	20	1.0	0.18
1,2-Dichloroethane	40.0	**40.3**	101	81-122	3	20	1.0	0.21
1,1-Dichloroethene	40.0	**39.1**	98	77-123	5	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**40.6**	102	84-119	4	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**40.0**	100	76-126	3	20	1.0	0.20
1,2-Dichloropropane	40.0	**40.1**	100	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**37.3**	93	77-120	1	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**36.8**	92	73-116	0.08	20	1.0	0.19
Ethylbenzene	40.0	**41.6**	104	87-119	6	20	1.0	0.21
2-Hexanone	40.0	**42.6**	106	55-141	3	20	5.0	0.49
Isopropylbenzene	40.0	**37.9**	95	76-126	4	20	1.0	0.22
Methyl Acetate	40.0	**40.2**	101	67-129	1	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**43.2**	108	72-128	1	20	1.0	0.19
Methylcyclohexane	40.0	**37.3**	93	78-126	5	20	5.0	0.37
Methylene Chloride	40.0	**37.7**	94	75-129	3	20	1.0	0.24
2-Butanone (MEK)	40.0	**48.2**	121	52-142	3	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**42.3**	106	60-142	1	20	5.0	0.40
Styrene	40.0	**38.5**	96	84-120	4	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**41.8**	105	70-137	2	20	1.0	0.26
Tetrachloroethene	40.0	**40.0**	100	81-117	6	20	1.0	0.23
Toluene	40.0	**39.1**	98	85-118	5	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**38.5**	96	75-125	0.08	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**40.2**	100	81-122	5	20	1.0	0.14

Continued on next page

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample Duplicate (Continued)					Analyzed:	11/07/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K08019			
1,1,2-Trichloroethane		40.0	**40.7**	102	83-121	3	20	1.0	0.20
Trichloroethene		40.0	**40.5**	101	82-119	3	20	1.0	0.21
Trichlorofluoromethane		40.0	**39.1**	98	76-128	9	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**38.4**	96	76-126	8	20	1.0	0.24
Vinyl Chloride		40.0	**37.6**	94	77-123	6	20	1.0	0.21
Xylene (Total)		120	**122**	102	86-119	5	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*103*	*87-122*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**47.7**	ug/L	95	80-120		20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**44.8**	ug/L	90	80-120		20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**50.9**	ug/L	102	80-120		20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/08/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**53.2**	ug/L	106	80-120		20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.038
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.20
Laboratory Control Sample		50.0	**56.0**	ug/L	112	80-120		20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.050

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cobalt/USEPA-6020A (Continued)										
QC Batch: 1213345 (Continued) (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Laboratory Control Sample		50.0	**55.4**	ug/L	111	80-120		20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**51.7**	ug/L	103	80-120		20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213344 (3010A Digestion)							Analyzed: 11/05/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5
Laboratory Control Sample		400	**394**	ug/L	98	80-120		20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**53.6**	ug/L	107	80-120		20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**53.8**	ug/L	108	80-120		20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213558 (7470A Digestion - Total)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**2.05**	ug/L	102	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.075

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213345 (Continued) (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Laboratory Control Sample		50.0	**48.6**	ug/L	97	80-120		20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**53.6**	ug/L	107	80-120		20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/08/2012		By: DSC	
Method Blank			**0.80 J**	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**51.7**	ug/L	103	80-120		20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**50.6**	ug/L	101	80-120		20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/06/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.027
Laboratory Control Sample		50.0	**52.6**	ug/L	105	80-120		20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample		50.0	**56.4**	ug/L	113	80-120		20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213345 (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Method Blank			10 U	ug/L					10	1.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Zinc**/USEPA-6020A (Continued)										
QC Batch: 1213345 (Continued) (3020A Digestion)							Analyzed: 11/07/2012		By: MSM	
Laboratory Control Sample		50.0	**48.7**	ug/L	97	80-120		20	10	1.5

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CHAIN OF CUSTODY RECORD

COC NO.: PL- 09026

PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 #360, 373-G

Phone: (734) 453-5123 Fax: (734) 453-5201 CART 4 (31-19)

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-T01417	Laboratory Name: TML
Project Name: Farmer GRMP	Lab Contact: J. Price
Project Location: Wyoming, MI	Lab Location: Grand Rapids, MI
Chemistry Contact: P. Wiseman	Lab Quote No: -
Sampler(s): E. Batenburg / J. Valentine	SSOW ID: 11980-T01417-010
	Cooler No: -
	Carrier: Drop off
	Airbill No: -
	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	Hydrochloric Acid (HCl) (1)	Nitric Acid (HNO_3) (2)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (see Back of COC for Definitions): TCL VOCs (1)	Site Specific Metals (2)	MS/MSD Request	Comments/ Special Instructions:
1	GW-17360-102612-JV-023	10/26/12	928	WG	G		3							3	X		03 02	1210587-01
2	-024		952				3							3			1	-02
3	-025		1028				3							3				-03
4	-026		1142				3	1						4	X		04	-04
5	-027		1227				3							3			02	-05
6	WG-17360-102612-EB-028		950				3							3				-06
7	-029		1055				3							3				-07
8	-030		1250				3							3				-08
9	-031		1340				3							3				-09
10	-032		1510				3	1						4	X		04	-10
11	GW-17360-102612-JV-033		1328				3							3			02	-11
12	-034		1522				3							3			1	-12
13	WG-17360-102612-EB-035		1545				3							3				-13
14	TB-17360-102612-EB		-	WQ	-		1							1			01	Trip Blank-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: 42

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	102612	1730	1. J. Nardin	TRIMATRIX	10/26/12	1730
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)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 1210587 (New / Add To)
Receipt Record Page/Line #: 31-19 | Project Chemist: JAR | Sample #s:

Recorded by (initials/date): DN 10/26/12

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

☑ IR Gun (#202) | Thermometer Used: ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler #A: TR125721909	Cooler #	Cooler #	Cooler #
Time: 1909	Time	Time	Time
Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☑ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container
Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C
Temp Blank:	Temp Blank:	Temp Blank:	Temp Blank:
TB location: Representative / Not Representative	TB location: Representative / Not Representative	TB location: Representative / Not Representative	TB location: Representative / Not Representative
1 8.8 0 8.8	1	1	1
2 8.1 0 8.1	2	2	2
3 8.6 0 8.6	3	3	3
Average °C 8.5	Average °C	Average °C	Average °C
☐ Cooler ID on COC?	☐ Cooler ID on COC?	☐ Cooler ID on COC?	☐ Cooler ID on COC?
☑ VOC Trip Blank received?	☐ VOC Trip Blank received?	☐ VOC Trip Blank received?	☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: JL-09026

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Average sample temperature ≤6° C?
☐	☑	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
☐	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
10/26/12	10/26/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA | Work Order #: 1210587

Receipt Log #: 31-19 | Completed By (initials/date): LN 10/26/12 | Project Chemist:

COC ID #: PL-09026 | Adjusted by: | Date:

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4						✓		
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10						✓		

Comments

Ph Strip Lot # ☑ HC137671 ☐

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #: | Adjusted by: | Date:

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1210603

Date:
November 26, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on October 26, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/26/12

Date

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Sample Receipt and Login -- Work Order: 1210603

TriMatrix Laboratories received the cooler(s) for this work order on October 26, 2012, at 14:00. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
Trip Blank	1210603-01	Soil	10/26/2012
S-17360-102612-DD-108	1210603-02	Soil	10/26/2012
S-17360-102612-DD-109	1210603-03	Soil	10/26/2012
GW-17360-102612-DD-110	1210603-04	Water	10/26/2012
GW-17360-102612-DD-111	1210603-05	Water	10/26/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8082A

Sample: 1210603-04 GW-17360-102612-DD-110
1210603-05 GW-17360-102612-DD-111

Qualification: The RPD between the detected values from the primary and confirmation analyses exceeded 40%. The lower concentration result has been reported. The higher concentration result was: 0.0985 mg/kg.

Analysis: USEPA-8082A

Sample/Analyte: 1210603-02 S-17360-102612-DD-108 PCB-1254

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP because client specific matrix QC was not requested. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8260B

Sample:		
	1210603-04	GW-17360-102612-DD-110
	1210603-05	GW-17360-102612-DD-111

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210603-04	GW-17360-102612-DD-110	Carbon Disulfide
	1210603-05	GW-17360-102612-DD-111	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210603-04	GW-17360-102612-DD-110	Carbon Disulfide
	1210603-05	GW-17360-102612-DD-111	Carbon Disulfide

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The LCS recovery was less than 10%. All results, including non-detectable concentrations for this analyte in any sample from the associated QC Batch are considered unusable.

Analysis: USEPA-8270C

Sample/Analyte:			
	1210603-04	GW-17360-102612-DD-110	Benzaldehyde
	1210603-05	GW-17360-102612-DD-111	Benzaldehyde

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8270C

Sample/Analyte:			
	1210603-02	S-17360-102612-DD-108	4-Chloroaniline
	1210603-02	S-17360-102612-DD-108	4-Methylphenol
	1210603-03	S-17360-102612-DD-109	4-Chloroaniline
	1210603-03	S-17360-102612-DD-109	4-Methylphenol

Qualification: The LCS and/or LCSD recovery was less than the lower control limit but greater than or equal to 10%. All results for this analyte in all samples from the associated QC batch are considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:			
	1210603-02	S-17360-102612-DD-108	Caprolactam
	1210603-02	S-17360-102612-DD-108	Phenol
	1210603-03	S-17360-102612-DD-109	Caprolactam
	1210603-03	S-17360-102612-DD-109	Phenol
	1210603-04	GW-17360-102612-DD-110	3,3´-Dichlorobenzidine
	1210603-04	GW-17360-102612-DD-110	3-Nitroaniline
	1210603-04	GW-17360-102612-DD-110	4-Chloroaniline
	1210603-04	GW-17360-102612-DD-110	Acetophenone
	1210603-05	GW-17360-102612-DD-111	3,3´-Dichlorobenzidine
	1210603-05	GW-17360-102612-DD-111	3-Nitroaniline
	1210603-05	GW-17360-102612-DD-111	4-Chloroaniline
	1210603-05	GW-17360-102612-DD-111	Acetophenone

Qualification: The recovery of acid surrogate Phenol-d6 was outside of the control limits in the LCS. All acid analytes in the LCS had acceptable spike recoveries. No data requires qualification.

Analysis: USEPA-8270C

Sample: 1213318-BS1

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:			
	1210603-02	S-17360-102612-DD-108	Benzo(b)fluoranthene

Continued on next page

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

1210603-02	S-17360-102612-DD-108	Benzo(k)fluoranthene
1210603-02	S-17360-102612-DD-108	Dibenz(a,h)anthracene
1210603-03	S-17360-102612-DD-109	Benzo(b)fluoranthene
1210603-03	S-17360-102612-DD-109	Benzo(k)fluoranthene
1210603-04	GW-17360-102612-DD-110	Benzo(b)fluoranthene
1210603-04	GW-17360-102612-DD-110	Benzo(k)fluoranthene
1210603-05	GW-17360-102612-DD-111	Benzo(b)fluoranthene
1210603-05	GW-17360-102612-DD-111	Benzo(k)fluoranthene
1213430-BLK1		Benzo(b)fluoranthene
1213430-BLK1		Benzo(k)fluoranthene

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:		
1210603-02	S-17360-102612-DD-108	Bis(2-ethylhexyl) Phthalate
1210603-02	S-17360-102612-DD-108	Butyl Benzyl Phthalate
1210603-03	S-17360-102612-DD-109	Bis(2-ethylhexyl) Phthalate
1210603-03	S-17360-102612-DD-109	Butyl Benzyl Phthalate
1210603-03	S-17360-102612-DD-109	Dibenz(a,h)anthracene

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:		
1210603-02	S-17360-102612-DD-108	Anthracene
1210603-02	S-17360-102612-DD-108	Benzo(a)anthracene
1210603-02	S-17360-102612-DD-108	Benzo(a)pyrene
1210603-02	S-17360-102612-DD-108	Benzo(b)fluoranthene
1210603-02	S-17360-102612-DD-108	Benzo(g,h,i)perylene
1210603-02	S-17360-102612-DD-108	Benzo(k)fluoranthene
1210603-02	S-17360-102612-DD-108	Chrysene
1210603-02	S-17360-102612-DD-108	Dibenz(a,h)anthracene
1210603-02	S-17360-102612-DD-108	Indeno(1,2,3-cd)pyrene
1210603-02	S-17360-102612-DD-108	Phenanthrene
1210603-03	S-17360-102612-DD-109	Anthracene
1210603-03	S-17360-102612-DD-109	Benzo(a)anthracene
1210603-03	S-17360-102612-DD-109	Benzo(a)pyrene
1210603-03	S-17360-102612-DD-109	Benzo(b)fluoranthene
1210603-03	S-17360-102612-DD-109	Benzo(g,h,i)perylene
1210603-03	S-17360-102612-DD-109	Chrysene
1210603-03	S-17360-102612-DD-109	Indeno(1,2,3-cd)pyrene
1210603-03	S-17360-102612-DD-109	Phenanthrene
1210603-04	GW-17360-102612-DD-110	Diethyl Phthalate
1210603-05	GW-17360-102612-DD-111	Diethyl Phthalate
1213430-BS1		Benzaldehyde

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Qualification: Surrogate results are unavailable due to positive results in the sample, resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8270C

Sample:		
	1210603-02	S-17360-102612-DD-108
	1210603-03	S-17360-102612-DD-109

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Attachment 2
Statement of Data Qualifications

Dissolved Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte: 2K02037-CRL2 Selenium

Qualification: The preparatory method requires sample filtration for dissolved metals to occur in the field. Because filtration did not occur in the field, all results and reporting limits must be considered estimated.

Analysis: USEPA-6010C

Sample: 1210603-04 GW-17360-102612-DD-110
1210603-05 GW-17360-102612-DD-111

Analysis: USEPA-6020A

Sample: 1210603-04 GW-17360-102612-DD-110
1210603-05 GW-17360-102612-DD-111

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/26/12 00:00
Lab Sample ID:	**1210603-01**	Sampled By:	TB
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg wet	Prepared:	11/2/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/02/12 By: DLV
QC Batch:	1213445	Analytical Batch:	2K05016
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.012
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.010
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
79-20-9	Methyl Acetate	0.25U	0.25	0.032

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/26/12 00:00
Lab Sample ID:	**1210603-01**	Sampled By:	TB
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg wet	Prepared:	11/2/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/02/12 By: DLV
QC Batch:	1213445	Analytical Batch:	2K05016
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*102*	*75-123*
1,2-Dichloroethane-d4	*99*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	5	Analyzed:	11/09/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K12057
Percent Solids:	92		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0093
11104-28-2	PCB-1221	0.36U	0.36	0.011
11141-16-5	PCB-1232	0.36U	0.36	0.011
53469-21-9	PCB-1242	0.36U	0.36	0.038
12672-29-6	PCB-1248	0.36U	0.36	0.014
*11097-69-1	PCB-1254	**0.065J**	1.8	0.019
11096-82-5	PCB-1260	**0.030J**	1.8	0.015

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*79*	*45-135*
Tetrachloro-m-xylene	*71*	*56-123*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/2/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/02/12 By: DLV
QC Batch:	1213445	Analytical Batch:	2K05016
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.89U	0.89	0.064
71-43-2	Benzene	0.059U	0.059	0.0084
75-27-4	Bromodichloromethane	0.059U	0.059	0.0079
75-25-2	Bromoform	0.059U	0.059	0.015
74-83-9	Bromomethane	0.059U	0.059	0.025
75-15-0	Carbon Disulfide	0.30U	0.30	0.014
56-23-5	Carbon Tetrachloride	0.059U	0.059	0.020
108-90-7	Chlorobenzene	0.059U	0.059	0.010
75-00-3	Chloroethane	0.059U	0.059	0.021
67-66-3	Chloroform	0.059U	0.059	0.010
74-87-3	Chloromethane	0.059U	0.059	0.023
110-82-7	Cyclohexane	0.30U	0.30	0.028
96-12-8	1,2-Dibromo-3-chloropropane	0.30U	0.30	0.030
124-48-1	Dibromochloromethane	0.059U	0.059	0.0090
106-93-4	1,2-Dibromoethane	0.059U	0.059	0.019
95-50-1	1,2-Dichlorobenzene	0.059U	0.059	0.014
541-73-1	1,3-Dichlorobenzene	0.059U	0.059	0.014
106-46-7	1,4-Dichlorobenzene	0.059U	0.059	0.015
75-71-8	Dichlorodifluoromethane	0.059U	0.059	0.013
75-34-3	1,1-Dichloroethane	0.059U	0.059	0.013
107-06-2	1,2-Dichloroethane	0.059U	0.059	0.013
75-35-4	1,1-Dichloroethene	0.059U	0.059	0.012
156-59-2	cis-1,2-Dichloroethene	0.059U	0.059	0.013
156-60-5	trans-1,2-Dichloroethene	0.059U	0.059	0.014
78-87-5	1,2-Dichloropropane	0.059U	0.059	0.016
10061-01-5	cis-1,3-Dichloropropene	0.059U	0.059	0.011
10061-02-6	trans-1,3-Dichloropropene	0.059U	0.059	0.011
100-41-4	Ethylbenzene	**0.48**	0.059	0.012
591-78-6	2-Hexanone	3.0U	3.0	0.029

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/2/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/02/12 By: DLV
QC Batch:	1213445	Analytical Batch:	2K05016
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.059U	0.059	0.013
79-20-9	Methyl Acetate	0.30U	0.30	0.038
1634-04-4	Methyl tert-Butyl Ether	0.059U	0.059	0.011
108-87-2	Methylcyclohexane	0.30U	0.30	0.022
75-09-2	Methylene Chloride	0.12U	0.12	0.032
78-93-3	2-Butanone (MEK)	0.89U	0.89	0.075
108-10-1	4-Methyl-2-pentanone (MIBK)	3.0U	3.0	0.023
100-42-5	Styrene	0.059U	0.059	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.059U	0.059	0.015
127-18-4	Tetrachloroethene	0.059U	0.059	0.016
108-88-3	Toluene	0.059U	0.059	0.013
120-82-1	1,2,4-Trichlorobenzene	0.059U	0.059	0.0083
71-55-6	1,1,1-Trichloroethane	0.059U	0.059	0.0082
79-00-5	1,1,2-Trichloroethane	0.059U	0.059	0.019
79-01-6	Trichloroethene	0.059U	0.059	0.013
75-69-4	Trichlorofluoromethane	0.059U	0.059	0.016
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.059U	0.059	0.021
75-01-4	Vinyl Chloride	0.047U	0.047	0.010
1330-20-7	Xylene (Total)	**2.1**	0.18	0.024

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*100*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*108*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	10	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	92		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.69**	0.18	0.0086
208-96-8	Acenaphthylene	**0.030J**	0.18	0.0090
98-86-2	Acetophenone	0.18U	0.18	0.11
*120-12-7	Anthracene	**0.78**	0.18	0.0093
1912-24-9	Atrazine	0.18U	0.18	0.11
100-52-7	Benzaldehyde	0.73U	0.73	0.10
*56-55-3	Benzo(a)anthracene	**3.1**	0.18	0.016
*50-32-8	Benzo(a)pyrene	**2.1**	0.18	0.0093
*205-99-2	Benzo(b)fluoranthene	**3.0**	0.18	0.019
*207-08-9	Benzo(k)fluoranthene	**1.6**	0.18	0.024
*191-24-2	Benzo(g,h,i)perylene	**1.3**	0.36	0.0090
92-52-4	1,1'-Biphenyl	0.18U	0.18	0.12
101-55-3	4-Bromophenyl Phenyl Ether	0.18U	0.18	0.010
*85-68-7	Butyl Benzyl Phthalate	**0.074J**	0.36	0.018
*105-60-2	Caprolactam	0.73U	0.73	0.12
86-74-8	Carbazole	**0.52J**	1.8	0.097
59-50-7	4-Chloro-3-methylphenol	0.18U	0.18	0.041
*106-47-8	4-Chloroaniline	0.73U	0.73	0.097
111-91-1	Bis(2-chloroethoxy)methane	0.18U	0.18	0.012
111-44-4	Bis(2-chloroethyl) Ether	0.18U	0.18	0.0086
108-60-1	Bis(2-chloroisopropyl) Ether	0.18U	0.18	0.029
91-58-7	2-Chloronaphthalene	0.18U	0.18	0.029
95-57-8	2-Chlorophenol	0.18U	0.18	0.0086
7005-72-3	4-Chlorophenyl Phenyl Ether	0.18U	0.18	0.0079
*218-01-9	Chrysene	**3.0**	0.18	0.0093
*53-70-3	Dibenz(a,h)anthracene	**0.39**	0.36	0.014
132-64-9	Dibenzofuran	**0.68**	0.18	0.0090
84-74-2	Di-n-butyl Phthalate	0.73U	0.73	0.15
91-94-1	3,3´-Dichlorobenzidine	9.1U	9.1	0.35

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	10	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	92		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.36U	0.36	0.017
84-66-2	Diethyl Phthalate	0.18U	0.18	0.026
105-67-9	2,4-Dimethylphenol	1.8U	1.8	0.32
131-11-3	Dimethyl Phthalate	0.18U	0.18	0.020
534-52-1	4,6-Dinitro-2-methylphenol	1.8U	1.8	0.060
51-28-5	2,4-Dinitrophenol	1.8U	1.8	0.42
121-14-2	2,4-Dinitrotoluene	0.36U	0.36	0.054
606-20-2	2,6-Dinitrotoluene	0.18U	0.18	0.017
117-84-0	Di-n-octyl Phthalate	0.18U	0.18	0.012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.20J**	0.36	0.045
206-44-0	Fluoranthene	**5.6**	0.18	0.0061
86-73-7	Fluorene	**0.53**	0.36	0.0066
118-74-1	Hexachlorobenzene	0.18U	0.18	0.011
87-68-3	Hexachlorobutadiene	0.18U	0.18	0.0079
77-47-4	Hexachlorocyclopentadiene	0.18U	0.18	0.029
67-72-1	Hexachloroethane	0.18U	0.18	0.015
*193-39-5	Indeno(1,2,3-cd)pyrene	**1.2**	0.36	0.034
78-59-1	Isophorone	0.18U	0.18	0.011
91-57-6	2-Methylnaphthalene	**0.36**	0.18	0.015
95-48-7	2-Methylphenol	0.18U	0.18	0.037
*106-44-5	4-Methylphenol	0.18U	0.18	0.022
91-20-3	Naphthalene	**0.27**	0.18	0.0056
88-74-4	2-Nitroaniline	0.18U	0.18	0.064
99-09-2	3-Nitroaniline	0.36U	0.36	0.18
100-01-6	4-Nitroaniline	0.36U	0.36	0.17
98-95-3	Nitrobenzene	0.18U	0.18	0.016
100-02-7	4-Nitrophenol	7.3U	7.3	0.29
88-75-5	2-Nitrophenol	0.18U	0.18	0.017
86-30-6	N-Nitroso-diphenylamine	0.18U	0.18	0.011
621-64-7	N-Nitroso-di-n-propylamine	0.18U	0.18	0.024
87-86-5	Pentachlorophenol	1.8U	1.8	0.16

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	10	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	92		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**6.4**	0.18	0.0079
*108-95-2	Phenol	1.8U	1.8	0.014
129-00-0	Pyrene	**5.8**	0.18	0.013
88-06-2	2,4,6-Trichlorophenol	0.18U	0.18	0.019
95-95-4	2,4,5-Trichlorophenol	0.18U	0.18	0.043

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Percent Solids:	92		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.84**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:39	DSC	1213521
Arsenic	**2.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Barium	**63**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:47	DSC	1213264
Beryllium	**0.27**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Cadmium	**0.19**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Chromium	**12**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:47	DSC	1213264
Cobalt	**2.8**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Copper	**9.1**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Iron	**6200**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 14:03	CKD	1213263
Lead	**99**		25	0.16	mg/kg dry wt.	25	USEPA-6020A	11/07/12 11:42	DSC	1213264
Manganese	**190**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 11:42	DSC	1213264
Molybdenum	**0.81**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Mercury	**0.012**	J	0.047	0.0057	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:51	CKD	1213511
Nickel	**8.0**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Selenium	**0.088**	J	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Silver	**0.063**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Thallium	**0.038**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:49	DSC	1213264
Vanadium	**13**		1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/07/12 11:47	DSC	1213264
Zinc	**38**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/09/12 08:39	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-108**	Sampled:	10/26/12 08:50
Lab Sample ID:	**1210603-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**92**	0.1	0.1	%	1	USEPA-3550C	10/31/12 15:00	CLB	1213281

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/1/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/09/12 By: ZZZ
QC Batch:	1213317	Analytical Batch:	2K12057
Percent Solids:	85		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.39U	0.39	0.0020
11104-28-2	PCB-1221	0.39U	0.39	0.0025
11141-16-5	PCB-1232	0.39U	0.39	0.0025
53469-21-9	PCB-1242	0.39U	0.39	0.0081
12672-29-6	PCB-1248	0.39U	0.39	0.0029
11097-69-1	PCB-1254	**0.026J**	0.39	0.0040
11096-82-5	PCB-1260	**0.10J**	0.39	0.0033

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*85*	*45-135*
Tetrachloro-m-xylene	*77*	*56-123*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/2/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/03/12 By: DLV
QC Batch:	1213445	Analytical Batch:	2K05016
Percent Solids:	85		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.88U	0.88	0.064
71-43-2	Benzene	**0.041J**	0.059	0.0083
75-27-4	Bromodichloromethane	0.059U	0.059	0.0079
75-25-2	Bromoform	0.059U	0.059	0.015
74-83-9	Bromomethane	0.059U	0.059	0.025
75-15-0	Carbon Disulfide	0.29U	0.29	0.014
56-23-5	Carbon Tetrachloride	0.059U	0.059	0.020
108-90-7	Chlorobenzene	0.059U	0.059	0.0099
75-00-3	Chloroethane	0.059U	0.059	0.021
67-66-3	Chloroform	0.059U	0.059	0.0099
74-87-3	Chloromethane	0.059U	0.059	0.023
110-82-7	Cyclohexane	0.29U	0.29	0.028
96-12-8	1,2-Dibromo-3-chloropropane	0.29U	0.29	0.030
124-48-1	Dibromochloromethane	0.059U	0.059	0.0089
106-93-4	1,2-Dibromoethane	0.059U	0.059	0.019
95-50-1	1,2-Dichlorobenzene	0.059U	0.059	0.014
541-73-1	1,3-Dichlorobenzene	0.059U	0.059	0.014
106-46-7	1,4-Dichlorobenzene	0.059U	0.059	0.015
75-71-8	Dichlorodifluoromethane	0.059U	0.059	0.013
75-34-3	1,1-Dichloroethane	0.059U	0.059	0.013
107-06-2	1,2-Dichloroethane	0.059U	0.059	0.012
75-35-4	1,1-Dichloroethene	0.059U	0.059	0.012
156-59-2	cis-1,2-Dichloroethene	0.059U	0.059	0.013
156-60-5	trans-1,2-Dichloroethene	0.059U	0.059	0.014
78-87-5	1,2-Dichloropropane	0.059U	0.059	0.016
10061-01-5	cis-1,3-Dichloropropene	0.059U	0.059	0.011
10061-02-6	trans-1,3-Dichloropropene	0.059U	0.059	0.011
100-41-4	Ethylbenzene	**0.023J**	0.059	0.012
591-78-6	2-Hexanone	2.9U	2.9	0.029

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/2/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/03/12 By: DLV
QC Batch:	1213445	Analytical Batch:	2K05016
Percent Solids:	85		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	**0.033J**	0.059	0.013
79-20-9	Methyl Acetate	0.29U	0.29	0.038
1634-04-4	Methyl tert-Butyl Ether	0.059U	0.059	0.011
108-87-2	Methylcyclohexane	**0.033J**	0.29	0.022
75-09-2	Methylene Chloride	0.12U	0.12	0.031
78-93-3	2-Butanone (MEK)	0.88U	0.88	0.074
108-10-1	4-Methyl-2-pentanone (MIBK)	2.9U	2.9	0.023
100-42-5	Styrene	0.059U	0.059	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.059U	0.059	0.015
127-18-4	Tetrachloroethene	0.059U	0.059	0.016
108-88-3	Toluene	**0.13**	0.059	0.013
120-82-1	1,2,4-Trichlorobenzene	0.059U	0.059	0.0082
71-55-6	1,1,1-Trichloroethane	0.059U	0.059	0.0081
79-00-5	1,1,2-Trichloroethane	0.059U	0.059	0.019
79-01-6	Trichloroethene	0.059U	0.059	0.012
75-69-4	Trichlorofluoromethane	0.059U	0.059	0.016
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.059U	0.059	0.021
75-01-4	Vinyl Chloride	0.047U	0.047	0.0099
1330-20-7	Xylene (Total)	**0.096J**	0.18	0.024

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*102*	*75-123*
1,2-Dichloroethane-d4	*99*	*83-116*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*100*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	100	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	85		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**3.8**	2.0	0.093
208-96-8	Acenaphthylene	2.0U	2.0	0.097
98-86-2	Acetophenone	2.0U	2.0	1.2
*120-12-7	Anthracene	**9.2**	2.0	0.10
1912-24-9	Atrazine	2.0U	2.0	1.1
100-52-7	Benzaldehyde	7.8U	7.8	1.1
*56-55-3	Benzo(a)anthracene	**24**	2.0	0.17
*50-32-8	Benzo(a)pyrene	**17**	2.0	0.10
*205-99-2	Benzo(b)fluoranthene	**22**	2.0	0.20
*207-08-9	Benzo(k)fluoranthene	**6.5**	2.0	0.26
*191-24-2	Benzo(g,h,i)perylene	**9.5**	3.9	0.097
92-52-4	1,1'-Biphenyl	2.0U	2.0	1.3
101-55-3	4-Bromophenyl Phenyl Ether	2.0U	2.0	0.11
*85-68-7	Butyl Benzyl Phthalate	**0.44J**	3.9	0.20
*105-60-2	Caprolactam	7.8U	7.8	1.3
86-74-8	Carbazole	**7.7J**	20	1.0
59-50-7	4-Chloro-3-methylphenol	2.0U	2.0	0.44
*106-47-8	4-Chloroaniline	7.8U	7.8	1.0
111-91-1	Bis(2-chloroethoxy)methane	2.0U	2.0	0.13
111-44-4	Bis(2-chloroethyl) Ether	2.0U	2.0	0.093
108-60-1	Bis(2-chloroisopropyl) Ether	2.0U	2.0	0.32
91-58-7	2-Chloronaphthalene	2.0U	2.0	0.31
95-57-8	2-Chlorophenol	2.0U	2.0	0.093
7005-72-3	4-Chlorophenyl Phenyl Ether	2.0U	2.0	0.085
*218-01-9	Chrysene	**21**	2.0	0.10
*53-70-3	Dibenz(a,h)anthracene	**3.1J**	3.9	0.15
132-64-9	Dibenzofuran	**1.7J**	2.0	0.097
84-74-2	Di-n-butyl Phthalate	7.8U	7.8	1.7
91-94-1	3,3´-Dichlorobenzidine	98U	98	3.8

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TRIMATRIX LABORATORIES

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Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	100	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	85		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	3.9U	3.9	0.18
84-66-2	Diethyl Phthalate	2.0U	2.0	0.28
105-67-9	2,4-Dimethylphenol	20U	20	3.5
131-11-3	Dimethyl Phthalate	2.0U	2.0	0.22
534-52-1	4,6-Dinitro-2-methylphenol	20U	20	0.64
51-28-5	2,4-Dinitrophenol	20U	20	4.5
121-14-2	2,4-Dinitrotoluene	3.9U	3.9	0.58
606-20-2	2,6-Dinitrotoluene	2.0U	2.0	0.18
117-84-0	Di-n-octyl Phthalate	2.0U	2.0	0.13
*117-81-7	Bis(2-ethylhexyl) Phthalate	**1.1J**	3.9	0.48
206-44-0	Fluoranthene	**48**	2.0	0.066
86-73-7	Fluorene	**3.4J**	3.9	0.071
118-74-1	Hexachlorobenzene	2.0U	2.0	0.12
87-68-3	Hexachlorobutadiene	2.0U	2.0	0.085
77-47-4	Hexachlorocyclopentadiene	2.0U	2.0	0.32
67-72-1	Hexachloroethane	2.0U	2.0	0.16
*193-39-5	Indeno(1,2,3-cd)pyrene	**9.2**	3.9	0.36
78-59-1	Isophorone	2.0U	2.0	0.12
91-57-6	2-Methylnaphthalene	**0.96J**	2.0	0.16
95-48-7	2-Methylphenol	2.0U	2.0	0.39
*106-44-5	4-Methylphenol	2.0U	2.0	0.24
91-20-3	Naphthalene	**0.52J**	2.0	0.060
88-74-4	2-Nitroaniline	2.0U	2.0	0.69
99-09-2	3-Nitroaniline	3.9U	3.9	1.9
100-01-6	4-Nitroaniline	3.9U	3.9	1.8
98-95-3	Nitrobenzene	2.0U	2.0	0.17
100-02-7	4-Nitrophenol	78U	78	3.1
88-75-5	2-Nitrophenol	2.0U	2.0	0.18
86-30-6	N-Nitroso-diphenylamine	2.0U	2.0	0.12
621-64-7	N-Nitroso-di-n-propylamine	2.0U	2.0	0.25
87-86-5	Pentachlorophenol	20U	20	1.7

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Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Unit:	mg/kg dry	Prepared:	11/5/2012 By: ALK
Dilution Factor:	100	Analyzed:	11/20/12 By: JLB
QC Batch:	1213430	Analytical Batch:	2K21007
Percent Solids:	85		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*85-01-8	Phenanthrene	**37**	2.0	0.085
*108-95-2	Phenol	20U	20	0.15
129-00-0	Pyrene	**43**	2.0	0.14
88-06-2	2,4,6-Trichlorophenol	2.0U	2.0	0.20
95-95-4	2,4,5-Trichlorophenol	2.0U	2.0	0.46

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00
Percent Solids:	85		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.29**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:41	DSC	1213521
Arsenic	**2.1**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Barium	**29**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/07/12 11:56	DSC	1213264
Beryllium	**0.18**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Cadmium	**0.068**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Chromium	**15**		5.0	0.070	mg/kg dry wt.	5	USEPA-6020A	11/07/12 11:56	DSC	1213264
Cobalt	**2.4**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Copper	**6.4**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Iron	**7300**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 14:10	CKD	1213263
Lead	**8.4**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Manganese	**150**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/07/12 11:51	DSC	1213264
Molybdenum	**0.83**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Mercury	0.046	U	0.046	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 11:56	CKD	1213511
Nickel	**7.0**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Silver	**0.048**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Thallium	**0.025**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Vanadium	**9.4**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/07/12 09:54	DSC	1213264
Zinc	**26**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/09/12 08:41	DSC	1213641

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-102612-DD-109**	Sampled:	10/26/12 09:20
Lab Sample ID:	**1210603-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/26/12 14:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**85**	0.1	0.1	%	1	USEPA-3550C	10/31/12 15:00	CLB	1213281

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/09/12 By: ZZZ
QC Batch:	1213428	Analytical Batch:	2K12028

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*95*	*52-139*
Tetrachloro-m-xylene	*77*	*26-118*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	**9.1**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	**1.4**	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	**1.1**	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	**5.8**	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	**0.73**	0.50	0.026
50-32-8	Benzo(a)pyrene	**0.53**	0.50	0.040
*205-99-2	Benzo(b)fluoranthene	**0.65**	0.50	0.071
*207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	**0.60**	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	**0.90**	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	**0.72**	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	**1.1**	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*45*	*20-70*
Phenol-d6	*25*	*18-45*
Nitrobenzene-d5	*81*	*31-123*
2-Fluorobiphenyl	*82*	*25-113*
2,4,6-Tribromophenol	*98*	*30-121*
o-Terphenyl	*89*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-110**	Sampled:	10/26/12 10:10
Lab Sample ID:	**1210603-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**8.9**		1.0	0.15	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Arsenic	**7.0**		1.0	0.18	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Barium	**11**		1.0	0.14	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Chromium	**37**		1.0	0.20	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Cobalt	**3.5**		1.0	0.050	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Copper	**34**		1.0	0.13	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Iron	**37**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 19:20	KLV	1213303
Lead	**0.61**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Manganese	**2.1**		1.0	0.14	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Molybdenum	**13**		1.0	0.075	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 11:48	CKD	1213552
Nickel	**6.8**		1.0	0.17	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Selenium	**0.96**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Thallium	**0.087**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Vanadium	**18**		1.0	0.066	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305
Zinc	**18**		10	1.5	ug/L	1	USEPA-6020A	11/02/12 13:14	MSM	1213305

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/09/12 By: ZZZ
QC Batch:	1213428	Analytical Batch:	2K12028

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*102*	*52-139*
Tetrachloro-m-xylene	*87*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	**8.9**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	**1.2**	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	**0.95J**	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	**6.1**	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
*205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
*207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	**1.0**	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	**0.66**	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

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Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	**0.83**	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*39*	*20-70*
Phenol-d6	*22*	*18-45*
Nitrobenzene-d5	*73*	*31-123*
2-Fluorobiphenyl	*61*	*25-113*
2,4,6-Tribromophenol	*102*	*30-121*
o-Terphenyl	*83*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210603**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102612-DD-111**	Sampled:	10/26/12 10:40
Lab Sample ID:	**1210603-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/26/12 14:00

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**9.0**		1.0	0.15	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Arsenic	**7.0**		1.0	0.18	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Barium	**11**		1.0	0.14	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Chromium	**38**		1.0	0.20	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Cobalt	**3.5**		1.0	0.050	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Copper	**33**		1.0	0.13	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Iron	**22**		20	6.5	ug/L	1	USEPA-6010C	11/05/12 19:24	KLV	1213303
Lead	**0.62**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Manganese	**0.97**	**J**	1.0	0.14	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Molybdenum	**13**		1.0	0.075	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 11:53	CKD	1213552
Nickel	**6.3**		1.0	0.17	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Selenium	1.0	U	1.0	0.31	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Thallium	**0.14**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Vanadium	**18**		1.0	0.066	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305
Zinc	**11**		10	1.5	ug/L	1	USEPA-6020A	11/02/12 13:16	MSM	1213305

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213317 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/07/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K08049			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*97*	*45-135*				
Tetrachloro-m-xylene				*86*	*56-123*				
Laboratory Control Sample					Analyzed:	11/07/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K08049			
PCB-1248	0.170		**0.142 J**	83	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*83*	*45-135*				
Tetrachloro-m-xylene				*81*	*56-123*				
QC Batch: 1213428 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*74*	*26-118*				
Laboratory Control Sample					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248	1.00		**0.939**	94	44-146	--	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*106*	*52-139*				

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213428 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8082A									
Laboratory Control Sample (Continued)					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
Surrogates (Continued):									
Tetrachloro-m-xylene				*76*	*26-118*				
Laboratory Control Sample Duplicate					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.887**	89	44-146	6	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*72*	*26-118*				

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213657 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Acetone	5.0 U	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U		1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	5.0 U		5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*104*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Acetone	40.0	**50.2**	126	53-138	--	20	5.0	1.1
Benzene	40.0	**41.1**	103	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**41.9**	105	82-124	--	20	1.0	0.13
Bromoform	40.0	**38.0**	95	65-123	--	20	1.0	0.26
Bromomethane	40.0	**42.2**	106	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**70.5**	**176**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**42.9**	107	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**41.7**	104	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.5**	99	76-124	--	20	1.0	0.14
Chloroform	40.0	**41.5**	104	82-119	--	20	1.0	0.098
Chloromethane	40.0	**39.6**	99	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**39.3**	98	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**40.6**	102	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**39.4**	98	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**43.6**	109	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.2**	108	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene	40.0	**43.1**	108	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**41.5**	104	79-122	--	20	1.0	0.25
Dichlorodifluoromethane	40.0	**37.9**	95	68-130	--	20	1.0	0.21
1,1-Dichloroethane	40.0	**40.7**	102	80-118	--	20	1.0	0.18
1,2-Dichloroethane	40.0	**41.7**	104	81-122	--	20	1.0	0.21
1,1-Dichloroethene	40.0	**41.0**	103	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**42.3**	106	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**41.4**	103	76-126	--	20	1.0	0.20
1,2-Dichloropropane	40.0	**41.7**	104	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**37.8**	94	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**36.8**	92	73-116	--	20	1.0	0.19
Ethylbenzene	40.0	**44.1**	110	87-119	--	20	1.0	0.21
2-Hexanone	40.0	**41.1**	103	55-141	--	20	5.0	0.49
Isopropylbenzene	40.0	**39.6**	99	76-126	--	20	1.0	0.22
Methyl Acetate	40.0	**39.7**	99	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**42.7**	107	72-128	--	20	1.0	0.19
Methylcyclohexane	40.0	**39.3**	98	78-126	--	20	5.0	0.37
Methylene Chloride	40.0	**38.8**	97	75-129	--	20	1.0	0.24
2-Butanone (MEK)	40.0	**46.7**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**41.7**	104	60-142	--	20	5.0	0.40
Styrene	40.0	**40.0**	100	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**42.8**	107	70-137	--	20	1.0	0.26
Tetrachloroethene	40.0	**42.4**	106	81-117	--	20	1.0	0.23
Toluene	40.0	**41.2**	103	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**38.5**	96	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**42.1**	105	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**42.1**	105	83-121	--	20	1.0	0.20
Trichloroethene	40.0	**41.5**	104	82-119	--	20	1.0	0.21
Trichlorofluoromethane	40.0	**42.8**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**41.6**	104	76-126	--	20	1.0	0.24
Vinyl Chloride	40.0	**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)	120	**129**	107	86-119	--	20	3.0	0.39
Surrogates:								
Dibromofluoromethane			*100*	*85-118*				
1,2-Dichloroethane-d4			*103*	*87-122*				
Toluene-d8			*101*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/07/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K08019			
Surrogates (Continued):									
4-Bromofluorobenzene				*101*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/07/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K08019			
Acetone		40.0	**51.0**	127	53-138	1	20	5.0	1.1
Benzene		40.0	**39.3**	98	84-119	5	20	1.0	0.11
Bromodichloromethane		40.0	**40.7**	102	82-124	3	20	1.0	0.13
Bromoform		40.0	**37.9**	95	65-123	0.2	20	1.0	0.26
Bromomethane		40.0	**44.2**	110	55-142	4	20	1.0	0.21
Carbon Disulfide		40.0	**69.9**	**175**	70-131	0.8	20	5.0	0.23
Carbon Tetrachloride		40.0	**40.1**	100	79-127	7	20	1.0	0.26
Chlorobenzene		40.0	**40.0**	100	84-118	4	20	1.0	0.17
Chloroethane		40.0	**37.2**	93	76-124	6	20	1.0	0.14
Chloroform		40.0	**39.6**	99	82-119	5	20	1.0	0.098
Chloromethane		40.0	**39.0**	97	73-125	2	20	1.0	0.29
Cyclohexane		40.0	**37.5**	94	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**41.1**	103	58-130	1	20	1.0	0.13
Dibromochloromethane		40.0	**38.3**	96	74-121	3	20	1.0	0.15
1,2-Dibromoethane		40.0	**43.0**	107	84-125	2	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**42.3**	106	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**41.6**	104	81-124	4	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**40.3**	101	79-122	3	20	1.0	0.25
Dichlorodifluoromethane		40.0	**34.9**	87	68-130	8	20	1.0	0.21
1,1-Dichloroethane		40.0	**39.7**	99	80-118	2	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.3**	101	81-122	3	20	1.0	0.21
1,1-Dichloroethene		40.0	**39.1**	98	77-123	5	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**40.6**	102	84-119	4	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**40.0**	100	76-126	3	20	1.0	0.20
1,2-Dichloropropane		40.0	**40.1**	100	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.3**	93	77-120	1	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.8**	92	73-116	0.08	20	1.0	0.19
Ethylbenzene		40.0	**41.6**	104	87-119	6	20	1.0	0.21
2-Hexanone		40.0	**42.6**	106	55-141	3	20	5.0	0.49
Isopropylbenzene		40.0	**37.9**	95	76-126	4	20	1.0	0.22
Methyl Acetate		40.0	**40.2**	101	67-129	1	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**43.2**	108	72-128	1	20	1.0	0.19
Methylcyclohexane		40.0	**37.3**	93	78-126	5	20	5.0	0.37
Methylene Chloride		40.0	**37.7**	94	75-129	3	20	1.0	0.24
2-Butanone (MEK)		40.0	**48.2**	121	52-142	3	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**42.3**	106	60-142	1	20	5.0	0.40
Styrene		40.0	**38.5**	96	84-120	4	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.8**	105	70-137	2	20	1.0	0.26
Tetrachloroethene		40.0	**40.0**	100	81-117	6	20	1.0	0.23
Toluene		40.0	**39.1**	98	85-118	5	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**38.5**	96	75-125	0.08	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**40.2**	100	81-122	5	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.7**	102	83-121	3	20	1.0	0.20
Trichloroethene		40.0	**40.5**	101	82-119	3	20	1.0	0.21
Trichlorofluoromethane		40.0	**39.1**	98	76-128	9	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**38.4**	96	76-126	8	20	1.0	0.24
Vinyl Chloride		40.0	**37.6**	94	77-123	6	20	1.0	0.21
Xylene (Total)		120	**122**	102	86-119	5	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*103*	*87-122*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

QC Batch: 1213445 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank — Analyzed: 11/02/2012 By: DLV
Unit: mg/kg wet — Analytical Batch: 2K05016

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acetone			0.75 U					0.75	0.054
Benzene			0.050 U					0.050	0.0071
Bromodichloromethane			0.050 U					0.050	0.0067
Bromoform			0.050 U					0.050	0.013
Bromomethane			0.050 U					0.050	0.021
Carbon Disulfide			**0.017 J**			--		0.25	0.012
Carbon Tetrachloride			0.050 U					0.050	0.017
Chlorobenzene			0.050 U					0.050	0.0084
Chloroethane			0.050 U					0.050	0.018
Chloroform			0.050 U					0.050	0.0084
Chloromethane			0.050 U					0.050	0.020
Cyclohexane			0.25 U					0.25	0.024
1,2-Dibromo-3-chloropropane			0.25 U					0.25	0.026
Dibromochloromethane			0.050 U					0.050	0.0076
1,2-Dibromoethane			0.050 U					0.050	0.016
1,2-Dichlorobenzene			0.050 U					0.050	0.012
1,3-Dichlorobenzene			0.050 U			--		0.050	0.012
1,4-Dichlorobenzene			0.050 U			--		0.050	0.012
Dichlorodifluoromethane			0.050 U					0.050	0.011
1,1-Dichloroethane			0.050 U					0.050	0.011
1,2-Dichloroethane			0.050 U					0.050	0.011
1,1-Dichloroethene			0.050 U					0.050	0.010
cis-1,2-Dichloroethene			0.050 U					0.050	0.011
trans-1,2-Dichloroethene			0.050 U					0.050	0.012
1,2-Dichloropropane			0.050 U					0.050	0.014
cis-1,3-Dichloropropene			0.050 U					0.050	0.0095
trans-1,3-Dichloropropene			0.050 U					0.050	0.0094
Ethylbenzene			0.050 U					0.050	0.010
2-Hexanone			2.5 U					2.5	0.025
Isopropylbenzene			0.050 U					0.050	0.011
Methyl Acetate			0.25 U					0.25	0.032
Methyl tert-Butyl Ether			0.050 U					0.050	0.0095
Methylcyclohexane			0.25 U					0.25	0.018
Methylene Chloride			0.10 U					0.10	0.027
2-Butanone (MEK)			0.75 U					0.75	0.063
4-Methyl-2-pentanone (MIBK)			2.5 U					2.5	0.020

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213445 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank (Continued) Analyzed: 11/02/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K05016

Styrene		0.050 U				0.050	0.010
1,1,2,2-Tetrachloroethane		0.050 U				0.050	0.013
Tetrachloroethene		0.050 U				0.050	0.014
Toluene		0.050 U				0.050	0.011
1,2,4-Trichlorobenzene		**0.014 J**			--	0.050	0.0070
1,1,1-Trichloroethane		0.050 U				0.050	0.0069
1,1,2-Trichloroethane		0.050 U				0.050	0.016
Trichloroethene		0.050 U				0.050	0.011
Trichlorofluoromethane		0.050 U				0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		0.050 U				0.050	0.018
Vinyl Chloride		0.040 U				0.040	0.0084
Xylene (Total)		0.15 U				0.15	0.020

Method Blank Analyzed: 11/02/2012 By: DLV
Unit: ug/L Analytical Batch: 2K05016

Surrogates:			
Dibromofluoromethane	*102*	*75-123*	
1,2-Dichloroethane-d4	*101*	*83-116*	
Toluene-d8	*99*	*85-113*	
4-Bromofluorobenzene	*98*	*81-117*	

Laboratory Control Sample Analyzed: 11/02/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K05016

Acetone	2.00	**1.91**	95	64-130	--	20	0.75	0.054
Benzene	2.00	**2.09**	104	85-118	--	20	0.050	0.0071
Bromodichloromethane	2.00	**2.07**	103	80-123	--	20	0.050	0.0067
Bromoform	2.00	**2.06**	103	58-128	--	20	0.050	0.013
Bromomethane	2.00	**2.46**	123	57-139	--	20	0.050	0.021
Carbon Disulfide	2.00	**2.17**	108	65-138	--	20	0.25	0.012
Carbon Tetrachloride	2.00	**2.06**	103	76-125	--	20	0.050	0.017
Chlorobenzene	2.00	**2.07**	104	86-114	--	20	0.050	0.0084
Chloroethane	2.00	**2.26**	113	76-123	--	20	0.050	0.018
Chloroform	2.00	**2.07**	103	86-118	--	20	0.050	0.0084
Chloromethane	2.00	**2.14**	107	73-123	--	20	0.050	0.020
Cyclohexane	2.00	**2.12**	106	79-122	--	20	0.25	0.024
1,2-Dibromo-3-chloropropane	2.00	**1.99**	99	51-132	--	20	0.25	0.026
Dibromochloromethane	2.00	**2.07**	104	72-119	--	20	0.050	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213445 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/02/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K05016

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,2-Dibromoethane		2.00	**2.06**	103	81-118	--	20	0.050	0.016
1,2-Dichlorobenzene		2.00	**2.09**	104	82-124	--	20	0.050	0.012
1,3-Dichlorobenzene		2.00	**2.07**	104	85-119	--	20	0.050	0.012
1,4-Dichlorobenzene		2.00	**2.01**	101	85-119	--	20	0.050	0.012
Dichlorodifluoromethane		2.00	**2.17**	109	68-135	--	20	0.050	0.011
1,1-Dichloroethane		2.00	**2.06**	103	81-121	--	20	0.050	0.011
1,2-Dichloroethane		2.00	**2.06**	103	82-119	--	20	0.050	0.011
1,1-Dichloroethene		2.00	**2.08**	104	80-121	--	20	0.050	0.010
cis-1,2-Dichloroethene		2.00	**2.10**	105	85-118	--	20	0.050	0.011
trans-1,2-Dichloroethene		2.00	**2.11**	105	85-117	--	20	0.050	0.012
1,2-Dichloropropane		2.00	**2.06**	103	80-122	--	20	0.050	0.014
cis-1,3-Dichloropropene		2.00	**2.13**	106	79-121	--	20	0.050	0.0095
trans-1,3-Dichloropropene		2.00	**2.14**	107	73-125	--	20	0.050	0.0094
Ethylbenzene		2.00	**2.16**	108	84-116	--	20	0.050	0.010
2-Hexanone		2.00	**1.98 J**	99	63-131	--	20	2.5	0.025
Isopropylbenzene		2.00	**2.17**	109	82-125	--	20	0.050	0.011
Methyl Acetate		2.00	**1.75**	88	75-123	--	20	0.25	0.032
Methyl tert-Butyl Ether		2.00	**1.98**	99	81-119	--	20	0.050	0.0095
Methylcyclohexane		2.00	**2.14**	107	77-125	--	20	0.25	0.018
Methylene Chloride		2.00	**2.15**	108	78-123	--	20	0.10	0.027
2-Butanone (MEK)		2.00	**1.93**	97	68-130	--	20	0.75	0.063
4-Methyl-2-pentanone (MIBK)		2.00	**2.04 J**	102	68-133	--	20	2.5	0.020
Naphthalene		2.00	**2.10**	105	53-133	--	20	0.25	0.014
Styrene		2.00	**2.18**	109	79-115	--	20	0.050	0.010
1,1,2,2-Tetrachloroethane		2.00	**2.06**	103	75-125	--	20	0.050	0.013
Tetrachloroethene		2.00	**2.04**	102	85-116	--	20	0.050	0.014
Toluene		2.00	**2.12**	106	86-120	--	20	0.050	0.011
1,2,4-Trichlorobenzene		2.00	**2.08**	104	66-133	--	20	0.050	0.0070
1,1,1-Trichloroethane		2.00	**2.06**	103	84-121	--	20	0.050	0.0069
1,1,2-Trichloroethane		2.00	**2.07**	103	85-120	--	20	0.050	0.016
Trichloroethene		2.00	**2.03**	101	83-125	--	20	0.050	0.011
Trichlorofluoromethane		2.00	**2.10**	105	82-123	--	20	0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		2.00	**2.07**	103	81-122	--	20	0.050	0.018
Vinyl Chloride		2.00	**2.26**	113	77-124	--	20	0.040	0.0084
Xylene (Total)		6.00	**6.45**	108	84-117	--	20	0.15	0.020

Laboratory Control Sample Analyzed: 11/02/2012 By: DLV
Unit: ug/L Analytical Batch: 2K05016

Surrogates:

Dibromofluoromethane	*101*	*75-123*

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213445 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/02/2012 By: DLV

Unit: ug/L Analytical Batch: 2K05016

Surrogates (Continued):

1,2-Dichloroethane-d4	*99*	*83-116*
Toluene-d8	*101*	*85-113*
4-Bromofluorobenzene	*101*	*81-117*

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Acenaphthene	0.50 U			0.50
Acenaphthylene	0.50 U			0.50
Acetophenone	0.50 U			0.50
Anthracene	0.50 U			0.50
Atrazine	0.50 U			0.50
Benzaldehyde	0.50 U			0.50
Benzo(a)anthracene	0.50 U		--	0.50
Benzo(a)pyrene	0.50 U		--	0.50
Benzo(b)fluoranthene	0.50 U			0.50
Benzo(k)fluoranthene	0.50 U		--	0.50
Benzo(g,h,i)perylene	0.50 U			0.50
1,1'-Biphenyl	0.50 U			0.50
4-Bromophenyl Phenyl Ether	0.50 U			0.50
Butyl Benzyl Phthalate	1.0 U		--	1.0
Caprolactam	1.0 U			1.0
Carbazole	0.50 U			0.50
4-Chloro-3-methylphenol	0.50 U			0.50
4-Chloroaniline	1.0 U			1.0
Bis(2-chloroethoxy)methane	0.50 U			0.50
Bis(2-chloroethyl) Ether	0.50 U			0.50
Bis(2-chloroisopropyl) Ether	0.50 U		--	0.50
2-Chloronaphthalene	0.50 U			0.50
2-Chlorophenol	0.50 U			0.50
4-Chlorophenyl Phenyl Ether	0.50 U			0.50
Chrysene	0.50 U		--	0.50
Dibenz(a,h)anthracene	0.50 U			0.50
Dibenzofuran	0.50 U			0.50
Di-n-butyl Phthalate	1.0 U		--	1.0
3,3´-Dichlorobenzidine	1.0 U			1.0
2,4-Dichlorophenol	0.50 U			0.50
Diethyl Phthalate	0.50 U		--	0.50
2,4-Dimethylphenol	1.0 U			1.0
Dimethyl Phthalate	0.50 U			0.50
4,6-Dinitro-2-methylphenol	5.0 U			5.0
2,4-Dinitrophenol	5.0 U			5.0
2,4-Dinitrotoluene	0.50 U			0.50

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

2,6-Dinitrotoluene			0.50 U					0.50	
Di-n-octyl Phthalate			0.50 U					0.50	
Bis(2-ethylhexyl) Phthalate			0.50 U			--		0.50	
Fluoranthene			0.50 U					0.50	
Fluorene			0.50 U					0.50	
Hexachlorobenzene			0.50 U					0.50	
Hexachlorobutadiene			0.50 U					0.50	
Hexachlorocyclopentadiene			0.50 U					0.50	
Hexachloroethane			0.50 U					0.50	
Indeno(1,2,3-cd)pyrene			0.50 U					0.50	
Isophorone			0.50 U					0.50	
2-Methylnaphthalene			0.50 U					0.50	
2-Methylphenol			0.50 U					0.50	
4-Methylphenol			0.50 U					0.50	
Naphthalene			0.50 U					0.50	
2-Nitroaniline			0.50 U					0.50	
3-Nitroaniline			1.0 U					1.0	
4-Nitroaniline			1.0 U					1.0	
Nitrobenzene			0.50 U					0.50	
4-Nitrophenol			5.0 U					5.0	
2-Nitrophenol			0.50 U					0.50	
N-Nitroso-diphenylamine			0.50 U					0.50	
N-Nitroso-di-n-propylamine			0.50 U					0.50	
Pentachlorophenol			0.50 U					0.50	
Phenanthrene			0.50 U					0.50	
Phenol			0.50 U					0.50	
Pyrene			0.50 U					0.50	
2,4,6-Trichlorophenol			0.50 U					0.50	
2,4,5-Trichlorophenol			0.50 U					0.50	
Surrogates:									
2-Fluorophenol				*43*	*20-70*				
Phenol-d6				*29*	*18-45*				
Nitrobenzene-d5				*71*	*31-123*				
2-Fluorobiphenyl				*73*	*25-113*				
2,4,6-Tribromophenol				*71*	*30-121*				
o-Terphenyl				*81*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**6.85**	68	53-126	--	20	0.50	
Acenaphthylene		10.0	**6.76**	68	62-133	--	20	0.50	
Acetophenone		10.0	**4.66**	**47**	58-115	--	20	0.50	
Anthracene		10.0	**7.00**	70	64-130	--	20	0.50	
Atrazine		10.0	**8.40**	84	60-140	--	20	0.50	
Benzaldehyde		10.0	**0.250 J**	**2**	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.83**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.26**	73	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.83**	78	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**6.70**	67	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**8.11**	81	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**6.98**	70	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**7.53**	75	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**8.64**	86	58-141	--	20	1.0	
Caprolactam		10.0	**6.99**	70	23-76	--	20	1.0	
Carbazole		10.0	**7.54**	75	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**6.78**	68	53-120	--	20	0.50	
4-Chloroaniline		10.0	**1.41**	**14**	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**5.69**	57	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**6.18**	62	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**5.91**	59	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.05**	70	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.30**	63	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**6.92**	69	57-122	--	20	0.50	
Chrysene		10.0	**7.37**	74	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**8.35**	84	57-130	--	20	0.50	
Dibenzofuran		10.0	**6.97**	70	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.21**	82	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**7.96**	**40**	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**6.51**	65	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.72**	77	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.91**	59	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.61**	76	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**7.10**	71	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**7.59**	76	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**7.52**	75	55-131	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**7.08**	71	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.61**	86	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**9.06**	91	60-136	--	20	0.50	
Fluoranthene		10.0	**8.00**	80	64-138	--	20	0.50	
Fluorene		10.0	**6.96**	70	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**7.24**	72	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**7.16**	72	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**5.92**	59	21-138	--	20	0.50	
Hexachloroethane		10.0	**6.56**	66	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**8.21**	82	57-129	--	20	0.50	
Isophorone		10.0	**6.09**	61	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**6.73**	67	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.73**	57	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.88**	59	33-122	--	20	0.50	
Naphthalene		10.0	**6.80**	68	50-127	--	20	0.50	
2-Nitroaniline		10.0	**7.08**	71	57-130	--	20	0.50	
3-Nitroaniline		10.0	**3.64**	**36**	49-144	--	20	1.0	
4-Nitroaniline		10.0	**5.54**	55	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.47**	65	53-121	--	20	0.50	
4-Nitrophenol		10.0	**6.41**	64	17-70	--	20	5.0	
2-Nitrophenol		10.0	**6.21**	62	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.66**	77	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**6.20**	62	49-125	--	20	0.50	
Pentachlorophenol		10.0	**5.41**	54	21-124	--	20	0.50	
Phenanthrene		10.0	**7.38**	74	63-126	--	20	0.50	
Phenol		10.0	**5.94**	59	22-60	--	20	0.50	
Pyrene		10.0	**7.99**	80	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.77**	68	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.58**	76	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*58*	*20-70*				
Phenol-d6				***55***	*18-45*				
Nitrobenzene-d5				*63*	*31-123*				
2-Fluorobiphenyl				*69*	*25-113*				
2,4,6-Tribromophenol				*74*	*30-121*				
o-Terphenyl				*76*	*42-125*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213430 3550C Sonication Extraction/USEPA-8270C

Method Blank — Analyzed: 11/08/2012 By: JLB
Unit: mg/kg wet — Analytical Batch: 2K11004

Acenaphthene	0.017 U			0.017	0.00079
Acenaphthylene	0.017 U			0.017	0.00082
Acetophenone	0.017 U			0.017	0.0099
Anthracene	**0.0014 J**		--	0.017	0.00086
Atrazine	0.017 U		--	0.017	0.0097
Benzaldehyde	0.067 U			0.067	0.0096
Benzo(a)anthracene	**0.0076 J**		--	0.017	0.0014
Benzo(a)pyrene	**0.0048 J**		--	0.017	0.00086
*Benzo(b)fluoranthene	**0.0080 J**		--	0.017	0.0017
*Benzo(k)fluoranthene	**0.0062 J**		--	0.017	0.0022
Benzo(g,h,i)perylene	**0.0059 J**		--	0.033	0.00082
1,1'-Biphenyl	0.017 U		--	0.017	0.011
4-Bromophenyl Phenyl Ether	0.017 U			0.017	0.00094
Butyl Benzyl Phthalate	**0.0062 J**		--	0.033	0.0017
Caprolactam	0.067 U		--	0.067	0.011
Carbazole	0.17 U		--	0.17	0.0089
4-Chloro-3-methylphenol	0.017 U			0.017	0.0038
4-Chloroaniline	0.067 U			0.067	0.0088
Bis(2-chloroethoxy)methane	0.017 U			0.017	0.0011
Bis(2-chloroethyl) Ether	0.017 U			0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.017 U		--	0.017	0.0027
2-Chloronaphthalene	0.017 U			0.017	0.0026
2-Chlorophenol	0.017 U			0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.017 U			0.017	0.00072
Chrysene	**0.0087 J**		--	0.017	0.00086
Dibenz(a,h)anthracene	**0.0045 J**		--	0.033	0.0013
Dibenzofuran	0.017 U			0.017	0.00082
Di-n-butyl Phthalate	**0.015 J**		--	0.067	0.014
3,3´-Dichlorobenzidine	0.83 U			0.83	0.032
2,4-Dichlorophenol	0.033 U			0.033	0.0015
Diethyl Phthalate	**0.0045 J**		--	0.017	0.0024
2,4-Dimethylphenol	0.17 U			0.17	0.030
Dimethyl Phthalate	0.017 U		--	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.17 U			0.17	0.0055
2,4-Dinitrophenol	0.17 U			0.17	0.038
2,4-Dinitrotoluene	0.033 U			0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213430 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/08/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K11004

2,6-Dinitrotoluene			0.017 U				0.017	0.0016
Di-n-octyl Phthalate			**0.0066 J**			--	0.017	0.0011
Bis(2-ethylhexyl) Phthalate			**0.018 J**			--	0.033	0.0041
Fluoranthene			**0.0069 J**			--	0.017	0.00056
Fluorene			0.033 U				0.033	0.00060
Hexachlorobenzene			0.017 U				0.017	0.0010
Hexachlorobutadiene			0.017 U				0.017	0.00072
Hexachlorocyclopentadiene			0.017 U				0.017	0.0027
Hexachloroethane			0.017 U				0.017	0.0013
Indeno(1,2,3-cd)pyrene			**0.0059 J**			--	0.033	0.0031
Isophorone			0.017 U			--	0.017	0.0010
2-Methylnaphthalene			0.017 U				0.017	0.0014
2-Methylphenol			0.017 U				0.017	0.0034
4-Methylphenol			0.017 U				0.017	0.0020
Naphthalene			0.017 U				0.017	0.00051
2-Nitroaniline			0.017 U				0.017	0.0059
3-Nitroaniline			0.033 U				0.033	0.016
4-Nitroaniline			0.033 U				0.033	0.016
Nitrobenzene			0.017 U				0.017	0.0015
4-Nitrophenol			0.67 U				0.67	0.027
2-Nitrophenol			0.017 U				0.017	0.0015
N-Nitroso-diphenylamine			0.017 U				0.017	0.0010
N-Nitroso-di-n-propylamine			0.017 U				0.017	0.0022
Pentachlorophenol			0.17 U				0.17	0.015
Phenanthrene			**0.0017 J**			--	0.017	0.00072
Phenol			0.17 U			--	0.17	0.0013
Pyrene			**0.0069 J**			--	0.017	0.0012
2,4,6-Trichlorophenol			0.017 U				0.017	0.0017
2,4,5-Trichlorophenol			0.017 U				0.017	0.0039
Surrogates:								
2-Fluorophenol				*57*	*33-113*			
Phenol-d6				*59*	*30-115*			
Nitrobenzene-d5				*60*	*33-131*			
2-Fluorobiphenyl				*64*	*46-122*			
2,4,6-Tribromophenol				*65*	*12-124*			
o-Terphenyl				*72*	*20-155*			

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213430 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/08/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K11004

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.327	**0.278**	85	55-113	--	20	0.017	0.00079	
Acenaphthylene	0.327	**0.280**	86	56-138	--	20	0.017	0.00082	
Acetophenone	0.327	**0.262**	80	26-127	--	20	0.017	0.0099	
Anthracene	0.327	**0.293**	90	63-134	--	20	0.017	0.00086	
Atrazine	0.327	**0.327**	100	52-125	--	20	0.017	0.0097	
*Benzaldehyde	0.327	**0.219**	67	10-126	--	20	0.067	0.0096	
Benzo(a)anthracene	0.327	**0.297**	91	53-142	--	20	0.017	0.0014	
Benzo(a)pyrene	0.327	**0.297**	91	54-136	--	20	0.017	0.00086	
Benzo(b)fluoranthene	0.327	**0.303**	93	49-146	--	20	0.017	0.0017	
Benzo(k)fluoranthene	0.327	**0.268**	82	56-136	--	20	0.017	0.0022	
Benzo(g,h,i)perylene	0.327	**0.317**	97	47-141	--	20	0.033	0.00082	
1,1'-Biphenyl	0.327	**0.256**	78	55-105	--	20	0.017	0.011	
4-Bromophenyl Phenyl Ether	0.327	**0.296**	91	61-124	--	20	0.017	0.00094	
Butyl Benzyl Phthalate	0.327	**0.330**	101	51-145	--	20	0.033	0.0017	
Caprolactam	0.327	**0.115**	**35**	44-130	--	20	0.067	0.011	
Carbazole	0.327	**0.336**	103	76-126	--	20	0.17	0.0089	
4-Chloro-3-methylphenol	0.327	**0.310**	95	57-124	--	20	0.017	0.0038	
4-Chloroaniline	0.327	**0.253**	**77**	7-75	--	20	0.067	0.0088	
Bis(2-chloroethoxy)methane	0.327	**0.239**	73	57-121	--	20	0.017	0.0011	
Bis(2-chloroethyl) Ether	0.327	**0.258**	79	54-112	--	20	0.017	0.00079	
Bis(2-chloroisopropyl) Ether	0.327	**0.242**	74	62-116	--	20	0.017	0.0027	
2-Chloronaphthalene	0.327	**0.285**	87	67-111	--	20	0.017	0.0026	
2-Chlorophenol	0.327	**0.254**	78	62-118	--	20	0.017	0.00079	
4-Chlorophenyl Phenyl Ether	0.327	**0.271**	83	62-114	--	20	0.017	0.00072	
Chrysene	0.327	**0.290**	89	66-137	--	20	0.017	0.00086	
Dibenz(a,h)anthracene	0.327	**0.330**	101	52-142	--	20	0.033	0.0013	
Dibenzofuran	0.327	**0.283**	86	65-119	--	20	0.017	0.00082	
Di-n-butyl Phthalate	0.327	**0.321**	98	65-140	--	20	0.067	0.014	
3,3´-Dichlorobenzidine	0.654	**0.583 J**	89	10-107	--	20	0.83	0.032	
2,4-Dichlorophenol	0.327	**0.281**	86	50-128	--	20	0.033	0.0015	
Diethyl Phthalate	0.327	**0.308**	94	59-128	--	20	0.017	0.0024	
2,4-Dimethylphenol	0.327	**0.247**	76	40-122	--	20	0.17	0.030	
Dimethyl Phthalate	0.327	**0.299**	92	66-122	--	20	0.017	0.0019	
4,6-Dinitro-2-methylphenol	0.327	**0.304**	93	26-136	--	20	0.17	0.0055	
2,4-Dinitrophenol	0.327	**0.266**	81	25-105	--	20	0.17	0.038	
2,4-Dinitrotoluene	0.327	**0.304**	93	51-128	--	20	0.033	0.0050	

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*See Statement of Data Qualifications

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213430 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K11004

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.327	**0.297**	91	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.327	**0.322**	98	63-132	--	20	0.017	0.0011
Bis(2-ethylhexyl) Phthalate		0.327	**0.306**	94	50-140	--	20	0.033	0.0041
Fluoranthene		0.327	**0.299**	91	66-140	--	20	0.017	0.00056
Fluorene		0.327	**0.284**	87	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.327	**0.285**	87	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.327	**0.253**	77	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.327	**0.229**	70	34-124	--	20	0.017	0.0027
Hexachloroethane		0.327	**0.234**	71	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.327	**0.325**	99	53-135	--	20	0.033	0.0031
Isophorone		0.327	**0.237**	73	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.327	**0.272**	83	56-124	--	20	0.017	0.0014
2-Methylphenol		0.327	**0.220**	67	58-113	--	20	0.017	0.0034
4-Methylphenol		0.327	**0.500**	**153**	58-132	--	20	0.017	0.0020
Naphthalene		0.327	**0.260**	80	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.327	**0.295**	90	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.327	**0.262**	80	19-86	--	20	0.033	0.016
4-Nitroaniline		0.327	**0.281**	86	26-125	--	20	0.033	0.016
Nitrobenzene		0.327	**0.257**	79	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.327	**0.126 J**	39	36-131	--	20	0.67	0.027
2-Nitrophenol		0.327	**0.254**	78	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.327	**0.309**	95	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.327	**0.261**	80	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.327	**0.201**	61	19-117	--	20	0.17	0.015
Phenanthrene		0.327	**0.293**	90	58-134	--	20	0.017	0.00072
Phenol		0.327	**0.143 J**	**44**	53-120	--	20	0.17	0.0013
Pyrene		0.327	**0.303**	93	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.327	**0.292**	89	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.327	**0.339**	104	61-126	--	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*44*	*33-113*				
Phenol-d6				*31*	*30-115*				
Nitrobenzene-d5				*74*	*33-131*				
2-Fluorobiphenyl				*72*	*46-122*				
2,4,6-Tribromophenol				*84*	*12-124*				
o-Terphenyl				*82*	*20-155*				

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**47.6**	ug/L	95	80-120		20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**45.1**	ug/L	90	80-120		20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120		20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**50.3**	ug/L	101	80-120		20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.038
Laboratory Control Sample		50.0	**47.2**	ug/L	94	80-120		20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.20
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.050

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cobalt/USEPA-6020A (Continued)										
QC Batch: 1213305 (Continued) (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Laboratory Control Sample		50.0	**52.1**	ug/L	104	80-120		20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213303 (3010A Digestion)							Analyzed: 11/05/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5
Laboratory Control Sample		400	**403**	ug/L	101	80-120		20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**52.6**	ug/L	105	80-120		20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**53.3**	ug/L	107	80-120		20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213552 (7470A Digestion - Dissolved)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**1.95**	ug/L	98	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.075

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213305 (Continued) (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**41.3**	ug/L	83	80-120		20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**49.6**	ug/L	99	80-120		20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			**0.069 J**	ug/L					1.0	0.027
Laboratory Control Sample		50.0	**52.9**	ug/L	106	80-120		20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample		50.0	**52.4**	ug/L	105	80-120		20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213305 (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Method Blank			10 U	ug/L					10	1.5

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Zinc**/USEPA-6020A (Continued)										
QC Batch: 1213305 (Continued) (3020A Digestion)							Analyzed: 11/02/2012		By: MSM	
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120		20	10	1.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213521 (3050B Digestion)							Analyzed: 11/06/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample	4.00		**3.50**	mg/kg dry wt.	87	80-120		20	0.10	0.024
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.016
Laboratory Control Sample	4.00		**3.98**	mg/kg dry wt.	100	80-120		20	0.10	0.016
Analyte: Barium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.012
Laboratory Control Sample	4.00		**4.03**	mg/kg dry wt.	101	80-120		20	1.0	0.012
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.50 U	mg/kg dry wt.					0.50	0.020
Laboratory Control Sample	4.00		**3.97**	mg/kg dry wt.	99	80-120		20	0.50	0.020
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0033
Laboratory Control Sample	4.00		**3.99**	mg/kg dry wt.	100	80-120		20	0.050	0.0033
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.014
Laboratory Control Sample	4.00		**3.91**	mg/kg dry wt.	98	80-120		20	1.0	0.014
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0064

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cobalt/USEPA-6020A (Continued)										
QC Batch: 1213264 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Laboratory Control Sample		4.00	**3.91**	mg/kg dry wt.	98	80-120		20	1.0	0.0064
Analyte: Copper/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.025
Laboratory Control Sample		4.00	**4.11**	mg/kg dry wt.	103	80-120		20	1.0	0.025
Analyte: Iron/USEPA-6010C										
QC Batch: 1213263 (3050B Digestion)							Analyzed: 11/07/2012		By: CKD	
Method Blank			**0.76 J**	mg/kg dry wt.					5.0	0.62
Laboratory Control Sample		25.0	**25.5**	mg/kg dry wt.	102	80-120		20	5.0	0.62
Analyte: Lead/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0066
Laboratory Control Sample		4.00	**4.04**	mg/kg dry wt.	101	80-120		20	1.0	0.0066
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.023
Laboratory Control Sample		4.00	**3.92**	mg/kg dry wt.	98	80-120		20	1.0	0.023
Analyte: Mercury/USEPA-7471A										
QC Batch: 1213511 (7471A Mercury Digestion)							Analyzed: 11/06/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0061
Laboratory Control Sample		0.333	**0.355**	mg/kg dry wt.	106	80-120		20	0.050	0.0061
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0081

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213264 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Laboratory Control Sample		4.00	**3.97**	mg/kg dry wt.	99	80-120		20	1.0	0.0081
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.016
Laboratory Control Sample		4.00	**3.89**	mg/kg dry wt.	97	80-120		20	1.0	0.016
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.033
Laboratory Control Sample		4.00	**3.92**	mg/kg dry wt.	98	80-120		20	0.10	0.033
Analyte: Silver/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0039
Laboratory Control Sample		4.00	**4.01**	mg/kg dry wt.	100	80-120		20	0.050	0.0039
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0026
Laboratory Control Sample		4.00	**4.01**	mg/kg dry wt.	100	80-120		20	0.050	0.0026
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213264 (3050B Digestion)							Analyzed: 11/07/2012		By: DSC	
Method Blank			**0.019 J**	mg/kg dry wt.					0.10	0.0097
Laboratory Control Sample		4.00	**3.89**	mg/kg dry wt.	97	80-120		20	0.10	0.0097
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213641 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			**0.38 J**	mg/kg dry wt.					1.0	0.28

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Zinc**/USEPA-6020A (Continued)										
QC Batch: 1213641 (Continued) (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Laboratory Control Sample		8.00	**8.29**	mg/kg dry wt.	104	80-120		20	1.0	0.28

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical / Chemical Parameters by EPA / APHA / ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213281 (Method Specific Preparation)							Analyzed: 10/31/2012		By: CLB	
Method Blank			0.1 U	%					0.1	
1210603-02 [S-17360-102612-DD-108]										
Duplicate	92		**91**	%			0.5	5	0.1	

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E-1210603

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL-09737
PAGE 1 OF ___
(See Reverse Side for Instructions)

31-16 Cart 2 — WTR 220 Blue — MeOH 452 Blue

Project No./Phase/Task Code: 017360-T05121	Laboratory Name: TRI - Matrix
Project Name: GM-Ryder - Grand Rapids, Stage III	Lab Contact: Jennifer Rice
Project Location: Grand Rapids, MI	Lab Location: Grand Rapids, MI
Chemistry Contact: Paul Wiseman	Lab Quote No:
Sampler(s): DAN DEITNER	SSOW ID: 11980-T05121-03
	Cooler No:
	Carrier: Drop off at Lab
	Airbill No:
	Date Shipped: 10-26-12

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 3x5-g, 1x25-g	Other: Not preserved Lab Filtered Received	Total Containers/Sample	Analysis Requested: TCL VOC	TCL SVOC	TAL Metals	PCBs	Lab Filter TAL Metals		MS/MSD Request	Comments/ Special Instructions:
01	1 TRIP BLANK	10-26-12	—	SOIL	—						1			1	X					01		Trip blank
02	2 S-17360-10212-DD-108	10-26-12	0850	SO		1					1			2	X	X	X	X		03		
03	3 S-17360-10212-DD-109	10-26-12	0920	SO		1					1			2	X	X	X	X		04		
04	4 GW-17360-10212-DD-110	10-26-12	1010	WG		3	3						1	7	X	X		X	X	~~05~~ 06		Lab Filter Metals
05	5 GW-17360-10212-DD-111	10-26-12	1040	WG		3	3						1	7	X	X		X	X	↓ ↓		Lab Filter Metals
	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:

All Samples in Cooler must be on COC

Notes/ Special Requirements: Please Lab Filter Groundwater TAL metals (submitted unpreserved)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitner	CRA	10-26-12	1400	1. Jen Romeyn	Trimatrix	10/26/12	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 (20110804)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 12101003 (New / Add To)
Receipt Record Page/Line #: 31-16 | Project Chemist | Sample #s

Recorded by (initials/date): JR 10/26/12
☑ Cooler ☐ Box ☐ Other | Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) | ☐ See Additional Cooler Information Form

Cooler #	Time	Recorded °C	Correction Factor °C	Actual °C
2855	1441	Temp Blank: —		3.5
		TB location: (Representative) / Not Representative		
		1 5.3	—	5.3
		2 5.9	—	5.9
		3 5.6	—	5.6
			Average °C	5.6

Cooler 2855 / 1441
Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: (Dispersed) / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☑ Temperature Blank (TB) ☐ 1 Container
☐ Cooler ID on COC? ☑ VOC Trip Blank received? MeOH

Cooler # / Time
Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
	Average °C	

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # / Time
Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
	Average °C	

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # / Time
Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
	Average °C	

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other PL-09737
COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☐	☑	Samples chemically preserved correctly?
☐	☑		If "No", added orange tag?
		☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S) LR 10/26/12
☑ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Notes

☑ MeOH Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
10/26/12 1400	10/26/12 1500	(Yes) / No

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA
Work Order #: 12101003
Receipt Log #: 31-16
Completed By (initials/date): CR 10/26/12
Project Chemist:

COC ID #: PL-09737
Adjusted by:
Date:

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1								
COC Line #2						10		
COC Line #3						10		
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Ph Strip Lot #
☑ HC137671
☐

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #
Adjusted by:
Date:

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T01Y12-012

Work Orders:
1210605

Date:
November 21, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T01Y12-012

SDG Executive Summary

This case narrative applies to samples received on October 29, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/21/12

Date

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Sample Receipt and Login -- Work Order: 1210605

TriMatrix Laboratories received the cooler(s) for this work order on October 29, 2012, at 17:00. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
Trip Blank	1210605-01	Water	10/29/2012
GW-17360-102912-DD-036	1210605-02	Water	10/29/2012
GW-17360-102912-DD-037	1210605-03	Water	10/29/2012
GW-17360-102912-DD-038	1210605-04	Water	10/29/2012
GW-17360-102912-DD-039	1210605-05	Water	10/29/2012
GW-17360-102912-DD-040	1210605-06	Water	10/29/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP because client specific matrix QC was not requested. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8260B

Sample:	1210605-01	Trip Blank
	1210605-02	GW-17360-102912-DD-036
	1210605-03	GW-17360-102912-DD-037
	1210605-04	GW-17360-102912-DD-038
	1210605-05	GW-17360-102912-DD-039
	1210605-06	GW-17360-102912-DD-040

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1210605-01	Trip Blank	Carbon Disulfide
	1210605-02	GW-17360-102912-DD-036	Carbon Disulfide
	1210605-03	GW-17360-102912-DD-037	Carbon Disulfide
	1210605-04	GW-17360-102912-DD-038	Carbon Disulfide
	1210605-05	GW-17360-102912-DD-039	Carbon Disulfide
	1210605-06	GW-17360-102912-DD-040	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1210605-01	Trip Blank	Carbon Disulfide
	1210605-02	GW-17360-102912-DD-036	Carbon Disulfide
	1210605-03	GW-17360-102912-DD-037	Carbon Disulfide
	1210605-04	GW-17360-102912-DD-038	Carbon Disulfide
	1210605-05	GW-17360-102912-DD-039	Carbon Disulfide
	1210605-06	GW-17360-102912-DD-040	Carbon Disulfide

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8260B

Sample/Analyte:	1210605-05	GW-17360-102912-DD-039	Chloroform

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (Continued)

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8270C

Sample/Analyte:	1210605-02	GW-17360-102912-DD-036	3,3´-Dichlorobenzidine
	1210605-02	GW-17360-102912-DD-036	3-Nitroaniline
	1210605-02	GW-17360-102912-DD-036	4-Chloroaniline
	1210605-02	GW-17360-102912-DD-036	Acetophenone

Qualification: The LCS recovery was less than 10%. All results, including non-detectable concentrations for this analyte in any sample from the associated QC Batch are considered unusable.

Analysis: USEPA-8270C

Sample/Analyte:	1210605-02	GW-17360-102912-DD-036	Benzaldehyde

Qualification: The LCS and/or LCSD recovery was less than the lower control limit but greater than or equal to 10%. All results for this analyte in all samples from the associated QC batch are considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1210605-02	GW-17360-102912-DD-036	3,3´-Dichlorobenzidine
	1210605-02	GW-17360-102912-DD-036	3-Nitroaniline
	1210605-02	GW-17360-102912-DD-036	4-Chloroaniline
	1210605-02	GW-17360-102912-DD-036	Acetophenone

Qualification: The recovery of acid surrogate Phenol-d6 was outside of the control limits in the LCS. All acid analytes in the LCS had acceptable spike recoveries. No data requires qualification.

Analysis: USEPA-8270C

Sample: 1213318-BS1

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:	1210605-02	GW-17360-102912-DD-036	Benzo(b)fluoranthene
	1210605-02	GW-17360-102912-DD-036	Benzo(k)fluoranthene

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1210605-02	GW-17360-102912-DD-036	Diethyl Phthalate

Continued on next page

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Qualification: One or more surrogate recoveries in the GC/MS SVOC acid and/or base-neutral fraction(s) for the sample were less than the lower control limit but greater than or equal to 10%. All results from the same fraction are considered estimated.

Analysis: USEPA-8270C

Sample: 1210605-02 GW-17360-102912-DD-036

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/29/12 00:00
Lab Sample ID:	**1210605-01**	Sampled By:	TML
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/29/12 00:00
Lab Sample ID:	**1210605-01**	Sampled By:	TML
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-036**	Sampled:	10/29/12 11:40
Lab Sample ID:	**1210605-02**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.36J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-036**	Sampled:	10/29/12 11:40
Lab Sample ID:	**1210605-02**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**4.2**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	**0.37J**	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.2**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-036**	Sampled:	10/29/12 11:40
Lab Sample ID:	**1210605-02**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
*205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
*207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-036**	Sampled:	10/29/12 11:40
Lab Sample ID:	**1210605-02**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	**0.66**	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	**0.94**	0.50	0.40
206-44-0	Fluoranthene	**0.56**	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-036**	Sampled:	10/29/12 11:40
Lab Sample ID:	**1210605-02**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*37*	*20-70*
Phenol-d6	***17***	*18-45*
Nitrobenzene-d5	*64*	*31-123*
2-Fluorobiphenyl	*55*	*25-113*
2,4,6-Tribromophenol	*67*	*30-121*
o-Terphenyl	*80*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-037**	Sampled:	10/29/12 13:20
Lab Sample ID:	**1210605-03**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.19J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-037**	Sampled:	10/29/12 13:20
Lab Sample ID:	**1210605-03**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**2.2**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*93*	*82-110*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-038**	Sampled:	10/29/12 13:55
Lab Sample ID:	**1210605-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-038**	Sampled:	10/29/12 13:55
Lab Sample ID:	**1210605-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**160**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.4**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*93*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-039**	Sampled:	10/29/12 15:00
Lab Sample ID:	**1210605-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.39J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-039**	Sampled:	10/29/12 15:00
Lab Sample ID:	**1210605-05**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**12**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.71J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*93*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-040**	Sampled:	10/29/12 16:10
Lab Sample ID:	**1210605-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	**11**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	**0.83J**	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	**0.72J**	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	5.0U	5.0	0.42

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210605**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-102912-DD-040**	Sampled:	10/29/12 16:10
Lab Sample ID:	**1210605-06**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/29/12 17:00
Unit:	ug/L	Prepared:	11/7/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213657	Analytical Batch:	2K08019

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**13**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	**1.2**	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213657 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Acetone	5.0 U	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U		1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	5.0 U		5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*104*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Acetone	40.0	**50.2**	126	53-138	--	20	5.0	1.1
Benzene	40.0	**41.1**	103	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**41.9**	105	82-124	--	20	1.0	0.13
Bromoform	40.0	**38.0**	95	65-123	--	20	1.0	0.26
Bromomethane	40.0	**42.2**	106	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**70.5**	**176**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**42.9**	107	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**41.7**	104	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.5**	99	76-124	--	20	1.0	0.14
Chloroform	40.0	**41.5**	104	82-119	--	20	1.0	0.098
Chloromethane	40.0	**39.6**	99	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**39.3**	98	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**40.6**	102	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**39.4**	98	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**43.6**	109	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.2**	108	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene	40.0	**43.1**	108	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**41.5**	104	79-122	--	20	1.0	0.25
Dichlorodifluoromethane	40.0	**37.9**	95	68-130	--	20	1.0	0.21
1,1-Dichloroethane	40.0	**40.7**	102	80-118	--	20	1.0	0.18
1,2-Dichloroethane	40.0	**41.7**	104	81-122	--	20	1.0	0.21
1,1-Dichloroethene	40.0	**41.0**	103	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**42.3**	106	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**41.4**	103	76-126	--	20	1.0	0.20
1,2-Dichloropropane	40.0	**41.7**	104	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**37.8**	94	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**36.8**	92	73-116	--	20	1.0	0.19
Ethylbenzene	40.0	**44.1**	110	87-119	--	20	1.0	0.21
2-Hexanone	40.0	**41.1**	103	55-141	--	20	5.0	0.49
Isopropylbenzene	40.0	**39.6**	99	76-126	--	20	1.0	0.22
Methyl Acetate	40.0	**39.7**	99	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**42.7**	107	72-128	--	20	1.0	0.19
Methylcyclohexane	40.0	**39.3**	98	78-126	--	20	5.0	0.37
Methylene Chloride	40.0	**38.8**	97	75-129	--	20	1.0	0.24
2-Butanone (MEK)	40.0	**46.7**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**41.7**	104	60-142	--	20	5.0	0.40
Styrene	40.0	**40.0**	100	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**42.8**	107	70-137	--	20	1.0	0.26
Tetrachloroethene	40.0	**42.4**	106	81-117	--	20	1.0	0.23
Toluene	40.0	**41.2**	103	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**38.5**	96	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**42.1**	105	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**42.1**	105	83-121	--	20	1.0	0.20
Trichloroethene	40.0	**41.5**	104	82-119	--	20	1.0	0.21
Trichlorofluoromethane	40.0	**42.8**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**41.6**	104	76-126	--	20	1.0	0.24
Vinyl Chloride	40.0	**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)	120	**129**	107	86-119	--	20	3.0	0.39
Surrogates:								
Dibromofluoromethane			*100*	*85-118*				
1,2-Dichloroethane-d4			*103*	*87-122*				
Toluene-d8			*101*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/07/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K08019			
Surrogates (Continued):									
4-Bromofluorobenzene				*101*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/07/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K08019			
Acetone		40.0	**51.0**	127	53-138	1	20	5.0	1.1
Benzene		40.0	**39.3**	98	84-119	5	20	1.0	0.11
Bromodichloromethane		40.0	**40.7**	102	82-124	3	20	1.0	0.13
Bromoform		40.0	**37.9**	95	65-123	0.2	20	1.0	0.26
Bromomethane		40.0	**44.2**	110	55-142	4	20	1.0	0.21
Carbon Disulfide		40.0	**69.9**	**175**	70-131	0.8	20	5.0	0.23
Carbon Tetrachloride		40.0	**40.1**	100	79-127	7	20	1.0	0.26
Chlorobenzene		40.0	**40.0**	100	84-118	4	20	1.0	0.17
Chloroethane		40.0	**37.2**	93	76-124	6	20	1.0	0.14
Chloroform		40.0	**39.6**	99	82-119	5	20	1.0	0.098
Chloromethane		40.0	**39.0**	97	73-125	2	20	1.0	0.29
Cyclohexane		40.0	**37.5**	94	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**41.1**	103	58-130	1	20	1.0	0.13
Dibromochloromethane		40.0	**38.3**	96	74-121	3	20	1.0	0.15
1,2-Dibromoethane		40.0	**43.0**	107	84-125	2	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**42.3**	106	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**41.6**	104	81-124	4	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**40.3**	101	79-122	3	20	1.0	0.25
Dichlorodifluoromethane		40.0	**34.9**	87	68-130	8	20	1.0	0.21
1,1-Dichloroethane		40.0	**39.7**	99	80-118	2	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.3**	101	81-122	3	20	1.0	0.21
1,1-Dichloroethene		40.0	**39.1**	98	77-123	5	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**40.6**	102	84-119	4	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**40.0**	100	76-126	3	20	1.0	0.20
1,2-Dichloropropane		40.0	**40.1**	100	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.3**	93	77-120	1	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.8**	92	73-116	0.08	20	1.0	0.19
Ethylbenzene		40.0	**41.6**	104	87-119	6	20	1.0	0.21
2-Hexanone		40.0	**42.6**	106	55-141	3	20	5.0	0.49
Isopropylbenzene		40.0	**37.9**	95	76-126	4	20	1.0	0.22
Methyl Acetate		40.0	**40.2**	101	67-129	1	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213657 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/07/2012 By: LEW

Unit: ug/L Analytical Batch: 2K08019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**43.2**	108	72-128	1	20	1.0	0.19
Methylcyclohexane		40.0	**37.3**	93	78-126	5	20	5.0	0.37
Methylene Chloride		40.0	**37.7**	94	75-129	3	20	1.0	0.24
2-Butanone (MEK)		40.0	**48.2**	121	52-142	3	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**42.3**	106	60-142	1	20	5.0	0.40
Styrene		40.0	**38.5**	96	84-120	4	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.8**	105	70-137	2	20	1.0	0.26
Tetrachloroethene		40.0	**40.0**	100	81-117	6	20	1.0	0.23
Toluene		40.0	**39.1**	98	85-118	5	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**38.5**	96	75-125	0.08	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**40.2**	100	81-122	5	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.7**	102	83-121	3	20	1.0	0.20
Trichloroethene		40.0	**40.5**	101	82-119	3	20	1.0	0.21
Trichlorofluoromethane		40.0	**39.1**	98	76-128	9	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**38.4**	96	76-126	8	20	1.0	0.24
Vinyl Chloride		40.0	**37.6**	94	77-123	6	20	1.0	0.21
Xylene (Total)		120	**122**	102	86-119	5	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*103*	*87-122*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Acenaphthene	0.50 U			0.50
Acenaphthylene	0.50 U			0.50
Acetophenone	0.50 U			0.50
Anthracene	0.50 U			0.50
Atrazine	0.50 U			0.50
Benzaldehyde	0.50 U			0.50
Benzo(a)anthracene	0.50 U		--	0.50
Benzo(a)pyrene	0.50 U		--	0.50
Benzo(b)fluoranthene	0.50 U			0.50
Benzo(k)fluoranthene	0.50 U		--	0.50
Benzo(g,h,i)perylene	0.50 U			0.50
1,1'-Biphenyl	0.50 U			0.50
4-Bromophenyl Phenyl Ether	0.50 U			0.50
Butyl Benzyl Phthalate	1.0 U		--	1.0
Caprolactam	1.0 U			1.0
Carbazole	0.50 U			0.50
4-Chloro-3-methylphenol	0.50 U			0.50
4-Chloroaniline	1.0 U			1.0
Bis(2-chloroethoxy)methane	0.50 U			0.50
Bis(2-chloroethyl) Ether	0.50 U			0.50
Bis(2-chloroisopropyl) Ether	0.50 U		--	0.50
2-Chloronaphthalene	0.50 U			0.50
2-Chlorophenol	0.50 U			0.50
4-Chlorophenyl Phenyl Ether	0.50 U			0.50
Chrysene	0.50 U		--	0.50
Dibenz(a,h)anthracene	0.50 U			0.50
Dibenzofuran	0.50 U			0.50
Di-n-butyl Phthalate	1.0 U		--	1.0
3,3´-Dichlorobenzidine	1.0 U			1.0
2,4-Dichlorophenol	0.50 U			0.50
Diethyl Phthalate	0.50 U		--	0.50
2,4-Dimethylphenol	1.0 U			1.0
Dimethyl Phthalate	0.50 U			0.50
4,6-Dinitro-2-methylphenol	5.0 U			5.0
2,4-Dinitrophenol	5.0 U			5.0
2,4-Dinitrotoluene	0.50 U			0.50

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

2,6-Dinitrotoluene			0.50 U					0.50
Di-n-octyl Phthalate			0.50 U					0.50
Bis(2-ethylhexyl) Phthalate			0.50 U			--		0.50
Fluoranthene			0.50 U					0.50
Fluorene			0.50 U					0.50
Hexachlorobenzene			0.50 U					0.50
Hexachlorobutadiene			0.50 U					0.50
Hexachlorocyclopentadiene			0.50 U					0.50
Hexachloroethane			0.50 U					0.50
Indeno(1,2,3-cd)pyrene			0.50 U					0.50
Isophorone			0.50 U					0.50
2-Methylnaphthalene			0.50 U					0.50
2-Methylphenol			0.50 U					0.50
4-Methylphenol			0.50 U					0.50
Naphthalene			0.50 U					0.50
2-Nitroaniline			0.50 U					0.50
3-Nitroaniline			1.0 U					1.0
4-Nitroaniline			1.0 U					1.0
Nitrobenzene			0.50 U					0.50
4-Nitrophenol			5.0 U					5.0
2-Nitrophenol			0.50 U					0.50
N-Nitroso-diphenylamine			0.50 U					0.50
N-Nitroso-di-n-propylamine			0.50 U					0.50
Pentachlorophenol			0.50 U					0.50
Phenanthrene			0.50 U					0.50
Phenol			0.50 U					0.50
Pyrene			0.50 U					0.50
2,4,6-Trichlorophenol			0.50 U					0.50
2,4,5-Trichlorophenol			0.50 U					0.50
Surrogates:								
2-Fluorophenol				*43*	*20-70*			
Phenol-d6				*29*	*18-45*			
Nitrobenzene-d5				*71*	*31-123*			
2-Fluorobiphenyl				*73*	*25-113*			
2,4,6-Tribromophenol				*71*	*30-121*			
o-Terphenyl				*81*	*42-125*			

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**6.85**	68	53-126	--	20	0.50	
Acenaphthylene		10.0	**6.76**	68	62-133	--	20	0.50	
Acetophenone		10.0	**4.66**	**47**	58-115	--	20	0.50	
Anthracene		10.0	**7.00**	70	64-130	--	20	0.50	
Atrazine		10.0	**8.40**	84	60-140	--	20	0.50	
Benzaldehyde		10.0	**0.250 J**	**2**	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.83**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.26**	73	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.83**	78	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**6.70**	67	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**8.11**	81	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**6.98**	70	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**7.53**	75	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**8.64**	86	58-141	--	20	1.0	
Caprolactam		10.0	**6.99**	70	23-76	--	20	1.0	
Carbazole		10.0	**7.54**	75	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**6.78**	68	53-120	--	20	0.50	
4-Chloroaniline		10.0	**1.41**	**14**	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**5.69**	57	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**6.18**	62	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**5.91**	59	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.05**	70	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.30**	63	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**6.92**	69	57-122	--	20	0.50	
Chrysene		10.0	**7.37**	74	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**8.35**	84	57-130	--	20	0.50	
Dibenzofuran		10.0	**6.97**	70	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.21**	82	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**7.96**	**40**	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**6.51**	65	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.72**	77	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.91**	59	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.61**	76	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**7.10**	71	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**7.59**	76	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**7.52**	75	55-131	--	20	0.50	

Continued on next page

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**7.08**	71	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.61**	86	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**9.06**	91	60-136	--	20	0.50	
Fluoranthene		10.0	**8.00**	80	64-138	--	20	0.50	
Fluorene		10.0	**6.96**	70	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**7.24**	72	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**7.16**	72	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**5.92**	59	21-138	--	20	0.50	
Hexachloroethane		10.0	**6.56**	66	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**8.21**	82	57-129	--	20	0.50	
Isophorone		10.0	**6.09**	61	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**6.73**	67	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.73**	57	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.88**	59	33-122	--	20	0.50	
Naphthalene		10.0	**6.80**	68	50-127	--	20	0.50	
2-Nitroaniline		10.0	**7.08**	71	57-130	--	20	0.50	
3-Nitroaniline		10.0	**3.64**	**36**	49-144	--	20	1.0	
4-Nitroaniline		10.0	**5.54**	55	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.47**	65	53-121	--	20	0.50	
4-Nitrophenol		10.0	**6.41**	64	17-70	--	20	5.0	
2-Nitrophenol		10.0	**6.21**	62	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.66**	77	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**6.20**	62	49-125	--	20	0.50	
Pentachlorophenol		10.0	**5.41**	54	21-124	--	20	0.50	
Phenanthrene		10.0	**7.38**	74	63-126	--	20	0.50	
Phenol		10.0	**5.94**	59	22-60	--	20	0.50	
Pyrene		10.0	**7.99**	80	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.77**	68	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.58**	76	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*58*	*20-70*				
Phenol-d6				***55***	*18-45*				
Nitrobenzene-d5				*63*	*31-123*				
2-Fluorobiphenyl				*69*	*25-113*				
2,4,6-Tribromophenol				*74*	*30-121*				
o-Terphenyl				*76*	*42-125*				

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E 1210605

CONESTOGA-ROVERS & ASSOCIATES CART 8 #409-R

CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL- 10019
PAGE 1 OF 1
(See Reverse Side for Instructions)

(35-10)

Project No/ Phase/Task Code: 017360-T01Y12-010	Laboratory Name: TRI MATRIX
Project Name: Racer-Former Grand Rapids Metal Semi Annual	Lab Contact: Jenifer Rice
Project Location: Grand Rapids, MI	Lab Location: Grand Rapids, MI
Chemistry Contact: Paul Wiseman	Lab Quote No:
Sampler(s): DAN DEITNER	SSOW ID: 11980-T01Y12-010
	Cooler No:
	Carrier: Drop off at Lab
	Airbill No: —
	Date Shipped: 10-29-12

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)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	VOCs	SVOCs	site specific metals		MS/MSD Request	Comments/ Special Instructions:
01	1 trip blank	10-29-12	—	WQ	—		1							1	X			01		trip blank
02	2 GW-17360-102912-DD-036	10-29-12	1140	WG	G	2	3							5	X	X		07		
03	3 GW-17360-102912-DD-037	10-29-12	1320	WG	G		3							3	X			02		
04	4 GW-17360-102912-DD-038	10-29-12	1355	WG	G		3							3	X					
05	5 GW-17360-102912-DD-039	10-29-12	1500	WG	G		3							3	X					
06	6 GW-17360-102912-DD-040	10-29-12	1610	WG	G		3							3	X					
07																				
08																				
09																				
10																				
11																				
12																				
13																				
14																				
15																				

Dan Deitner 10-29-12

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: 18
All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitner	CRA	10-29-12	1700	1.	TriMatrix	10/29/12	1700
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)

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TRIMATRIX LABORATORIES

TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA-RACER | Work Order #: 1210605
Receipt Record Page/Line #: 35-10 | New / Add To | Project Chemist: JLR | Sample #s

Recorded by (initials/date): DN 10/29/12

Cooler / Box / Other | Qty Received: 1

Thermometer Used: IR Gun (#202) / Digital Thermometer (#54) / Other (#_____) | See Additional Cooler Information Form

Cooler # 113099	Time 1714	Cooler #	Time	Cooler #	Time	Cooler #	Time
Custody Seals: None / Present / Intact / Present / Not Intact		Custody Seals: None / Present / Intact / Present / Not Intact		Custody Seals: None / Present / Intact / Present / Not Intact		Custody Seals: None / Present / Intact / Present / Not Intact	
Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom	
Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers		Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers		Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers		Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers	
Alternate Temperature Taken Via: Temperature Blank (TB) / 1 Container		Alternate Temperature Taken Via: Temperature Blank (TB) / 1 Container		Alternate Temperature Taken Via: Temperature Blank (TB) / 1 Container		Alternate Temperature Taken Via: Temperature Blank (TB) / 1 Container	
Recorded °C / Correction Factor °C / Actual °C		Recorded °C / Correction Factor °C / Actual °C		Recorded °C / Correction Factor °C / Actual °C		Recorded °C / Correction Factor °C / Actual °C	
Temp Blank: 0 / 2.6		Temp Blank:		Temp Blank:		Temp Blank:	
TB location: Representative / Not Representative		TB location: Representative / Not Representative		TB location: Representative / Not Representative		TB location: Representative / Not Representative	
1: 4.9 / 0 / 4.9		1		1		1	
2: 4.0 / 0 / 4.0		2		2		2	
3: 4.3 / 0 / 4.3		3		3		3	
Average °C: 7.7		Average °C		Average °C		Average °C	
Cooler ID on COC?		Cooler ID on COC?		Cooler ID on COC?		Cooler ID on COC?	
VOC Trip Blank received?		VOC Trip Blank received?		VOC Trip Blank received?		VOC Trip Blank received?	

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☐	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: PL-10019

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Average sample temperature ≤6° C?
☐	☑	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?
		☐	MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 10/29/12	10/29/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T01Y12-012

Work Orders:
1210630

Date:
November 14, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T01Y12-012

SDG Executive Summary

This case narrative applies to samples received on October 30, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/14/12

Date

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Sample Receipt and Login -- Work Order: 1210630

TriMatrix Laboratories received the cooler(s) for this work order on October 30, 2012, at 17:00. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
GW-17360-10312-JV-041	1210630-01	Water	10/30/2012
GW-17360-10312-JV-042	1210630-02	Water	10/30/2012
GW-17360-10312-JV-043	1210630-03	Water	10/30/2012
GW-17360-10312-JV-044	1210630-04	Water	10/30/2012
GW-17360-10312-JV-045	1210630-05	Water	10/30/2012
GW-17360-10312-JV-046	1210630-06	Water	10/30/2012
GW-17360-10312-JV-047	1210630-07	Water	10/30/2012
SW-17360-10312-JV-048	1210630-08	Water	10/30/2012
SW-17360-10312-JV-049	1210630-09	Water	10/30/2012
SW-17360-10312-JV-050	1210630-10	Water	10/30/2012
TB-17360-103012-JV	1210630-11	Water	10/30/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1210630-01	GW-17360-10312-JV-041	Carbon Disulfide
1210630-02	GW-17360-10312-JV-042	Carbon Disulfide
1210630-03	GW-17360-10312-JV-043	Carbon Disulfide
1210630-04	GW-17360-10312-JV-044	Carbon Disulfide
1210630-05	GW-17360-10312-JV-045	Carbon Disulfide
1210630-06	GW-17360-10312-JV-046	Carbon Disulfide
1210630-07	GW-17360-10312-JV-047	Carbon Disulfide
1210630-08	SW-17360-10312-JV-048	Carbon Disulfide
1210630-09	SW-17360-10312-JV-049	Carbon Disulfide
1210630-10	SW-17360-10312-JV-050	Carbon Disulfide
1210630-11	TB-17360-103012-JV	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1210630-01	GW-17360-10312-JV-041	Bromomethane
1210630-01	GW-17360-10312-JV-041	Carbon Disulfide
1210630-02	GW-17360-10312-JV-042	Bromomethane
1210630-02	GW-17360-10312-JV-042	Carbon Disulfide
1210630-03	GW-17360-10312-JV-043	Bromomethane
1210630-03	GW-17360-10312-JV-043	Carbon Disulfide
1210630-04	GW-17360-10312-JV-044	Bromomethane
1210630-04	GW-17360-10312-JV-044	Carbon Disulfide
1210630-05	GW-17360-10312-JV-045	Bromomethane
1210630-05	GW-17360-10312-JV-045	Carbon Disulfide
1210630-06	GW-17360-10312-JV-046	Carbon Disulfide
1210630-07	GW-17360-10312-JV-047	Carbon Disulfide
1210630-08	SW-17360-10312-JV-048	Carbon Disulfide
1210630-09	SW-17360-10312-JV-049	Carbon Disulfide
1210630-10	SW-17360-10312-JV-050	Carbon Disulfide
1210630-11	TB-17360-103012-JV	Carbon Disulfide

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:		
1210630-01	GW-17360-10312-JV-041	Methyl Acetate
1210630-02	GW-17360-10312-JV-042	Methyl Acetate
1210630-03	GW-17360-10312-JV-043	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

1210630-04	GW-17360-10312-JV-044	Methyl Acetate
1210630-05	GW-17360-10312-JV-045	Methyl Acetate
1210630-06	GW-17360-10312-JV-046	Methyl Acetate
1210630-07	GW-17360-10312-JV-047	Methyl Acetate
1210630-08	SW-17360-10312-JV-048	Methyl Acetate
1210630-09	SW-17360-10312-JV-049	Methyl Acetate
1210630-10	SW-17360-10312-JV-050	Methyl Acetate
1210630-11	TB-17360-103012-JV	Methyl Acetate

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-041**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210630-01**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.94J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-041**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210630-01**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*93*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-042**	Sampled:	10/30/12 09:52
Lab Sample ID:	**1210630-02**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.93J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-042**	Sampled:	10/30/12 09:52
Lab Sample ID:	**1210630-02**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-043**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210630-03**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.92J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-043**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210630-03**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-044**	Sampled:	10/30/12 11:38
Lab Sample ID:	**1210630-04**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.44J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	**0.67J**	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.86J**	5.0	0.42

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-044**	Sampled:	10/30/12 11:38
Lab Sample ID:	**1210630-04**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**1.3**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.88J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*93*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-045**	Sampled:	10/30/12 12:05
Lab Sample ID:	**1210630-05**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
*74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.50J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.86J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-045**	Sampled:	10/30/12 12:05
Lab Sample ID:	**1210630-05**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213769	Analytical Batch:	2K09033

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**5.3**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.93J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*105*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-046**	Sampled:	10/30/12 13:58
Lab Sample ID:	**1210630-06**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	**0.28J**	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	**0.25J**	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	**0.22J**	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	**0.55J**	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	**2.4**	1.0	0.22
*79-20-9	Methyl Acetate	**1.0J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-046**	Sampled:	10/30/12 13:58
Lab Sample ID:	**1210630-06**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	**0.27J**	1.0	0.21
1330-20-7	Xylene (Total)	**2.1J**	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*97*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-047**	Sampled:	10/30/12 16:05
Lab Sample ID:	**1210630-07**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**72**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	**0.97J**	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.92J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-10312-JV-047**	Sampled:	10/30/12 16:05
Lab Sample ID:	**1210630-07**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/08/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**60**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**5.9**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**SW-17360-10312-JV-048**	Sampled:	10/30/12 15:35
Lab Sample ID:	**1210630-08**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	**7.1**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	**0.28J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**0.87J**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**1.0J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**SW-17360-10312-JV-048**	Sampled:	10/30/12 15:35
Lab Sample ID:	**1210630-08**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**1.7**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.55J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**SW-17360-10312-JV-049**	Sampled:	10/30/12 14:45
Lab Sample ID:	**1210630-09**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**1.1**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.97J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**SW-17360-10312-JV-049**	Sampled:	10/30/12 14:45
Lab Sample ID:	**1210630-09**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.80J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.47J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	**0.26J**	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**SW-17360-10312-JV-050**	Sampled:	10/30/12 15:10
Lab Sample ID:	**1210630-10**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	**4.7J**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.96J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**SW-17360-10312-JV-050**	Sampled:	10/30/12 15:10
Lab Sample ID:	**1210630-10**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*85-118*
1,2-Dichloroethane-d4	*105*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**TB-17360-103012-JV**	Sampled:	10/30/12 00:00
Lab Sample ID:	**1210630-11**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.89J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210630**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**TB-17360-103012-JV**	Sampled:	10/30/12 00:00
Lab Sample ID:	**1210630-11**	Sampled By:	J.V.
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213769 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09033

Acetone	**3.2 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U		1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	**0.98 J**	--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213769 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09033

Styrene		1.0 U					1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U					1.0	0.26
Tetrachloroethene		1.0 U					1.0	0.23
Toluene		1.0 U					1.0	0.18
1,2,4-Trichlorobenzene		1.0 U					1.0	0.13
1,1,1-Trichloroethane		1.0 U					1.0	0.14
1,1,2-Trichloroethane		1.0 U					1.0	0.20
Trichloroethene		1.0 U					1.0	0.21
Trichlorofluoromethane		1.0 U					1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U					1.0	0.24
Vinyl Chloride		1.0 U					1.0	0.21
Xylene (Total)		3.0 U					3.0	0.39
Surrogates:								
Dibromofluoromethane			*98*	*85-118*				
1,2-Dichloroethane-d4			*103*	*87-122*				
Toluene-d8			*95*	*85-113*				
4-Bromofluorobenzene			*95*	*82-110*				

Laboratory Control Sample Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09033

Acetone	40.0	**45.0**	113	53-138	--	20	5.0	1.1
Benzene	40.0	**40.9**	102	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**42.1**	105	82-124	--	20	1.0	0.13
Bromoform	40.0	**38.7**	97	65-123	--	20	1.0	0.26
Bromomethane	40.0	**47.6**	119	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**66.6**	**166**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**41.8**	105	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**42.0**	105	84-118	--	20	1.0	0.17
Chloroethane	40.0	**37.9**	95	76-124	--	20	1.0	0.14
Chloroform	40.0	**41.0**	103	82-119	--	20	1.0	0.098
Chloromethane	40.0	**40.0**	100	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**35.9**	90	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**40.4**	101	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**40.2**	100	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**44.7**	112	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.6**	109	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213769 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09033

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**43.3**	108	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**41.7**	104	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**38.1**	95	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**40.6**	102	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**41.4**	104	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**40.4**	101	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**41.6**	104	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**41.3**	103	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**41.1**	103	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**39.0**	97	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**38.6**	97	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**43.9**	110	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**40.1**	100	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**39.4**	99	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**37.0**	92	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**40.3**	101	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**36.1**	90	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**38.6**	97	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**42.6**	106	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**38.7**	97	60-142	--	20	5.0	0.40
Styrene		40.0	**40.4**	101	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.2**	108	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**41.6**	104	81-117	--	20	1.0	0.23
Toluene		40.0	**40.9**	102	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**39.9**	100	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**42.1**	105	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**42.3**	106	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**40.7**	102	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**39.5**	99	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**37.9**	95	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**37.8**	94	77-123	--	20	1.0	0.21
Xylene (Total)		120	**130**	108	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*98*	*85-118*				
1,2-Dichloroethane-d4				*100*	*87-122*				
Toluene-d8				*99*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213769 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW
Unit: ug/L Analytical Batch: 2K09033

Surrogates (Continued):

4-Bromofluorobenzene	*100*	*82-110*	

QC Batch: 1213779 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: LEW
Unit: ug/L Analytical Batch: 2K09045

Acetone	**2.5 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U	--	1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Methyl Acetate		**0.97 J**			--	5.0	0.42
Methyl tert-Butyl Ether		1.0 U				1.0	0.19
Methylcyclohexane		5.0 U				5.0	0.37
Methylene Chloride		1.0 U				1.0	0.24
2-Butanone (MEK)		5.0 U				5.0	0.63
4-Methyl-2-pentanone (MIBK)		5.0 U				5.0	0.40
Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*105*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Acetone	40.0	**52.8**	132	53-138	--	20	5.0	1.1
Benzene	40.0	**42.6**	106	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**44.8**	112	82-124	--	20	1.0	0.13
Bromoform	40.0	**41.8**	105	65-123	--	20	1.0	0.26
Bromomethane	40.0	**47.7**	119	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**72.1**	**180**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**45.4**	114	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**44.0**	110	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.2**	98	76-124	--	20	1.0	0.14
Chloroform	40.0	**43.3**	108	82-119	--	20	1.0	0.098

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Chloromethane		40.0	**41.2**	103	73-125	--	20	1.0	0.29
Cyclohexane		40.0	**37.1**	93	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**43.7**	109	58-130	--	20	1.0	0.13
Dibromochloromethane		40.0	**42.9**	107	74-121	--	20	1.0	0.15
1,2-Dibromoethane		40.0	**46.3**	116	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**45.5**	114	81-124	--	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**44.9**	112	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**38.6**	97	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.6**	107	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**44.3**	111	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**41.9**	105	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**43.7**	109	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**43.3**	108	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**43.0**	107	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**40.0**	100	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**39.7**	99	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**46.0**	115	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**39.3**	98	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**40.7**	102	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**38.3**	96	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**42.3**	106	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**37.2**	93	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.7**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**46.6**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**41.1**	103	60-142	--	20	5.0	0.40
Styrene		40.0	**42.2**	105	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.3**	108	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**44.0**	110	81-117	--	20	1.0	0.23
Toluene		40.0	**42.9**	107	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.4**	101	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**44.5**	111	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**43.6**	109	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**43.6**	109	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**42.6**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**39.7**	99	76-126	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:		11/08/2012	By: LEW	
Unit: ug/L					Analytical Batch:		2K09045		
Vinyl Chloride	40.0		**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)	120		**135**	113	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*105*	*87-122*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*102*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:		11/08/2012	By: LEW	
Unit: ug/L					Analytical Batch:		2K09045		
Acetone	40.0		**50.0**	125	53-138	5	20	5.0	1.1
Benzene	40.0		**39.7**	99	84-119	7	20	1.0	0.11
Bromodichloromethane	40.0		**42.5**	106	82-124	5	20	1.0	0.13
Bromoform	40.0		**39.8**	100	65-123	5	20	1.0	0.26
Bromomethane	40.0		**45.2**	113	55-142	5	20	1.0	0.21
Carbon Disulfide	40.0		**68.2**	**170**	70-131	6	20	5.0	0.23
Carbon Tetrachloride	40.0		**41.7**	104	79-127	9	20	1.0	0.26
Chlorobenzene	40.0		**41.8**	105	84-118	5	20	1.0	0.17
Chloroethane	40.0		**36.3**	91	76-124	8	20	1.0	0.14
Chloroform	40.0		**40.6**	102	82-119	6	20	1.0	0.098
Chloromethane	40.0		**38.2**	96	73-125	8	20	1.0	0.29
Cyclohexane	40.0		**35.2**	88	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0		**43.4**	109	58-130	0.5	20	1.0	0.13
Dibromochloromethane	40.0		**40.4**	101	74-121	6	20	1.0	0.15
1,2-Dibromoethane	40.0		**44.4**	111	84-125	4	20	1.0	0.15
1,2-Dichlorobenzene	40.0		**44.4**	111	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene	40.0		**43.7**	109	81-124	3	20	1.0	0.24
1,4-Dichlorobenzene	40.0		**41.8**	104	79-122	3	20	1.0	0.25
Dichlorodifluoromethane	40.0		**35.2**	88	68-130	9	20	1.0	0.21
1,1-Dichloroethane	40.0		**40.1**	100	80-118	6	20	1.0	0.18
1,2-Dichloroethane	40.0		**41.6**	104	81-122	6	20	1.0	0.21
1,1-Dichloroethene	40.0		**38.9**	97	77-123	7	20	1.0	0.21
cis-1,2-Dichloroethene	40.0		**41.2**	103	84-119	6	20	1.0	0.12
trans-1,2-Dichloroethene	40.0		**40.5**	101	76-126	7	20	1.0	0.20
1,2-Dichloropropane	40.0		**41.4**	104	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene	40.0		**38.6**	97	77-120	4	20	1.0	0.19

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
trans-1,3-Dichloropropene	40.0	**38.6**		97	73-116	3	20	1.0	0.19
Ethylbenzene	40.0	**43.2**		108	87-119	6	20	1.0	0.21
2-Hexanone	40.0	**41.8**		104	55-141	6	20	5.0	0.49
Isopropylbenzene	40.0	**40.0**		100	76-126	2	20	1.0	0.22
Methyl Acetate	40.0	**37.9**		95	67-129	1	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**41.0**		102	72-128	3	20	1.0	0.19
Methylcyclohexane	40.0	**35.1**		88	78-126	6	20	5.0	0.37
Methylene Chloride	40.0	**38.5**		96	75-129	6	20	1.0	0.24
2-Butanone (MEK)	40.0	**47.4**		119	52-142	2	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**40.6**		102	60-142	1	20	5.0	0.40
Styrene	40.0	**39.8**		100	84-120	6	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**43.2**		108	70-137	0.4	20	1.0	0.26
Tetrachloroethene	40.0	**41.0**		103	81-117	7	20	1.0	0.23
Toluene	40.0	**40.0**		100	85-118	7	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**40.5**		101	75-125	0.3	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**41.1**		103	81-122	8	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**41.8**		105	83-121	4	20	1.0	0.20
Trichloroethene	40.0	**41.3**		103	82-119	5	20	1.0	0.21
Trichlorofluoromethane	40.0	**38.5**		96	76-128	10	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**36.1**		90	76-126	9	20	1.0	0.24
Vinyl Chloride	40.0	**36.3**		91	77-123	9	20	1.0	0.21
Xylene (Total)	120	**127**		106	86-119	6	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*102*	*87-122*				
Toluene-d8				*99*	*85-113*				
4-Bromofluorobenzene				*100*	*82-110*				

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CHAIN OF CUSTODY RECORD

COC NO.: PL-10020 PAGE 1 OF 1

539, 515-RED (37-17)

(See Reverse Side for Instructions)

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123 Fax: (734) 453-5201

1210630

Project No/ Phase/Task Code: 17360-T01Y12-01Y12	Laboratory Name: TRI - Matrix
Project Name: Former GR Metal Plant	Lab Contact: Jennifer Rice
Project Location: Grand Rapids, MI	Lab Location: Grand Rapids, MI
Chemistry Contact: Paul Wiseman	Lab Quote No:
Sampler(s): Jon Valentine	SSOW ID: 1980-T01Y12-010
	Cooler No:
	Carrier: CRA
	Airbill No:
	Date Shipped: 10-30-12

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	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): (1) VOC's	(2)	MS/MSD Request	Comments/ Special Instructions:
01	GW-17360-103012-JV-041	10-30-12	0910	WG	G		X							3	X	02		
02	-042		0952				X							3	X			
03	-043		1020				X							3	X			
04	-044		1138				X							3	X			
05	-045		1205				X							3	X			
06	-046		1358				X							3	X			
07	-047		1605				X							3	X			
08	SW-17360-103012-JV-048		1535	WS			X							3	X			
09	-049		1445				X							3	X			
10	-050		1510				X							3	X			
11	TB-17360-103012-JV	10-30-12	—	WQ	—		X							1	X	01		
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: 34

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Jon Valentine	CRA	10-30-12	1700	1. D Hardin	TRIMATRIX	10/30/12	1700
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)

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TRIMATRIX LABORATORIES

TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 1210630
Receipt Record Page/Line #: 37-17 | New / Add To | Project Chemist: SLR | Sample #s

Recorded by (initials/date): RN 10/30/12

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

☑ IR Gun (#202) | Thermometer Used: ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler 1

Cooler #: TR1470 | Time: 1828

Custody Seals:
- ☑ None
- ☐ Present / Intact
- ☐ Present / Not Intact

Coolant Location: Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
- ☑ Loose Ice / Avg 2-3 containers
- ☐ Bagged Ice / Avg 2-3 containers
- ☐ Blue Ice / Avg 2-3 containers
- ☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
- ☑ Temperature Blank (TB)
- ☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:	3		3.1
TB location: (Representative) / Not Representative			
1	5.9	0	5.9
2	5.8	0	5.8
3	5.2	0	5.2
Average °C			5.6

- ☐ Cooler ID on COC?
- ☑ VOC Trip Blank received?

Cooler 2

Cooler #: | Time:

Custody Seals:
- ☐ None
- ☐ Present / Intact
- ☐ Present / Not Intact

Coolant Location: Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
- ☐ Loose Ice / Avg 2-3 containers
- ☐ Bagged Ice / Avg 2-3 containers
- ☐ Blue Ice / Avg 2-3 containers
- ☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ Temperature Blank (TB)
- ☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

- ☐ Cooler ID on COC?
- ☐ VOC Trip Blank received?

Cooler 3

Cooler #: | Time:

Custody Seals:
- ☐ None
- ☐ Present / Intact
- ☐ Present / Not Intact

Coolant Location: Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
- ☐ Loose Ice / Avg 2-3 containers
- ☐ Bagged Ice / Avg 2-3 containers
- ☐ Blue Ice / Avg 2-3 containers
- ☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ Temperature Blank (TB)
- ☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

- ☐ Cooler ID on COC?
- ☐ VOC Trip Blank received?

Cooler 4

Cooler #: | Time:

Custody Seals:
- ☐ None
- ☐ Present / Intact
- ☐ Present / Not Intact

Coolant Location: Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
- ☐ Loose Ice / Avg 2-3 containers
- ☐ Bagged Ice / Avg 2-3 containers
- ☐ Blue Ice / Avg 2-3 containers
- ☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ Temperature Blank (TB)
- ☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

- ☐ Cooler ID on COC?
- ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☐ Other CRA

COC ID Numbers: PL-10020

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☑	☐	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☐ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☐ Green-tagged containers
- ☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
- ☑ NONE RECEIVED
- ☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☐	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
RN 10/30/12	10/30/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1210636

Date:
November 26, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on October 30, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/26/12

Date

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Sample Receipt and Login -- Work Order: 1210636

TriMatrix Laboratories received the cooler(s) for this work order on October 30, 2012, at 17:00. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
Trip Blank	1210636-01	Soil	10/30/2012
S-17360-103012-DD-112	1210636-02	Soil	10/30/2012
S-17360-103012-DD-113	1210636-03	Soil	10/30/2012
GW-17360-103012-DD-114	1210636-04	Water	10/30/2012
S-17360-103012-DD-115	1210636-05	Soil	10/30/2012
S-17360-103012-DD-116	1210636-06	Soil	10/30/2012
S-17360-103012-DD-117	1210636-07	Soil	10/30/2012
S-17360-103012-DD-118	1210636-08	Soil	10/30/2012
GW-17360-103012-DD-119	1210636-09	Water	10/30/2012
S-17360-103012-DD-120	1210636-10	Soil	10/30/2012
S-17360-103012-DD-121	1210636-11	Soil	10/30/2012
S-17360-103012-DD-122	1210636-12	Soil	10/30/2012
S-17360-103012-DD-123	1210636-13	Soil	10/30/2012
S-17360-103012-DD-124	1210636-14	Soil	10/30/2012
S-17360-103012-DD-125	1210636-15	Soil	10/30/2012
GW-17360-103012-DD-126	1210636-16	Water	10/30/2012
S-17360-103012-DD-127	1210636-17	Soil	10/30/2012
S-17360-103012-DD-128	1210636-18	Soil	10/30/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8082A

Sample:		
	1210636-04	GW-17360-103012-DD-114
	1210636-09	GW-17360-103012-DD-119
	1210636-16	GW-17360-103012-DD-126

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1210636-04	GW-17360-103012-DD-114	Carbon Disulfide
1210636-09	GW-17360-103012-DD-119	Carbon Disulfide
1210636-16	GW-17360-103012-DD-126	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1210636-04	GW-17360-103012-DD-114	Carbon Disulfide
1210636-09	GW-17360-103012-DD-119	Carbon Disulfide
1210636-16	GW-17360-103012-DD-126	Carbon Disulfide

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:		
1210636-04	GW-17360-103012-DD-114	Methyl Acetate
1210636-09	GW-17360-103012-DD-119	Methyl Acetate
1210636-16	GW-17360-103012-DD-126	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210636-01	Trip Blank	Trichlorofluoromethane
	1210636-02	S-17360-103012-DD-112	Trichlorofluoromethane
	1210636-03	S-17360-103012-DD-113	Trichlorofluoromethane
	1210636-05	S-17360-103012-DD-115	Trichlorofluoromethane
	1210636-06	S-17360-103012-DD-116	Trichlorofluoromethane
	1210636-07	S-17360-103012-DD-117	Trichlorofluoromethane
	1210636-08	S-17360-103012-DD-118	Trichlorofluoromethane
	1210636-10	S-17360-103012-DD-120	Trichlorofluoromethane
	1210636-11	S-17360-103012-DD-121	Trichlorofluoromethane
	1210636-12	S-17360-103012-DD-122	Trichlorofluoromethane
	1210636-13	S-17360-103012-DD-123	Trichlorofluoromethane
	1210636-14	S-17360-103012-DD-124	Trichlorofluoromethane
	1210636-15	S-17360-103012-DD-125	Trichlorofluoromethane
	1210636-17	S-17360-103012-DD-127	Trichlorofluoromethane
	1210636-18	S-17360-103012-DD-128	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1210636-01	Trip Blank	Bromomethane
	1210636-01	Trip Blank	Methyl Acetate
	1210636-01	Trip Blank	Trichlorofluoromethane
	1210636-02	S-17360-103012-DD-112	Bromomethane
	1210636-02	S-17360-103012-DD-112	Methyl Acetate
	1210636-02	S-17360-103012-DD-112	Trichlorofluoromethane
	1210636-03	S-17360-103012-DD-113	Bromomethane
	1210636-03	S-17360-103012-DD-113	Methyl Acetate
	1210636-03	S-17360-103012-DD-113	Trichlorofluoromethane
	1210636-05	S-17360-103012-DD-115	Bromomethane
	1210636-05	S-17360-103012-DD-115	Methyl Acetate
	1210636-05	S-17360-103012-DD-115	Trichlorofluoromethane
	1210636-06	S-17360-103012-DD-116	Bromomethane
	1210636-06	S-17360-103012-DD-116	Methyl Acetate
	1210636-06	S-17360-103012-DD-116	Trichlorofluoromethane
	1210636-07	S-17360-103012-DD-117	Bromomethane
	1210636-07	S-17360-103012-DD-117	Methyl Acetate
	1210636-07	S-17360-103012-DD-117	Trichlorofluoromethane
	1210636-08	S-17360-103012-DD-118	Bromomethane
	1210636-08	S-17360-103012-DD-118	Methyl Acetate
	1210636-08	S-17360-103012-DD-118	Trichlorofluoromethane
	1210636-10	S-17360-103012-DD-120	Bromomethane
	1210636-10	S-17360-103012-DD-120	Methyl Acetate
	1210636-10	S-17360-103012-DD-120	Trichlorofluoromethane
	1210636-11	S-17360-103012-DD-121	Bromomethane
	1210636-11	S-17360-103012-DD-121	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

1210636-11	S-17360-103012-DD-121	Trichlorofluoromethane
1210636-12	S-17360-103012-DD-122	Bromomethane
1210636-12	S-17360-103012-DD-122	Methyl Acetate
1210636-12	S-17360-103012-DD-122	Trichlorofluoromethane
1210636-13	S-17360-103012-DD-123	Bromomethane
1210636-13	S-17360-103012-DD-123	Methyl Acetate
1210636-13	S-17360-103012-DD-123	Trichlorofluoromethane
1210636-14	S-17360-103012-DD-124	Bromomethane
1210636-14	S-17360-103012-DD-124	Methyl Acetate
1210636-14	S-17360-103012-DD-124	Trichlorofluoromethane
1210636-15	S-17360-103012-DD-125	Bromomethane
1210636-15	S-17360-103012-DD-125	Methyl Acetate
1210636-15	S-17360-103012-DD-125	Trichlorofluoromethane
1210636-17	S-17360-103012-DD-127	Bromomethane
1210636-17	S-17360-103012-DD-127	Methyl Acetate
1210636-17	S-17360-103012-DD-127	Trichlorofluoromethane
1210636-18	S-17360-103012-DD-128	Bromomethane
1210636-18	S-17360-103012-DD-128	Methyl Acetate
1210636-18	S-17360-103012-DD-128	Trichlorofluoromethane

Qualification: The RPD between the MS and MSD results exceeded the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:	1210636-02	S-17360-103012-DD-112	Trichlorofluoromethane

Qualification: The MS and/or MSD recovery exceeded the upper control limit. The non-spiked sample result for the same analyte was non-detect and is not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1210636-02	S-17360-103012-DD-112	Carbon Disulfide

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP because client specific matrix QC was not requested. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8270C

Sample:		
	1210636-02	S-17360-103012-DD-112
	1210636-03	S-17360-103012-DD-113
	1210636-05	S-17360-103012-DD-115
	1210636-06	S-17360-103012-DD-116
	1210636-07	S-17360-103012-DD-117
	1210636-08	S-17360-103012-DD-118
	1210636-10	S-17360-103012-DD-120
	1210636-11	S-17360-103012-DD-121
	1210636-12	S-17360-103012-DD-122
	1210636-13	S-17360-103012-DD-123
	1210636-14	S-17360-103012-DD-124
	1210636-15	S-17360-103012-DD-125
	1210636-17	S-17360-103012-DD-127
	1210636-18	S-17360-103012-DD-128

Qualification: The LCS recovery was less than 10%. All results, including non-detectable concentrations for this analyte in any sample from the associated QC Batch are considered unusable.

Analysis: USEPA-8270C

Sample/Analyte:			
	1210636-02	S-17360-103012-DD-112	Benzaldehyde
	1210636-03	S-17360-103012-DD-113	Benzaldehyde
	1210636-04	GW-17360-103012-DD-114	Benzaldehyde
	1210636-05	S-17360-103012-DD-115	Benzaldehyde
	1210636-06	S-17360-103012-DD-116	Benzaldehyde
	1210636-07	S-17360-103012-DD-117	Benzaldehyde
	1210636-08	S-17360-103012-DD-118	Benzaldehyde
	1210636-09	GW-17360-103012-DD-119	Benzaldehyde
	1210636-10	S-17360-103012-DD-120	Benzaldehyde
	1210636-11	S-17360-103012-DD-121	Benzaldehyde
	1210636-12	S-17360-103012-DD-122	Benzaldehyde
	1210636-13	S-17360-103012-DD-123	Benzaldehyde
	1210636-14	S-17360-103012-DD-124	Benzaldehyde
	1210636-15	S-17360-103012-DD-125	Benzaldehyde
	1210636-16	GW-17360-103012-DD-126	Benzaldehyde

Qualification: The LCS and/or LCSD recovery was less than the lower control limit but greater than or equal to 10%. All results for this analyte in all samples from the associated QC batch are considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:			
	1210636-04	GW-17360-103012-DD-114	3,3´-Dichlorobenzidine

Continued on next page

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The LCS and/or LCSD recovery was less than the lower control limit but greater than or equal to 10%. All results for this analyte in all samples from the associated QC batch are considered estimated.

Analysis: USEPA-8270C

1210636-04	GW-17360-103012-DD-114	3-Nitroaniline
1210636-04	GW-17360-103012-DD-114	4-Chloroaniline
1210636-04	GW-17360-103012-DD-114	Acetophenone
1210636-09	GW-17360-103012-DD-119	3,3´-Dichlorobenzidine
1210636-09	GW-17360-103012-DD-119	3-Nitroaniline
1210636-09	GW-17360-103012-DD-119	4-Chloroaniline
1210636-09	GW-17360-103012-DD-119	Acetophenone
1210636-16	GW-17360-103012-DD-126	3,3´-Dichlorobenzidine
1210636-16	GW-17360-103012-DD-126	3-Nitroaniline
1210636-16	GW-17360-103012-DD-126	4-Chloroaniline
1210636-16	GW-17360-103012-DD-126	Acetophenone

Qualification: The recovery of acid surrogate Phenol-d6 was outside of the control limits in the LCS. All acid analytes in the LCS had acceptable spike recoveries. No data requires qualification.

Analysis: USEPA-8270C

Sample: 1213318-BS1

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:		
1210636-02	S-17360-103012-DD-112	Benzo(b)fluoranthene
1210636-02	S-17360-103012-DD-112	Benzo(k)fluoranthene
1210636-04	GW-17360-103012-DD-114	Benzo(a)anthracene
1210636-04	GW-17360-103012-DD-114	Chrysene
1210636-05	S-17360-103012-DD-115	Benzo(b)fluoranthene
1210636-05	S-17360-103012-DD-115	Benzo(k)fluoranthene
1210636-06	S-17360-103012-DD-116	Benzo(a)anthracene
1210636-07	S-17360-103012-DD-117	Benzo(b)fluoranthene
1210636-07	S-17360-103012-DD-117	Benzo(k)fluoranthene
1210636-08	S-17360-103012-DD-118	Benzo(b)fluoranthene
1210636-08	S-17360-103012-DD-118	Benzo(k)fluoranthene
1210636-09	GW-17360-103012-DD-119	Benzo(a)anthracene
1210636-10	S-17360-103012-DD-120	Benzo(b)fluoranthene
1210636-10	S-17360-103012-DD-120	Benzo(k)fluoranthene
1210636-11	S-17360-103012-DD-121	Benzo(a)anthracene
1210636-12	S-17360-103012-DD-122	Benzo(a)anthracene
1210636-12	S-17360-103012-DD-122	Benzo(b)fluoranthene
1210636-12	S-17360-103012-DD-122	Benzo(k)fluoranthene
1210636-14	S-17360-103012-DD-124	Benzo(b)fluoranthene
1210636-14	S-17360-103012-DD-124	Benzo(k)fluoranthene
1210636-16	GW-17360-103012-DD-126	Benzo(a)anthracene
1210636-16	GW-17360-103012-DD-126	Benzo(b)fluoranthene
1210636-16	GW-17360-103012-DD-126	Benzo(k)fluoranthene
1210636-17	S-17360-103012-DD-127	Benzo(b)fluoranthene

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Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

1210636-17	S-17360-103012-DD-127	Benzo(k)fluoranthene
1210636-18	S-17360-103012-DD-128	Benzo(b)fluoranthene
1210636-18	S-17360-103012-DD-128	Benzo(k)fluoranthene
1213648-BSD2		2-Fluorophenol

Qualification: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:

1210636-02	S-17360-103012-DD-112	Bis(2-ethylhexyl) Phthalate
1210636-02	S-17360-103012-DD-112	Diethyl Phthalate
1210636-03	S-17360-103012-DD-113	Bis(2-ethylhexyl) Phthalate
1210636-03	S-17360-103012-DD-113	Diethyl Phthalate
1210636-05	S-17360-103012-DD-115	Bis(2-ethylhexyl) Phthalate
1210636-05	S-17360-103012-DD-115	Diethyl Phthalate
1210636-06	S-17360-103012-DD-116	Bis(2-ethylhexyl) Phthalate
1210636-06	S-17360-103012-DD-116	Diethyl Phthalate
1210636-07	S-17360-103012-DD-117	Bis(2-ethylhexyl) Phthalate
1210636-07	S-17360-103012-DD-117	Diethyl Phthalate
1210636-08	S-17360-103012-DD-118	Bis(2-ethylhexyl) Phthalate
1210636-08	S-17360-103012-DD-118	Diethyl Phthalate
1210636-10	S-17360-103012-DD-120	Bis(2-ethylhexyl) Phthalate
1210636-11	S-17360-103012-DD-121	Bis(2-ethylhexyl) Phthalate
1210636-11	S-17360-103012-DD-121	Diethyl Phthalate
1210636-12	S-17360-103012-DD-122	Bis(2-ethylhexyl) Phthalate
1210636-13	S-17360-103012-DD-123	Bis(2-ethylhexyl) Phthalate
1210636-13	S-17360-103012-DD-123	Diethyl Phthalate
1210636-14	S-17360-103012-DD-124	Bis(2-ethylhexyl) Phthalate
1210636-14	S-17360-103012-DD-124	Diethyl Phthalate
1210636-15	S-17360-103012-DD-125	Bis(2-ethylhexyl) Phthalate
1210636-15	S-17360-103012-DD-125	Diethyl Phthalate

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:

1210636-02	S-17360-103012-DD-112	Di-n-butyl Phthalate
1210636-03	S-17360-103012-DD-113	Di-n-butyl Phthalate
1210636-05	S-17360-103012-DD-115	Butyl Benzyl Phthalate
1210636-05	S-17360-103012-DD-115	Di-n-butyl Phthalate
1210636-06	S-17360-103012-DD-116	Butyl Benzyl Phthalate
1210636-06	S-17360-103012-DD-116	Di-n-butyl Phthalate
1210636-07	S-17360-103012-DD-117	Di-n-butyl Phthalate
1210636-08	S-17360-103012-DD-118	Butyl Benzyl Phthalate
1210636-08	S-17360-103012-DD-118	Di-n-butyl Phthalate
1210636-11	S-17360-103012-DD-121	Butyl Benzyl Phthalate
1210636-11	S-17360-103012-DD-121	Di-n-butyl Phthalate

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Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

1210636-13	S-17360-103012-DD-123	Di-n-butyl Phthalate
1210636-14	S-17360-103012-DD-124	Butyl Benzyl Phthalate
1210636-15	S-17360-103012-DD-125	Di-n-butyl Phthalate

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1210636-04	GW-17360-103012-DD-114	Diethyl Phthalate
	1210636-16	GW-17360-103012-DD-126	Diethyl Phthalate

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8270C

Sample:	1210636-02	S-17360-103012-DD-112
	1210636-10	S-17360-103012-DD-120
	1210636-12	S-17360-103012-DD-122
	1210636-14	S-17360-103012-DD-124

Qualification: Surrogate results are unavailable due to positive results in the sample, resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8270C

Sample:	1210636-05	S-17360-103012-DD-115
	1210636-07	S-17360-103012-DD-117

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Dissolved Metals by EPA 6000/7000 Series Methods

Qualification: The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.

Analysis: USEPA-6020A

Sample/Analyte:			
	1210636-04	GW-17360-103012-DD-114	Copper
	1210636-04	GW-17360-103012-DD-114	Nickel
	1210636-09	GW-17360-103012-DD-119	Copper
	1210636-16	GW-17360-103012-DD-126	Copper

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Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:	
2K10006-CRL1	Selenium
2K10006-CRL1	Zinc

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/30/12 00:00
Lab Sample ID:	**1210636-01**	Sampled By:	TML
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
*74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.012
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.010
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
*79-20-9	Methyl Acetate	0.25U	0.25	0.032

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/30/12 00:00
Lab Sample ID:	**1210636-01**	Sampled By:	TML
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
*75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0074
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	0.36U	0.36	0.0037
11096-82-5	PCB-1260	**0.15J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*59*	*45-135*
Tetrachloro-m-xylene	*82*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.059
71-43-2	Benzene	0.054U	0.054	0.0077
75-27-4	Bromodichloromethane	0.054U	0.054	0.0072
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
*75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
108-90-7	Chlorobenzene	0.054U	0.054	0.0091
75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0091
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.017
95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.013
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.012
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.013
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	0.054U	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.054U	0.054	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0075
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0074
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	0.054U	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.020
75-01-4	Vinyl Chloride	0.043U	0.043	0.0091
1330-20-7	Xylene (Total)	0.16U	0.16	0.022

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.012J**	0.090	0.0043
208-96-8	Acenaphthylene	**0.0071J**	0.090	0.0044
98-86-2	Acetophenone	0.090U	0.090	0.053
120-12-7	Anthracene	**0.018J**	0.090	0.0046
1912-24-9	Atrazine	0.090U	0.090	0.052
*100-52-7	Benzaldehyde	0.36U	0.36	0.052
56-55-3	Benzo(a)anthracene	**0.12**	0.090	0.0078
50-32-8	Benzo(a)pyrene	**0.10**	0.090	0.0046
*205-99-2	Benzo(b)fluoranthene	**0.16**	0.090	0.0092
*207-08-9	Benzo(k)fluoranthene	**0.064J**	0.090	0.012
191-24-2	Benzo(g,h,i)perylene	**0.12J**	0.18	0.0044
92-52-4	1,1'-Biphenyl	0.090U	0.090	0.058
101-55-3	4-Bromophenyl Phenyl Ether	0.090U	0.090	0.0051
85-68-7	Butyl Benzyl Phthalate	0.18U	0.18	0.0091
105-60-2	Caprolactam	0.36U	0.36	0.059
86-74-8	Carbazole	0.90U	0.90	0.048
59-50-7	4-Chloro-3-methylphenol	0.090U	0.090	0.020
106-47-8	4-Chloroaniline	0.36U	0.36	0.048
111-91-1	Bis(2-chloroethoxy)methane	0.090U	0.090	0.0060
111-44-4	Bis(2-chloroethyl) Ether	0.090U	0.090	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.090U	0.090	0.015
91-58-7	2-Chloronaphthalene	0.090U	0.090	0.014
95-57-8	2-Chlorophenol	0.090U	0.090	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.090U	0.090	0.0039
218-01-9	Chrysene	**0.12**	0.090	0.0046
53-70-3	Dibenz(a,h)anthracene	**0.018J**	0.18	0.0068
132-64-9	Dibenzofuran	**0.011J**	0.090	0.0044
*84-74-2	Di-n-butyl Phthalate	**0.10J**	0.36	0.076
91-94-1	3,3´-Dichlorobenzidine	4.5U	4.5	0.17

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0083
*84-66-2	Diethyl Phthalate	**0.021JB**	0.090	0.013
105-67-9	2,4-Dimethylphenol	0.90U	0.90	0.16
131-11-3	Dimethyl Phthalate	**0.021J**	0.090	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.90U	0.90	0.029
51-28-5	2,4-Dinitrophenol	0.90U	0.90	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.090U	0.090	0.0085
117-84-0	Di-n-octyl Phthalate	0.090U	0.090	0.0060
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.076JB**	0.18	0.022
206-44-0	Fluoranthene	**0.19**	0.090	0.0030
86-73-7	Fluorene	**0.011J**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.090U	0.090	0.0054
87-68-3	Hexachlorobutadiene	0.090U	0.090	0.0039
77-47-4	Hexachlorocyclopentadiene	0.090U	0.090	0.015
67-72-1	Hexachloroethane	0.090U	0.090	0.0072
193-39-5	Indeno(1,2,3-cd)pyrene	**0.089J**	0.18	0.017
78-59-1	Isophorone	0.090U	0.090	0.0057
91-57-6	2-Methylnaphthalene	0.090U	0.090	0.0073
95-48-7	2-Methylphenol	0.090U	0.090	0.018
106-44-5	4-Methylphenol	0.090U	0.090	0.011
91-20-3	Naphthalene	0.090U	0.090	0.0028
88-74-4	2-Nitroaniline	0.090U	0.090	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.088
100-01-6	4-Nitroaniline	0.18U	0.18	0.085
98-95-3	Nitrobenzene	0.090U	0.090	0.0079
100-02-7	4-Nitrophenol	3.6U	3.6	0.14
88-75-5	2-Nitrophenol	0.090U	0.090	0.0083
86-30-6	N-Nitroso-diphenylamine	0.090U	0.090	0.0057
621-64-7	N-Nitroso-di-n-propylamine	0.090U	0.090	0.012
87-86-5	Pentachlorophenol	0.90U	0.90	0.080

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.12**	0.090	0.0039
108-95-2	Phenol	0.90U	0.90	0.0071
129-00-0	Pyrene	**0.22**	0.090	0.0065
88-06-2	2,4,6-Trichlorophenol	0.090U	0.090	0.0092
95-95-4	2,4,5-Trichlorophenol	0.090U	0.090	0.021

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*83*	*33-113*
Phenol-d6	*83*	*30-115*
Nitrobenzene-d5	*71*	*33-131*
2-Fluorobiphenyl	*80*	*46-122*
2,4,6-Tribromophenol	*52*	*12-124*
o-Terphenyl	*76*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.17**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:49	DSC	1213548
Arsenic	**1.6**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Barium	**19**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/10/12 09:35	DSC	1213574
Beryllium	**0.14**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Cadmium	**0.18**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Chromium	**7.5**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:14	DSC	1213574
Cobalt	**2.1**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Copper	**8.0**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Iron	**4900**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/07/12 15:56	CKD	1213573
Lead	**8.3**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Manganese	**140**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 11:09	DSC	1213574
Molybdenum	**0.58**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Mercury	0.046	U	0.046	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 15:29	CKD	1213516
Nickel	**5.9**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Selenium	**0.13**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:14	DSC	1213574
Silver	**0.024**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Thallium	**0.041**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:45	DSC	1213574
Vanadium	**9.3**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:14	DSC	1213574
Zinc	**19**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 11:12	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-112**	Sampled:	10/30/12 08:55
Lab Sample ID:	**1210636-02**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	0.34U	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*98*	*45-135*
Tetrachloro-m-xylene	*89*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.85U	0.85	0.061
71-43-2	Benzene	0.057U	0.057	0.0080
75-27-4	Bromodichloromethane	0.057U	0.057	0.0076
75-25-2	Bromoform	0.057U	0.057	0.015
*74-83-9	Bromomethane	0.057U	0.057	0.024
75-15-0	Carbon Disulfide	0.28U	0.28	0.013
56-23-5	Carbon Tetrachloride	0.057U	0.057	0.019
108-90-7	Chlorobenzene	0.057U	0.057	0.0095
75-00-3	Chloroethane	0.057U	0.057	0.020
67-66-3	Chloroform	0.057U	0.057	0.0095
74-87-3	Chloromethane	0.057U	0.057	0.022
110-82-7	Cyclohexane	0.28U	0.28	0.027
96-12-8	1,2-Dibromo-3-chloropropane	0.28U	0.28	0.029
124-48-1	Dibromochloromethane	0.057U	0.057	0.0086
106-93-4	1,2-Dibromoethane	0.057U	0.057	0.018
95-50-1	1,2-Dichlorobenzene	0.057U	0.057	0.013
541-73-1	1,3-Dichlorobenzene	0.057U	0.057	0.013
106-46-7	1,4-Dichlorobenzene	0.057U	0.057	0.014
75-71-8	Dichlorodifluoromethane	0.057U	0.057	0.012
75-34-3	1,1-Dichloroethane	0.057U	0.057	0.012
107-06-2	1,2-Dichloroethane	0.057U	0.057	0.012
75-35-4	1,1-Dichloroethene	0.057U	0.057	0.012
156-59-2	cis-1,2-Dichloroethene	0.057U	0.057	0.013
156-60-5	trans-1,2-Dichloroethene	0.057U	0.057	0.013
78-87-5	1,2-Dichloropropane	0.057U	0.057	0.016
10061-01-5	cis-1,3-Dichloropropene	0.057U	0.057	0.011
10061-02-6	trans-1,3-Dichloropropene	0.057U	0.057	0.011
100-41-4	Ethylbenzene	0.057U	0.057	0.012
591-78-6	2-Hexanone	2.8U	2.8	0.028

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.057U	0.057	0.012
*79-20-9	Methyl Acetate	0.28U	0.28	0.036
1634-04-4	Methyl tert-Butyl Ether	0.057U	0.057	0.011
108-87-2	Methylcyclohexane	0.28U	0.28	0.021
75-09-2	Methylene Chloride	0.11U	0.11	0.030
78-93-3	2-Butanone (MEK)	0.85U	0.85	0.072
108-10-1	4-Methyl-2-pentanone (MIBK)	2.8U	2.8	0.022
100-42-5	Styrene	0.057U	0.057	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.057U	0.057	0.014
127-18-4	Tetrachloroethene	0.057U	0.057	0.016
108-88-3	Toluene	0.057U	0.057	0.012
120-82-1	1,2,4-Trichlorobenzene	0.057U	0.057	0.0079
71-55-6	1,1,1-Trichloroethane	0.057U	0.057	0.0078
79-00-5	1,1,2-Trichloroethane	0.057U	0.057	0.018
79-01-6	Trichloroethene	0.057U	0.057	0.012
*75-69-4	Trichlorofluoromethane	0.057U	0.057	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.057U	0.057	0.020
75-01-4	Vinyl Chloride	0.045U	0.045	0.0095
1330-20-7	Xylene (Total)	0.17U	0.17	0.023

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.017U	0.017	0.00083
208-96-8	Acenaphthylene	0.017U	0.017	0.00086
98-86-2	Acetophenone	0.017U	0.017	0.010
120-12-7	Anthracene	0.017U	0.017	0.00089
1912-24-9	Atrazine	0.017U	0.017	0.010
*100-52-7	Benzaldehyde	0.069U	0.069	0.010
56-55-3	Benzo(a)anthracene	0.017U	0.017	0.0015
50-32-8	Benzo(a)pyrene	0.017U	0.017	0.00089
205-99-2	Benzo(b)fluoranthene	0.017U	0.017	0.0018
207-08-9	Benzo(k)fluoranthene	0.017U	0.017	0.0023
191-24-2	Benzo(g,h,i)perylene	0.035U	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.017U	0.017	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.017U	0.017	0.00098
85-68-7	Butyl Benzyl Phthalate	0.035U	0.035	0.0018
105-60-2	Caprolactam	0.069U	0.069	0.011
86-74-8	Carbazole	0.17U	0.17	0.0093
59-50-7	4-Chloro-3-methylphenol	0.017U	0.017	0.0039
106-47-8	4-Chloroaniline	0.069U	0.069	0.0092
111-91-1	Bis(2-chloroethoxy)methane	0.017U	0.017	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.017U	0.017	0.00082
108-60-1	Bis(2-chloroisopropyl) Ether	0.017U	0.017	0.0028
91-58-7	2-Chloronaphthalene	0.017U	0.017	0.0027
95-57-8	2-Chlorophenol	0.017U	0.017	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.017U	0.017	0.00075
218-01-9	Chrysene	0.017U	0.017	0.00089
53-70-3	Dibenz(a,h)anthracene	0.035U	0.035	0.0013
132-64-9	Dibenzofuran	0.017U	0.017	0.00086
*84-74-2	Di-n-butyl Phthalate	**0.069**	0.069	0.015
91-94-1	3,3´-Dichlorobenzidine	0.87U	0.87	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.0064JB**	0.017	0.0025
105-67-9	2,4-Dimethylphenol	0.17U	0.17	0.031
131-11-3	Dimethyl Phthalate	0.017U	0.017	0.0019
534-52-1	4,6-Dinitro-2-methylphenol	0.17U	0.17	0.0057
51-28-5	2,4-Dinitrophenol	0.17U	0.17	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.017U	0.017	0.0016
117-84-0	Di-n-octyl Phthalate	0.017U	0.017	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.029JB**	0.035	0.0043
206-44-0	Fluoranthene	0.017U	0.017	0.00058
86-73-7	Fluorene	0.035U	0.035	0.00063
118-74-1	Hexachlorobenzene	0.017U	0.017	0.0010
87-68-3	Hexachlorobutadiene	0.017U	0.017	0.00075
77-47-4	Hexachlorocyclopentadiene	0.017U	0.017	0.0028
67-72-1	Hexachloroethane	0.017U	0.017	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	0.035U	0.035	0.0032
78-59-1	Isophorone	0.017U	0.017	0.0011
91-57-6	2-Methylnaphthalene	0.017U	0.017	0.0014
95-48-7	2-Methylphenol	0.017U	0.017	0.0035
106-44-5	4-Methylphenol	0.017U	0.017	0.0021
91-20-3	Naphthalene	0.017U	0.017	0.00053
88-74-4	2-Nitroaniline	0.017U	0.017	0.0061
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.017U	0.017	0.0015
100-02-7	4-Nitrophenol	0.69U	0.69	0.028
88-75-5	2-Nitrophenol	0.017U	0.017	0.0016
86-30-6	N-Nitroso-diphenylamine	0.017U	0.017	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.017U	0.017	0.0023
87-86-5	Pentachlorophenol	0.17U	0.17	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.017U	0.017	0.00075
108-95-2	Phenol	0.17U	0.17	0.0014
129-00-0	Pyrene	0.017U	0.017	0.0013
88-06-2	2,4,6-Trichlorophenol	0.017U	0.017	0.0018
95-95-4	2,4,5-Trichlorophenol	0.017U	0.017	0.0041

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*68*	*33-113*
Phenol-d6	*70*	*30-115*
Nitrobenzene-d5	*73*	*33-131*
2-Fluorobiphenyl	*85*	*46-122*
2,4,6-Tribromophenol	*38*	*12-124*
o-Terphenyl	*91*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	96		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.13**		0.092	0.022	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:51	DSC	1213548
Arsenic	**3.7**		0.094	0.015	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Barium	**7.4**		0.94	0.011	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Beryllium	**0.098**	**J**	0.47	0.018	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Cadmium	**0.032**	**J**	0.047	0.0031	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Chromium	**7.8**		0.94	0.013	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:18	DSC	1213574
Cobalt	**3.2**		0.94	0.0060	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Copper	**7.0**		0.94	0.024	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Iron	**7000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:03	CKD	1213573
Lead	**3.6**		0.94	0.0062	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Manganese	**290**		94	2.2	mg/kg dry wt.	100	USEPA-6020A	11/12/12 11:16	DSC	1213574
Molybdenum	**0.33**	**J**	0.94	0.0076	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 15:34	CKD	1213516
Nickel	**7.5**		0.94	0.015	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Selenium	0.094	U	0.094	0.031	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:18	DSC	1213574
Silver	**0.029**	**J**	0.047	0.0037	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Thallium	**0.059**		0.047	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:49	DSC	1213574
Vanadium	**16**		0.47	0.045	mg/kg dry wt.	5	USEPA-6020A	11/12/12 11:19	DSC	1213574
Zinc	**23**		4.7	1.3	mg/kg dry wt.	5	USEPA-6020A	11/12/12 11:19	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-113**	Sampled:	10/30/12 09:10
Lab Sample ID:	**1210636-03**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/10/12 By: ASC
QC Batch:	1213428	Analytical Batch:	2K12005

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	***% Recovery***	***Control Limits***
Tetrachloro-m-xylene	*76*	*26-118*
Decachlorobiphenyl	*101*	*52-139*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.89J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.56J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	**0.80J**	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
*56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
*218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	**0.68**	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*34*	*20-70*
Phenol-d6	*19*	*18-45*
Nitrobenzene-d5	*65*	*31-123*
2-Fluorobiphenyl	*62*	*25-113*
2,4,6-Tribromophenol	*65*	*30-121*
o-Terphenyl	*74*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-114**	Sampled:	10/30/12 09:45
Lab Sample ID:	**1210636-04**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.47**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Arsenic	**0.59**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Barium	**27**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Chromium	**0.50**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/10/12 12:10	DSC	1213631
Cobalt	**1.8**		1.0	0.050	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
***Copper**	**0.95**	**J**	1.0	0.13	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Iron	**13**	**J**	20	6.5	ug/L	1	USEPA-6010C	11/12/12 14:21	KLV	1213630
Lead	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Manganese	**190**		5.0	0.70	ug/L	5	USEPA-6020A	11/10/12 10:00	DSC	1213631
Molybdenum	**7.3**		1.0	0.075	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 11:58	CKD	1213552
***Nickel**	**3.5**		1.0	0.17	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Selenium	**1.3**		1.0	0.31	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Thallium	**0.041**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631
Vanadium	1.0	U	1.0	0.066	ug/L	1	USEPA-6020A	11/10/12 12:10	DSC	1213631
Zinc	**8.6**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/10/12 09:19	DSC	1213631

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/14/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K14020
Percent Solids:	91		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	**0.046J**	0.36	0.0076
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.037J**	0.36	0.0037
11096-82-5	PCB-1260	**0.021J**	0.36	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*83*	*45-135*
Tetrachloro-m-xylene	*68*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.77U	0.77	0.056
71-43-2	Benzene	0.051U	0.051	0.0073
75-27-4	Bromodichloromethane	0.051U	0.051	0.0069
75-25-2	Bromoform	0.051U	0.051	0.013
*74-83-9	Bromomethane	0.051U	0.051	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.051U	0.051	0.017
108-90-7	Chlorobenzene	0.051U	0.051	0.0086
75-00-3	Chloroethane	0.051U	0.051	0.018
67-66-3	Chloroform	0.051U	0.051	0.0086
74-87-3	Chloromethane	0.051U	0.051	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.026
124-48-1	Dibromochloromethane	0.051U	0.051	0.0078
106-93-4	1,2-Dibromoethane	0.051U	0.051	0.017
95-50-1	1,2-Dichlorobenzene	0.051U	0.051	0.012
541-73-1	1,3-Dichlorobenzene	0.051U	0.051	0.012
106-46-7	1,4-Dichlorobenzene	0.051U	0.051	0.013
75-71-8	Dichlorodifluoromethane	0.051U	0.051	0.011
75-34-3	1,1-Dichloroethane	0.051U	0.051	0.011
107-06-2	1,2-Dichloroethane	0.051U	0.051	0.011
75-35-4	1,1-Dichloroethene	0.051U	0.051	0.011
156-59-2	cis-1,2-Dichloroethene	0.051U	0.051	0.012
156-60-5	trans-1,2-Dichloroethene	0.051U	0.051	0.012
78-87-5	1,2-Dichloropropane	0.051U	0.051	0.014
10061-01-5	cis-1,3-Dichloropropene	0.051U	0.051	0.0097
10061-02-6	trans-1,3-Dichloropropene	0.051U	0.051	0.0096
100-41-4	Ethylbenzene	0.051U	0.051	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.025

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.051U	0.051	0.011
*79-20-9	Methyl Acetate	0.26U	0.26	0.033
1634-04-4	Methyl tert-Butyl Ether	0.051U	0.051	0.0097
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.77U	0.77	0.065
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.020
100-42-5	Styrene	0.051U	0.051	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.051U	0.051	0.013
127-18-4	Tetrachloroethene	0.051U	0.051	0.014
108-88-3	Toluene	0.051U	0.051	0.011
120-82-1	1,2,4-Trichlorobenzene	0.051U	0.051	0.0072
71-55-6	1,1,1-Trichloroethane	0.051U	0.051	0.0071
79-00-5	1,1,2-Trichloroethane	0.051U	0.051	0.016
79-01-6	Trichloroethene	0.051U	0.051	0.011
*75-69-4	Trichlorofluoromethane	0.051U	0.051	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.051U	0.051	0.019
75-01-4	Vinyl Chloride	0.041U	0.041	0.0086
1330-20-7	Xylene (Total)	0.15U	0.15	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*99*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.30**	0.092	0.0043
208-96-8	Acenaphthylene	**0.0096J**	0.092	0.0045
98-86-2	Acetophenone	0.092U	0.092	0.054
120-12-7	Anthracene	**0.42**	0.092	0.0047
1912-24-9	Atrazine	0.092U	0.092	0.053
*100-52-7	Benzaldehyde	0.37U	0.37	0.052
56-55-3	Benzo(a)anthracene	**1.2**	0.092	0.0079
50-32-8	Benzo(a)pyrene	**0.83**	0.092	0.0047
*205-99-2	Benzo(b)fluoranthene	**1.3**	0.092	0.0094
*207-08-9	Benzo(k)fluoranthene	**0.53**	0.092	0.012
191-24-2	Benzo(g,h,i)perylene	**0.53**	0.18	0.0045
92-52-4	1,1'-Biphenyl	0.092U	0.092	0.059
101-55-3	4-Bromophenyl Phenyl Ether	0.092U	0.092	0.0052
*85-68-7	Butyl Benzyl Phthalate	**0.069J**	0.18	0.0092
105-60-2	Caprolactam	0.37U	0.37	0.060
86-74-8	Carbazole	**0.27J**	0.92	0.049
59-50-7	4-Chloro-3-methylphenol	0.092U	0.092	0.021
106-47-8	4-Chloroaniline	0.37U	0.37	0.049
111-91-1	Bis(2-chloroethoxy)methane	0.092U	0.092	0.0061
111-44-4	Bis(2-chloroethyl) Ether	0.092U	0.092	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.092U	0.092	0.015
91-58-7	2-Chloronaphthalene	0.092U	0.092	0.014
95-57-8	2-Chlorophenol	0.092U	0.092	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.092U	0.092	0.0040
218-01-9	Chrysene	**1.2**	0.092	0.0047
53-70-3	Dibenz(a,h)anthracene	**0.16J**	0.18	0.0070
132-64-9	Dibenzofuran	**0.28**	0.092	0.0045
*84-74-2	Di-n-butyl Phthalate	**0.15J**	0.37	0.077
91-94-1	3,3´-Dichlorobenzidine	4.6U	4.6	0.18

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0084
*84-66-2	Diethyl Phthalate	**0.031JB**	0.092	0.013
105-67-9	2,4-Dimethylphenol	0.92U	0.92	0.16
131-11-3	Dimethyl Phthalate	**0.013J**	0.092	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.92U	0.92	0.030
51-28-5	2,4-Dinitrophenol	0.92U	0.92	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.092U	0.092	0.0086
117-84-0	Di-n-octyl Phthalate	0.092U	0.092	0.0061
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.13JB**	0.18	0.022
206-44-0	Fluoranthene	**2.4**	0.092	0.0031
86-73-7	Fluorene	**0.22**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.092U	0.092	0.0055
87-68-3	Hexachlorobutadiene	0.092U	0.092	0.0040
77-47-4	Hexachlorocyclopentadiene	0.092U	0.092	0.015
67-72-1	Hexachloroethane	0.092U	0.092	0.0073
193-39-5	Indeno(1,2,3-cd)pyrene	**0.47**	0.18	0.017
78-59-1	Isophorone	0.092U	0.092	0.0058
91-57-6	2-Methylnaphthalene	**0.16**	0.092	0.0074
95-48-7	2-Methylphenol	0.092U	0.092	0.018
106-44-5	4-Methylphenol	0.092U	0.092	0.011
91-20-3	Naphthalene	**0.12**	0.092	0.0028
88-74-4	2-Nitroaniline	0.092U	0.092	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.089
100-01-6	4-Nitroaniline	0.18U	0.18	0.086
98-95-3	Nitrobenzene	0.092U	0.092	0.0080
100-02-7	4-Nitrophenol	3.7U	3.7	0.15
88-75-5	2-Nitrophenol	0.092U	0.092	0.0084
86-30-6	N-Nitroso-diphenylamine	0.092U	0.092	0.0058
621-64-7	N-Nitroso-di-n-propylamine	0.092U	0.092	0.012
87-86-5	Pentachlorophenol	0.92U	0.92	0.082

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**2.6**	0.092	0.0040
108-95-2	Phenol	0.92U	0.92	0.0072
129-00-0	Pyrene	**2.6**	0.092	0.0066
88-06-2	2,4,6-Trichlorophenol	0.092U	0.092	0.0093
95-95-4	2,4,5-Trichlorophenol	0.092U	0.092	0.021

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	91		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.38**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 14:54	DSC	1213548
Arsenic	**1.9**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Barium	**44**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/10/12 09:41	DSC	1213574
Beryllium	**0.22**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Cadmium	**0.12**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Chromium	**13**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:31	DSC	1213574
Cobalt	**3.1**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Copper	**7.2**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Iron	**5700**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:09	CKD	1213573
Lead	**44**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/10/12 09:41	DSC	1213574
Manganese	**180**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 11:22	DSC	1213574
Molybdenum	**0.46**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Mercury	**0.026**	J	0.045	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 15:51	CKD	1213516
Nickel	**8.4**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Selenium	**0.097**	J	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:21	DSC	1213574
Silver	**0.12**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Thallium	**0.038**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:53	DSC	1213574
Vanadium	**14**		1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:31	DSC	1213574
Zinc	**31**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:31	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-115**	Sampled:	10/30/12 10:20
Lab Sample ID:	**1210636-05**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**91**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0036
11096-82-5	PCB-1260	0.34U	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*98*	*45-135*
Tetrachloro-m-xylene	*88*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.78U	0.78	0.057
71-43-2	Benzene	0.052U	0.052	0.0074
75-27-4	Bromodichloromethane	0.052U	0.052	0.0070
75-25-2	Bromoform	0.052U	0.052	0.013
*74-83-9	Bromomethane	0.052U	0.052	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.052U	0.052	0.018
108-90-7	Chlorobenzene	0.052U	0.052	0.0088
75-00-3	Chloroethane	0.052U	0.052	0.018
67-66-3	Chloroform	0.052U	0.052	0.0088
74-87-3	Chloromethane	0.052U	0.052	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.052U	0.052	0.0079
106-93-4	1,2-Dibromoethane	0.052U	0.052	0.017
95-50-1	1,2-Dichlorobenzene	0.052U	0.052	0.012
541-73-1	1,3-Dichlorobenzene	0.052U	0.052	0.012
106-46-7	1,4-Dichlorobenzene	0.052U	0.052	0.013
75-71-8	Dichlorodifluoromethane	0.052U	0.052	0.011
75-34-3	1,1-Dichloroethane	0.052U	0.052	0.011
107-06-2	1,2-Dichloroethane	0.052U	0.052	0.011
75-35-4	1,1-Dichloroethene	0.052U	0.052	0.011
156-59-2	cis-1,2-Dichloroethene	0.052U	0.052	0.012
156-60-5	trans-1,2-Dichloroethene	0.052U	0.052	0.012
78-87-5	1,2-Dichloropropane	0.052U	0.052	0.014
10061-01-5	cis-1,3-Dichloropropene	0.052U	0.052	0.0099
10061-02-6	trans-1,3-Dichloropropene	0.052U	0.052	0.0098
100-41-4	Ethylbenzene	0.052U	0.052	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.052U	0.052	0.011
*79-20-9	Methyl Acetate	0.26U	0.26	0.034
1634-04-4	Methyl tert-Butyl Ether	0.052U	0.052	0.0099
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.10U	0.10	0.028
78-93-3	2-Butanone (MEK)	0.78U	0.78	0.066
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.052U	0.052	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.052U	0.052	0.013
127-18-4	Tetrachloroethene	0.052U	0.052	0.014
108-88-3	Toluene	0.052U	0.052	0.011
120-82-1	1,2,4-Trichlorobenzene	0.052U	0.052	0.0073
71-55-6	1,1,1-Trichloroethane	0.052U	0.052	0.0072
79-00-5	1,1,2-Trichloroethane	0.052U	0.052	0.017
79-01-6	Trichloroethene	0.052U	0.052	0.011
*75-69-4	Trichlorofluoromethane	0.052U	0.052	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.052U	0.052	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0088
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.017U	0.017	0.00083
208-96-8	Acenaphthylene	0.017U	0.017	0.00086
98-86-2	Acetophenone	0.017U	0.017	0.010
120-12-7	Anthracene	**0.0041J**	0.017	0.00089
1912-24-9	Atrazine	0.017U	0.017	0.010
*100-52-7	Benzaldehyde	0.070U	0.070	0.010
*56-55-3	Benzo(a)anthracene	**0.014J**	0.017	0.0015
50-32-8	Benzo(a)pyrene	**0.0072J**	0.017	0.00089
205-99-2	Benzo(b)fluoranthene	**0.014J**	0.017	0.0018
207-08-9	Benzo(k)fluoranthene	**0.012J**	0.017	0.0023
191-24-2	Benzo(g,h,i)perylene	**0.012J**	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.017U	0.017	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.017U	0.017	0.00098
*85-68-7	Butyl Benzyl Phthalate	**0.018J**	0.035	0.0018
105-60-2	Caprolactam	0.070U	0.070	0.011
86-74-8	Carbazole	**0.014J**	0.17	0.0093
59-50-7	4-Chloro-3-methylphenol	0.017U	0.017	0.0039
106-47-8	4-Chloroaniline	0.070U	0.070	0.0092
111-91-1	Bis(2-chloroethoxy)methane	0.017U	0.017	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.017U	0.017	0.00083
108-60-1	Bis(2-chloroisopropyl) Ether	0.017U	0.017	0.0028
91-58-7	2-Chloronaphthalene	0.017U	0.017	0.0027
95-57-8	2-Chlorophenol	0.017U	0.017	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.017U	0.017	0.00075
218-01-9	Chrysene	**0.015J**	0.017	0.00089
53-70-3	Dibenz(a,h)anthracene	**0.011J**	0.035	0.0013
132-64-9	Dibenzofuran	0.017U	0.017	0.00086
*84-74-2	Di-n-butyl Phthalate	**0.086**	0.070	0.015
91-94-1	3,3´-Dichlorobenzidine	0.87U	0.87	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.019B**	0.017	0.0025
105-67-9	2,4-Dimethylphenol	0.17U	0.17	0.031
131-11-3	Dimethyl Phthalate	0.017U	0.017	0.0019
534-52-1	4,6-Dinitro-2-methylphenol	0.17U	0.17	0.0057
51-28-5	2,4-Dinitrophenol	0.17U	0.17	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.017U	0.017	0.0016
117-84-0	Di-n-octyl Phthalate	**0.016J**	0.017	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.031JB**	0.035	0.0043
206-44-0	Fluoranthene	**0.012J**	0.017	0.00058
86-73-7	Fluorene	**0.0017J**	0.035	0.00063
118-74-1	Hexachlorobenzene	0.017U	0.017	0.0010
87-68-3	Hexachlorobutadiene	0.017U	0.017	0.00075
77-47-4	Hexachlorocyclopentadiene	0.017U	0.017	0.0028
67-72-1	Hexachloroethane	0.017U	0.017	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	**0.011J**	0.035	0.0032
78-59-1	Isophorone	0.017U	0.017	0.0011
91-57-6	2-Methylnaphthalene	0.017U	0.017	0.0014
95-48-7	2-Methylphenol	0.017U	0.017	0.0035
106-44-5	4-Methylphenol	0.017U	0.017	0.0021
91-20-3	Naphthalene	0.017U	0.017	0.00053
88-74-4	2-Nitroaniline	0.017U	0.017	0.0062
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.017U	0.017	0.0015
100-02-7	4-Nitrophenol	0.70U	0.70	0.028
88-75-5	2-Nitrophenol	0.017U	0.017	0.0016
86-30-6	N-Nitroso-diphenylamine	**0.0027J**	0.017	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.017U	0.017	0.0023
87-86-5	Pentachlorophenol	0.17U	0.17	0.016

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.0058J**	0.017	0.00075
108-95-2	Phenol	0.17U	0.17	0.0014
129-00-0	Pyrene	**0.012J**	0.017	0.0013
88-06-2	2,4,6-Trichlorophenol	0.017U	0.017	0.0018
95-95-4	2,4,5-Trichlorophenol	0.017U	0.017	0.0041

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*75*	*33-113*
Phenol-d6	*68*	*30-115*
Nitrobenzene-d5	*76*	*33-131*
2-Fluorobiphenyl	*84*	*46-122*
2,4,6-Tribromophenol	*72*	*12-124*
o-Terphenyl	*95*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	96		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.059**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:01	DSC	1213548
Arsenic	**1.8**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Barium	**3.9**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Beryllium	**0.053**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Cadmium	**0.017**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Chromium	**4.8**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:24	DSC	1213574
Cobalt	**1.5**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Copper	**3.3**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Iron	**3800**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:15	CKD	1213573
Lead	**2.2**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Manganese	**120**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 11:35	DSC	1213574
Molybdenum	**0.15**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Mercury	0.046	U	0.046	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 15:56	CKD	1213516
Nickel	**4.1**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:24	DSC	1213574
Silver	**0.014**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Thallium	**0.017**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 13:57	DSC	1213574
Vanadium	**5.5**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:24	DSC	1213574
Zinc	**11**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 11:38	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-116**	Sampled:	10/30/12 10:35
Lab Sample ID:	**1210636-06**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/14/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K14020
Percent Solids:	92		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	**0.027J**	0.36	0.0075
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.035J**	0.36	0.0037
11096-82-5	PCB-1260	**0.021J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*74*	*45-135*
Tetrachloro-m-xylene	*64*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.059
71-43-2	Benzene	0.054U	0.054	0.0077
75-27-4	Bromodichloromethane	0.054U	0.054	0.0073
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
108-90-7	Chlorobenzene	0.054U	0.054	0.0091
75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0091
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.018
95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.014
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.012
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.013
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	0.054U	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.054U	0.054	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.069
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0076
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0075
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	**0.014J**	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.020
75-01-4	Vinyl Chloride	0.043U	0.043	0.0091
1330-20-7	Xylene (Total)	0.16U	0.16	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	92		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.30**	0.091	0.0043
208-96-8	Acenaphthylene	**0.0091J**	0.091	0.0045
98-86-2	Acetophenone	0.091U	0.091	0.054
120-12-7	Anthracene	**0.50**	0.091	0.0046
1912-24-9	Atrazine	0.091U	0.091	0.053
*100-52-7	Benzaldehyde	0.36U	0.36	0.052
56-55-3	Benzo(a)anthracene	**1.4**	0.091	0.0078
50-32-8	Benzo(a)pyrene	**0.95**	0.091	0.0046
*205-99-2	Benzo(b)fluoranthene	**1.3**	0.091	0.0093
*207-08-9	Benzo(k)fluoranthene	**0.48**	0.091	0.012
191-24-2	Benzo(g,h,i)perylene	**0.56**	0.18	0.0045
92-52-4	1,1'-Biphenyl	0.091U	0.091	0.058
101-55-3	4-Bromophenyl Phenyl Ether	0.091U	0.091	0.0051
85-68-7	Butyl Benzyl Phthalate	0.18U	0.18	0.0091
105-60-2	Caprolactam	0.36U	0.36	0.060
86-74-8	Carbazole	**0.26J**	0.91	0.048
59-50-7	4-Chloro-3-methylphenol	0.091U	0.091	0.020
106-47-8	4-Chloroaniline	0.36U	0.36	0.048
111-91-1	Bis(2-chloroethoxy)methane	0.091U	0.091	0.0061
111-44-4	Bis(2-chloroethyl) Ether	0.091U	0.091	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.091U	0.091	0.015
91-58-7	2-Chloronaphthalene	0.091U	0.091	0.014
95-57-8	2-Chlorophenol	0.091U	0.091	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.091U	0.091	0.0039
218-01-9	Chrysene	**1.3**	0.091	0.0046
53-70-3	Dibenz(a,h)anthracene	**0.17J**	0.18	0.0069
132-64-9	Dibenzofuran	**0.25**	0.091	0.0045
*84-74-2	Di-n-butyl Phthalate	**0.080J**	0.36	0.076
91-94-1	3,3´-Dichlorobenzidine	4.5U	4.5	0.18

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	92		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0083
*84-66-2	Diethyl Phthalate	**0.016JB**	0.091	0.013
105-67-9	2,4-Dimethylphenol	0.91U	0.91	0.16
131-11-3	Dimethyl Phthalate	0.091U	0.091	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.91U	0.91	0.030
51-28-5	2,4-Dinitrophenol	0.91U	0.91	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.091U	0.091	0.0085
117-84-0	Di-n-octyl Phthalate	0.091U	0.091	0.0061
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.14JB**	0.18	0.022
206-44-0	Fluoranthene	**2.4**	0.091	0.0030
86-73-7	Fluorene	**0.23**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.091U	0.091	0.0054
87-68-3	Hexachlorobutadiene	0.091U	0.091	0.0039
77-47-4	Hexachlorocyclopentadiene	0.091U	0.091	0.015
67-72-1	Hexachloroethane	0.091U	0.091	0.0072
193-39-5	Indeno(1,2,3-cd)pyrene	**0.51**	0.18	0.017
78-59-1	Isophorone	0.091U	0.091	0.0057
91-57-6	2-Methylnaphthalene	**0.11**	0.091	0.0073
95-48-7	2-Methylphenol	0.091U	0.091	0.018
106-44-5	4-Methylphenol	0.091U	0.091	0.011
91-20-3	Naphthalene	**0.064J**	0.091	0.0028
88-74-4	2-Nitroaniline	0.091U	0.091	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.088
100-01-6	4-Nitroaniline	0.18U	0.18	0.085
98-95-3	Nitrobenzene	0.091U	0.091	0.0079
100-02-7	4-Nitrophenol	3.6U	3.6	0.14
88-75-5	2-Nitrophenol	0.091U	0.091	0.0083
86-30-6	N-Nitroso-diphenylamine	0.091U	0.091	0.0057
621-64-7	N-Nitroso-di-n-propylamine	0.091U	0.091	0.012
87-86-5	Pentachlorophenol	0.91U	0.91	0.081

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	92		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**3.0**	0.091	0.0039
108-95-2	Phenol	0.91U	0.91	0.0071
129-00-0	Pyrene	**3.1**	0.091	0.0066
88-06-2	2,4,6-Trichlorophenol	0.091U	0.091	0.0092
95-95-4	2,4,5-Trichlorophenol	0.091U	0.091	0.021

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	92		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.32**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:04	DSC	1213548
Arsenic	**2.0**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Barium	**32**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/10/12 09:47	DSC	1213574
Beryllium	**0.17**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Cadmium	**0.14**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Chromium	**8.4**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:27	DSC	1213574
Cobalt	**2.2**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Copper	**6.9**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Iron	**4400**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:29	CKD	1213573
Lead	**35**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/10/12 09:47	DSC	1213574
Manganese	**130**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 11:41	DSC	1213574
Molybdenum	**0.42**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Mercury	**0.015**	**J**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:01	CKD	1213516
Nickel	**6.8**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Selenium	**0.036**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:27	DSC	1213574
Silver	**0.035**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Thallium	**0.035**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:01	DSC	1213574
Vanadium	**9.4**		1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:44	DSC	1213574
Zinc	**31**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:44	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-117**	Sampled:	10/30/12 11:05
Lab Sample ID:	**1210636-07**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**92**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.0035J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*66*	*45-135*
Tetrachloro-m-xylene	*85*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.80U	0.80	0.058
71-43-2	Benzene	0.053U	0.053	0.0076
75-27-4	Bromodichloromethane	0.053U	0.053	0.0071
75-25-2	Bromoform	0.053U	0.053	0.014
*74-83-9	Bromomethane	0.053U	0.053	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.053U	0.053	0.018
108-90-7	Chlorobenzene	0.053U	0.053	0.0089
75-00-3	Chloroethane	0.053U	0.053	0.019
67-66-3	Chloroform	0.053U	0.053	0.0089
74-87-3	Chloromethane	0.053U	0.053	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.027
124-48-1	Dibromochloromethane	0.053U	0.053	0.0081
106-93-4	1,2-Dibromoethane	0.053U	0.053	0.017
95-50-1	1,2-Dichlorobenzene	0.053U	0.053	0.013
541-73-1	1,3-Dichlorobenzene	0.053U	0.053	0.013
106-46-7	1,4-Dichlorobenzene	0.053U	0.053	0.013
75-71-8	Dichlorodifluoromethane	0.053U	0.053	0.011
75-34-3	1,1-Dichloroethane	0.053U	0.053	0.012
107-06-2	1,2-Dichloroethane	0.053U	0.053	0.011
75-35-4	1,1-Dichloroethene	0.053U	0.053	0.011
156-59-2	cis-1,2-Dichloroethene	0.053U	0.053	0.012
156-60-5	trans-1,2-Dichloroethene	0.053U	0.053	0.012
78-87-5	1,2-Dichloropropane	0.053U	0.053	0.015
10061-01-5	cis-1,3-Dichloropropene	0.053U	0.053	0.010
10061-02-6	trans-1,3-Dichloropropene	0.053U	0.053	0.010
100-41-4	Ethylbenzene	0.053U	0.053	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.053U	0.053	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.034
1634-04-4	Methyl tert-Butyl Ether	0.053U	0.053	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.80U	0.80	0.067
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.053U	0.053	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.053U	0.053	0.014
127-18-4	Tetrachloroethene	0.053U	0.053	0.015
108-88-3	Toluene	0.053U	0.053	0.012
120-82-1	1,2,4-Trichlorobenzene	0.053U	0.053	0.0075
71-55-6	1,1,1-Trichloroethane	0.053U	0.053	0.0073
79-00-5	1,1,2-Trichloroethane	0.053U	0.053	0.017
79-01-6	Trichloroethene	0.053U	0.053	0.011
*75-69-4	Trichlorofluoromethane	0.053U	0.053	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.053U	0.053	0.019
75-01-4	Vinyl Chloride	0.043U	0.043	0.0089
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.0094J**	0.018	0.00084
208-96-8	Acenaphthylene	**0.0010J**	0.018	0.00088
98-86-2	Acetophenone	0.018U	0.018	0.011
120-12-7	Anthracene	**0.016J**	0.018	0.00091
1912-24-9	Atrazine	0.018U	0.018	0.010
*100-52-7	Benzaldehyde	0.071U	0.071	0.010
56-55-3	Benzo(a)anthracene	**0.075**	0.018	0.0015
50-32-8	Benzo(a)pyrene	**0.048**	0.018	0.00091
*205-99-2	Benzo(b)fluoranthene	**0.087**	0.018	0.0018
*207-08-9	Benzo(k)fluoranthene	**0.036**	0.018	0.0024
191-24-2	Benzo(g,h,i)perylene	**0.042**	0.035	0.00088
92-52-4	1,1'-Biphenyl	0.018U	0.018	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.018U	0.018	0.0010
*85-68-7	Butyl Benzyl Phthalate	**0.024J**	0.035	0.0018
105-60-2	Caprolactam	0.071U	0.071	0.012
86-74-8	Carbazole	**0.019J**	0.18	0.0095
59-50-7	4-Chloro-3-methylphenol	0.018U	0.018	0.0040
106-47-8	4-Chloroaniline	0.071U	0.071	0.0094
111-91-1	Bis(2-chloroethoxy)methane	0.018U	0.018	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.018U	0.018	0.00084
108-60-1	Bis(2-chloroisopropyl) Ether	0.018U	0.018	0.0029
91-58-7	2-Chloronaphthalene	0.018U	0.018	0.0028
95-57-8	2-Chlorophenol	0.018U	0.018	0.00084
7005-72-3	4-Chlorophenyl Phenyl Ether	0.018U	0.018	0.00077
218-01-9	Chrysene	**0.067**	0.018	0.00091
53-70-3	Dibenz(a,h)anthracene	**0.021J**	0.035	0.0014
132-64-9	Dibenzofuran	**0.0081J**	0.018	0.00088
*84-74-2	Di-n-butyl Phthalate	**0.050J**	0.071	0.015
91-94-1	3,3´-Dichlorobenzidine	0.89U	0.89	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.014JB**	0.018	0.0026
105-67-9	2,4-Dimethylphenol	0.18U	0.18	0.032
131-11-3	Dimethyl Phthalate	0.018U	0.018	0.0020
534-52-1	4,6-Dinitro-2-methylphenol	0.18U	0.18	0.0058
51-28-5	2,4-Dinitrophenol	0.18U	0.18	0.041
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0053
606-20-2	2,6-Dinitrotoluene	0.018U	0.018	0.0017
117-84-0	Di-n-octyl Phthalate	**0.019**	0.018	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.077B**	0.035	0.0044
206-44-0	Fluoranthene	**0.12**	0.018	0.00060
86-73-7	Fluorene	**0.0084J**	0.035	0.00064
118-74-1	Hexachlorobenzene	0.018U	0.018	0.0011
87-68-3	Hexachlorobutadiene	0.018U	0.018	0.00077
77-47-4	Hexachlorocyclopentadiene	0.018U	0.018	0.0029
67-72-1	Hexachloroethane	0.018U	0.018	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	**0.042**	0.035	0.0033
78-59-1	Isophorone	0.018U	0.018	0.0011
91-57-6	2-Methylnaphthalene	**0.021**	0.018	0.0014
95-48-7	2-Methylphenol	0.018U	0.018	0.0036
106-44-5	4-Methylphenol	0.018U	0.018	0.0021
91-20-3	Naphthalene	**0.011J**	0.018	0.00054
88-74-4	2-Nitroaniline	0.018U	0.018	0.0063
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.017
98-95-3	Nitrobenzene	0.018U	0.018	0.0016
100-02-7	4-Nitrophenol	0.71U	0.71	0.028
88-75-5	2-Nitrophenol	0.018U	0.018	0.0016
86-30-6	N-Nitroso-diphenylamine	0.018U	0.018	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.018U	0.018	0.0023
87-86-5	Pentachlorophenol	0.18U	0.18	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.093**	0.018	0.00077
108-95-2	Phenol	0.18U	0.18	0.0014
129-00-0	Pyrene	**0.11**	0.018	0.0013
88-06-2	2,4,6-Trichlorophenol	0.018U	0.018	0.0018
95-95-4	2,4,5-Trichlorophenol	0.018U	0.018	0.0042

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*69*	*33-113*
Phenol-d6	*67*	*30-115*
Nitrobenzene-d5	*71*	*33-131*
2-Fluorobiphenyl	*73*	*46-122*
2,4,6-Tribromophenol	*59*	*12-124*
o-Terphenyl	*74*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	94		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.11**		0.092	0.022	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:06	DSC	1213548
Arsenic	**3.0**		0.092	0.015	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Barium	**16**		4.6	0.056	mg/kg dry wt.	5	USEPA-6020A	11/10/12 09:50	DSC	1213574
Beryllium	**0.11**	**J**	0.46	0.018	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Cadmium	**0.047**		0.046	0.0030	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Chromium	**8.2**		0.92	0.013	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:30	DSC	1213574
Cobalt	**2.3**		0.92	0.0059	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Copper	**6.1**		0.92	0.023	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Iron	**8000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:36	CKD	1213573
Lead	**4.9**		0.92	0.0061	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Manganese	**260**		92	2.1	mg/kg dry wt.	100	USEPA-6020A	11/12/12 11:47	DSC	1213574
Molybdenum	**1.1**		0.92	0.0074	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:06	CKD	1213516
Nickel	**6.0**		0.92	0.015	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Selenium	0.092	U	0.092	0.030	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:30	DSC	1213574
Silver	**0.021**	**J**	0.046	0.0036	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Thallium	**0.049**		0.046	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:05	DSC	1213574
Vanadium	**10**		0.46	0.045	mg/kg dry wt.	5	USEPA-6020A	11/12/12 11:50	DSC	1213574
Zinc	**22**		4.6	1.3	mg/kg dry wt.	5	USEPA-6020A	11/12/12 11:50	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-118**	Sampled:	10/30/12 11:15
Lab Sample ID:	**1210636-08**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/10/12 By: ASC
QC Batch:	1213428	Analytical Batch:	2K12005

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	*% Recovery*	*Control Limits*
Tetrachloro-m-xylene	*83*	*26-118*
Decachlorobiphenyl	*98*	*52-139*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.81J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.77J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	**0.83J**	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/10/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K13055

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
*56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	10U	10	2.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/10/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K13055

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	**0.52**	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/10/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K13055

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*40*	*20-70*
Phenol-d6	*26*	*18-45*
Nitrobenzene-d5	*71*	*31-123*
2-Fluorobiphenyl	*65*	*25-113*
2,4,6-Tribromophenol	*79*	*30-121*
o-Terphenyl	*81*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-119**	Sampled:	10/30/12 11:45
Lab Sample ID:	**1210636-09**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.18**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Arsenic	**0.55**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Barium	**28**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Chromium	**0.52**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/10/12 12:14	DSC	1213631
Cobalt	**2.2**		1.0	0.050	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
***Copper**	**1.4**		1.0	0.13	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Iron	**23**		20	6.5	ug/L	1	USEPA-6010C	11/12/12 14:25	KLV	1213630
Lead	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Manganese	**250**		5.0	0.70	ug/L	5	USEPA-6020A	11/10/12 10:04	DSC	1213631
Molybdenum	**5.7**		1.0	0.075	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 12:03	CKD	1213552
Nickel	**7.4**		1.0	0.17	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Selenium	**2.4**		1.0	0.31	ug/L	1	USEPA-6020A	11/10/12 12:14	DSC	1213631
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631
Vanadium	**0.19**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	11/10/12 12:14	DSC	1213631
Zinc	**18**		10	1.5	ug/L	1	USEPA-6020A	11/10/12 09:24	DSC	1213631

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0030

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*87*	*45-135*
Tetrachloro-m-xylene	*88*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.79U	0.79	0.057
71-43-2	Benzene	0.053U	0.053	0.0075
75-27-4	Bromodichloromethane	0.053U	0.053	0.0071
75-25-2	Bromoform	0.053U	0.053	0.014
*74-83-9	Bromomethane	0.053U	0.053	0.023
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.053U	0.053	0.018
108-90-7	Chlorobenzene	0.053U	0.053	0.0089
75-00-3	Chloroethane	0.053U	0.053	0.019
67-66-3	Chloroform	0.053U	0.053	0.0089
74-87-3	Chloromethane	0.053U	0.053	0.021
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.053U	0.053	0.0080
106-93-4	1,2-Dibromoethane	0.053U	0.053	0.017
95-50-1	1,2-Dichlorobenzene	0.053U	0.053	0.012
541-73-1	1,3-Dichlorobenzene	0.053U	0.053	0.013
106-46-7	1,4-Dichlorobenzene	0.053U	0.053	0.013
75-71-8	Dichlorodifluoromethane	0.053U	0.053	0.011
75-34-3	1,1-Dichloroethane	0.053U	0.053	0.012
107-06-2	1,2-Dichloroethane	0.053U	0.053	0.011
75-35-4	1,1-Dichloroethene	0.053U	0.053	0.011
156-59-2	cis-1,2-Dichloroethene	0.053U	0.053	0.012
156-60-5	trans-1,2-Dichloroethene	0.053U	0.053	0.012
78-87-5	1,2-Dichloropropane	0.053U	0.053	0.015
10061-01-5	cis-1,3-Dichloropropene	0.053U	0.053	0.010
10061-02-6	trans-1,3-Dichloropropene	0.053U	0.053	0.010
100-41-4	Ethylbenzene	0.053U	0.053	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.053U	0.053	0.012
*79-20-9	Methyl Acetate	0.26U	0.26	0.034
1634-04-4	Methyl tert-Butyl Ether	0.053U	0.053	0.010
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.11U	0.11	0.028
78-93-3	2-Butanone (MEK)	0.79U	0.79	0.067
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.053U	0.053	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.053U	0.053	0.013
127-18-4	Tetrachloroethene	0.053U	0.053	0.015
108-88-3	Toluene	0.053U	0.053	0.012
120-82-1	1,2,4-Trichlorobenzene	0.053U	0.053	0.0074
71-55-6	1,1,1-Trichloroethane	0.053U	0.053	0.0073
79-00-5	1,1,2-Trichloroethane	0.053U	0.053	0.017
79-01-6	Trichloroethene	0.053U	0.053	0.011
*75-69-4	Trichlorofluoromethane	0.053U	0.053	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.053U	0.053	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0089
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.013J**	0.088	0.0042
208-96-8	Acenaphthylene	0.088U	0.088	0.0044
98-86-2	Acetophenone	0.088U	0.088	0.052
120-12-7	Anthracene	**0.059J**	0.088	0.0045
1912-24-9	Atrazine	0.088U	0.088	0.052
*100-52-7	Benzaldehyde	0.35U	0.35	0.051
56-55-3	Benzo(a)anthracene	**0.23**	0.088	0.0076
50-32-8	Benzo(a)pyrene	**0.26**	0.088	0.0045
*205-99-2	Benzo(b)fluoranthene	**0.37**	0.088	0.0091
*207-08-9	Benzo(k)fluoranthene	**0.15**	0.088	0.012
191-24-2	Benzo(g,h,i)perylene	**0.25**	0.18	0.0044
92-52-4	1,1'-Biphenyl	0.088U	0.088	0.057
101-55-3	4-Bromophenyl Phenyl Ether	0.088U	0.088	0.0050
85-68-7	Butyl Benzyl Phthalate	0.18U	0.18	0.0089
105-60-2	Caprolactam	0.35U	0.35	0.058
86-74-8	Carbazole	0.88U	0.88	0.047
59-50-7	4-Chloro-3-methylphenol	0.088U	0.088	0.020
106-47-8	4-Chloroaniline	0.35U	0.35	0.047
111-91-1	Bis(2-chloroethoxy)methane	0.088U	0.088	0.0059
111-44-4	Bis(2-chloroethyl) Ether	0.088U	0.088	0.0042
108-60-1	Bis(2-chloroisopropyl) Ether	0.088U	0.088	0.014
91-58-7	2-Chloronaphthalene	0.088U	0.088	0.014
95-57-8	2-Chlorophenol	0.088U	0.088	0.0042
7005-72-3	4-Chlorophenyl Phenyl Ether	0.088U	0.088	0.0038
218-01-9	Chrysene	**0.28**	0.088	0.0045
53-70-3	Dibenz(a,h)anthracene	**0.057J**	0.18	0.0067
132-64-9	Dibenzofuran	**0.0072J**	0.088	0.0044
84-74-2	Di-n-butyl Phthalate	0.35U	0.35	0.075
91-94-1	3,3´-Dichlorobenzidine	4.4U	4.4	0.17

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0081
84-66-2	Diethyl Phthalate	0.088U	0.088	0.013
105-67-9	2,4-Dimethylphenol	0.88U	0.88	0.16
131-11-3	Dimethyl Phthalate	0.088U	0.088	0.0098
534-52-1	4,6-Dinitro-2-methylphenol	0.88U	0.88	0.029
51-28-5	2,4-Dinitrophenol	0.88U	0.88	0.20
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.026
606-20-2	2,6-Dinitrotoluene	0.088U	0.088	0.0083
117-84-0	Di-n-octyl Phthalate	0.088U	0.088	0.0059
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.023JB**	0.18	0.022
206-44-0	Fluoranthene	**0.48**	0.088	0.0030
86-73-7	Fluorene	**0.016J**	0.18	0.0032
118-74-1	Hexachlorobenzene	0.088U	0.088	0.0053
87-68-3	Hexachlorobutadiene	0.088U	0.088	0.0038
77-47-4	Hexachlorocyclopentadiene	0.088U	0.088	0.014
67-72-1	Hexachloroethane	0.088U	0.088	0.0070
193-39-5	Indeno(1,2,3-cd)pyrene	**0.20**	0.18	0.016
78-59-1	Isophorone	0.088U	0.088	0.0056
91-57-6	2-Methylnaphthalene	0.088U	0.088	0.0071
95-48-7	2-Methylphenol	0.088U	0.088	0.018
106-44-5	4-Methylphenol	0.088U	0.088	0.011
91-20-3	Naphthalene	0.088U	0.088	0.0027
88-74-4	2-Nitroaniline	0.088U	0.088	0.031
99-09-2	3-Nitroaniline	0.18U	0.18	0.086
100-01-6	4-Nitroaniline	0.18U	0.18	0.083
98-95-3	Nitrobenzene	0.088U	0.088	0.0077
100-02-7	4-Nitrophenol	3.5U	3.5	0.14
88-75-5	2-Nitrophenol	0.088U	0.088	0.0081
86-30-6	N-Nitroso-diphenylamine	0.088U	0.088	0.0056
621-64-7	N-Nitroso-di-n-propylamine	0.088U	0.088	0.011
87-86-5	Pentachlorophenol	0.88U	0.88	0.079

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.26**	0.088	0.0038
108-95-2	Phenol	0.88U	0.88	0.0069
129-00-0	Pyrene	**0.57**	0.088	0.0064
88-06-2	2,4,6-Trichlorophenol	0.088U	0.088	0.0090
95-95-4	2,4,5-Trichlorophenol	0.088U	0.088	0.021

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*70*	*33-113*
Phenol-d6	*63*	*30-115*
Nitrobenzene-d5	*55*	*33-131*
2-Fluorobiphenyl	*73*	*46-122*
2,4,6-Tribromophenol	*37*	*12-124*
o-Terphenyl	*75*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	94		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.25**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:09	DSC	1213548
Arsenic	**1.1**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Barium	**21**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/10/12 09:53	DSC	1213574
Beryllium	**0.095**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Cadmium	**0.37**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Chromium	**6.7**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:34	DSC	1213574
Cobalt	**2.2**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Copper	**28**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:57	DSC	1213574
Iron	**4000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:42	CKD	1213573
Lead	**28**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/10/12 09:53	DSC	1213574
Manganese	**83**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/12/12 11:54	DSC	1213574
Molybdenum	**0.73**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:11	CKD	1213516
Nickel	**9.5**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:34	DSC	1213574
Silver	**0.12**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:09	DSC	1213574
Thallium	**0.024**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 09:24	DSC	1213574
Vanadium	**6.5**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:34	DSC	1213574
Zinc	**63**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/12/12 11:57	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-120**	Sampled:	10/30/12 13:00
Lab Sample ID:	**1210636-10**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0072
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*96*	*45-135*
Tetrachloro-m-xylene	*88*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.79U	0.79	0.057
71-43-2	Benzene	0.052U	0.052	0.0075
75-27-4	Bromodichloromethane	0.052U	0.052	0.0070
75-25-2	Bromoform	0.052U	0.052	0.014
*74-83-9	Bromomethane	0.052U	0.052	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.052U	0.052	0.018
108-90-7	Chlorobenzene	0.052U	0.052	0.0088
75-00-3	Chloroethane	0.052U	0.052	0.019
67-66-3	Chloroform	0.052U	0.052	0.0088
74-87-3	Chloromethane	0.052U	0.052	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.052U	0.052	0.0080
106-93-4	1,2-Dibromoethane	0.052U	0.052	0.017
95-50-1	1,2-Dichlorobenzene	0.052U	0.052	0.012
541-73-1	1,3-Dichlorobenzene	0.052U	0.052	0.012
106-46-7	1,4-Dichlorobenzene	0.052U	0.052	0.013
75-71-8	Dichlorodifluoromethane	0.052U	0.052	0.011
75-34-3	1,1-Dichloroethane	0.052U	0.052	0.011
107-06-2	1,2-Dichloroethane	0.052U	0.052	0.011
75-35-4	1,1-Dichloroethene	0.052U	0.052	0.011
156-59-2	cis-1,2-Dichloroethene	0.052U	0.052	0.012
156-60-5	trans-1,2-Dichloroethene	0.052U	0.052	0.012
78-87-5	1,2-Dichloropropane	0.052U	0.052	0.014
10061-01-5	cis-1,3-Dichloropropene	0.052U	0.052	0.010
10061-02-6	trans-1,3-Dichloropropene	0.052U	0.052	0.0099
100-41-4	Ethylbenzene	0.052U	0.052	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.052U	0.052	0.012
*79-20-9	Methyl Acetate	0.26U	0.26	0.034
1634-04-4	Methyl tert-Butyl Ether	0.052U	0.052	0.010
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.10U	0.10	0.028
78-93-3	2-Butanone (MEK)	0.79U	0.79	0.066
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.052U	0.052	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.052U	0.052	0.013
127-18-4	Tetrachloroethene	0.052U	0.052	0.014
108-88-3	Toluene	0.052U	0.052	0.012
120-82-1	1,2,4-Trichlorobenzene	0.052U	0.052	0.0073
71-55-6	1,1,1-Trichloroethane	0.052U	0.052	0.0072
79-00-5	1,1,2-Trichloroethane	0.052U	0.052	0.017
79-01-6	Trichloroethene	0.052U	0.052	0.011
*75-69-4	Trichlorofluoromethane	0.052U	0.052	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.052U	0.052	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0088
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.018U	0.018	0.00083
208-96-8	Acenaphthylene	0.018U	0.018	0.00086
98-86-2	Acetophenone	0.018U	0.018	0.010
120-12-7	Anthracene	**0.0033J**	0.018	0.00090
1912-24-9	Atrazine	0.018U	0.018	0.010
*100-52-7	Benzaldehyde	0.070U	0.070	0.010
*56-55-3	Benzo(a)anthracene	**0.013J**	0.018	0.0015
50-32-8	Benzo(a)pyrene	**0.0066J**	0.018	0.00090
205-99-2	Benzo(b)fluoranthene	**0.013J**	0.018	0.0018
207-08-9	Benzo(k)fluoranthene	**0.012J**	0.018	0.0023
191-24-2	Benzo(g,h,i)perylene	**0.012J**	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.018U	0.018	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.018U	0.018	0.00099
*85-68-7	Butyl Benzyl Phthalate	**0.018J**	0.035	0.0018
105-60-2	Caprolactam	0.070U	0.070	0.012
86-74-8	Carbazole	**0.015J**	0.18	0.0094
59-50-7	4-Chloro-3-methylphenol	0.018U	0.018	0.0039
106-47-8	4-Chloroaniline	0.070U	0.070	0.0093
111-91-1	Bis(2-chloroethoxy)methane	0.018U	0.018	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.018U	0.018	0.00083
108-60-1	Bis(2-chloroisopropyl) Ether	0.018U	0.018	0.0028
91-58-7	2-Chloronaphthalene	0.018U	0.018	0.0027
95-57-8	2-Chlorophenol	0.018U	0.018	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.018U	0.018	0.00076
218-01-9	Chrysene	**0.016J**	0.018	0.00090
53-70-3	Dibenz(a,h)anthracene	**0.011J**	0.035	0.0013
132-64-9	Dibenzofuran	**0.0015J**	0.018	0.00086
*84-74-2	Di-n-butyl Phthalate	**0.060J**	0.070	0.015
91-94-1	3,3´-Dichlorobenzidine	0.87U	0.87	0.034

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.019B**	0.018	0.0025
105-67-9	2,4-Dimethylphenol	0.18U	0.18	0.031
131-11-3	Dimethyl Phthalate	0.018U	0.018	0.0020
534-52-1	4,6-Dinitro-2-methylphenol	0.18U	0.18	0.0057
51-28-5	2,4-Dinitrophenol	0.18U	0.18	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.018U	0.018	0.0016
117-84-0	Di-n-octyl Phthalate	**0.016J**	0.018	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.027JB**	0.035	0.0043
206-44-0	Fluoranthene	**0.014J**	0.018	0.00059
86-73-7	Fluorene	**0.0018J**	0.035	0.00063
118-74-1	Hexachlorobenzene	0.018U	0.018	0.0010
87-68-3	Hexachlorobutadiene	0.018U	0.018	0.00076
77-47-4	Hexachlorocyclopentadiene	0.018U	0.018	0.0028
67-72-1	Hexachloroethane	0.018U	0.018	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	**0.011J**	0.035	0.0032
78-59-1	Isophorone	0.018U	0.018	0.0011
91-57-6	2-Methylnaphthalene	0.018U	0.018	0.0014
95-48-7	2-Methylphenol	0.018U	0.018	0.0035
106-44-5	4-Methylphenol	0.018U	0.018	0.0021
91-20-3	Naphthalene	0.018U	0.018	0.00054
88-74-4	2-Nitroaniline	0.018U	0.018	0.0062
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.018U	0.018	0.0015
100-02-7	4-Nitrophenol	0.70U	0.70	0.028
88-75-5	2-Nitrophenol	0.018U	0.018	0.0016
86-30-6	N-Nitroso-diphenylamine	0.018U	0.018	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.018U	0.018	0.0023
87-86-5	Pentachlorophenol	0.18U	0.18	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.0051J**	0.018	0.00076
108-95-2	Phenol	0.18U	0.18	0.0014
129-00-0	Pyrene	**0.013J**	0.018	0.0013
88-06-2	2,4,6-Trichlorophenol	0.018U	0.018	0.0018
95-95-4	2,4,5-Trichlorophenol	0.018U	0.018	0.0041

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*73*	*33-113*
Phenol-d6	*74*	*30-115*
Nitrobenzene-d5	*73*	*33-131*
2-Fluorobiphenyl	*78*	*46-122*
2,4,6-Tribromophenol	*65*	*12-124*
o-Terphenyl	*87*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	95		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.14**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:11	DSC	1213548
Arsenic	**5.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Barium	**12**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/10/12 09:56	DSC	1213574
Beryllium	**0.13**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Cadmium	**0.046**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Chromium	**9.3**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:37	DSC	1213574
Cobalt	**3.6**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Copper	**9.5**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Iron	**9500**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:49	CKD	1213573
Lead	**5.7**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Manganese	**370**		100	2.3	mg/kg dry wt.	100	USEPA-6020A	11/12/12 12:00	DSC	1213574
Molybdenum	**0.49**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Mercury	0.046	U	0.046	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:16	CKD	1213516
Nickel	**10**		5.0	0.080	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:10	DSC	1213574
Selenium	**0.089**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:37	DSC	1213574
Silver	**0.028**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Thallium	**0.065**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:14	DSC	1213574
Vanadium	**13**		0.50	0.048	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:10	DSC	1213574
Zinc	**26**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:10	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-121**	Sampled:	10/30/12 13:10
Lab Sample ID:	**1210636-11**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0074
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.011J**	0.36	0.0037
11096-82-5	PCB-1260	**0.0078J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*78*	*45-135*
Tetrachloro-m-xylene	*84*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.059
71-43-2	Benzene	0.054U	0.054	0.0077
75-27-4	Bromodichloromethane	0.054U	0.054	0.0072
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
108-90-7	Chlorobenzene	0.054U	0.054	0.0091
75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0091
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.017
95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.013
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.012
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.013
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	0.054U	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.054U	0.054	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0075
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0074
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	0.054U	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.020
75-01-4	Vinyl Chloride	0.043U	0.043	0.0091
1330-20-7	Xylene (Total)	0.16U	0.16	0.022

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.029J**	0.090	0.0043
208-96-8	Acenaphthylene	0.090U	0.090	0.0044
98-86-2	Acetophenone	0.090U	0.090	0.053
120-12-7	Anthracene	0.090U	0.090	0.0046
1912-24-9	Atrazine	0.090U	0.090	0.052
*100-52-7	Benzaldehyde	0.36U	0.36	0.052
*56-55-3	Benzo(a)anthracene	**0.16**	0.090	0.0078
50-32-8	Benzo(a)pyrene	**0.11**	0.090	0.0046
*205-99-2	Benzo(b)fluoranthene	**0.18**	0.090	0.0092
*207-08-9	Benzo(k)fluoranthene	**0.061J**	0.090	0.012
191-24-2	Benzo(g,h,i)perylene	**0.062J**	0.18	0.0044
92-52-4	1,1'-Biphenyl	0.090U	0.090	0.058
101-55-3	4-Bromophenyl Phenyl Ether	0.090U	0.090	0.0051
85-68-7	Butyl Benzyl Phthalate	0.18U	0.18	0.0091
105-60-2	Caprolactam	0.36U	0.36	0.059
86-74-8	Carbazole	0.90U	0.90	0.048
59-50-7	4-Chloro-3-methylphenol	0.090U	0.090	0.020
106-47-8	4-Chloroaniline	0.36U	0.36	0.048
111-91-1	Bis(2-chloroethoxy)methane	0.090U	0.090	0.0060
111-44-4	Bis(2-chloroethyl) Ether	0.090U	0.090	0.0043
108-60-1	Bis(2-chloroisopropyl) Ether	0.090U	0.090	0.014
91-58-7	2-Chloronaphthalene	0.090U	0.090	0.014
95-57-8	2-Chlorophenol	0.090U	0.090	0.0043
7005-72-3	4-Chlorophenyl Phenyl Ether	0.090U	0.090	0.0039
218-01-9	Chrysene	**0.16**	0.090	0.0046
53-70-3	Dibenz(a,h)anthracene	**0.026J**	0.18	0.0068
132-64-9	Dibenzofuran	**0.024J**	0.090	0.0044
84-74-2	Di-n-butyl Phthalate	0.36U	0.36	0.076
91-94-1	3,3´-Dichlorobenzidine	4.5U	4.5	0.17

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0082
84-66-2	Diethyl Phthalate	0.090U	0.090	0.013
105-67-9	2,4-Dimethylphenol	0.90U	0.90	0.16
131-11-3	Dimethyl Phthalate	0.090U	0.090	0.010
534-52-1	4,6-Dinitro-2-methylphenol	0.90U	0.90	0.029
51-28-5	2,4-Dinitrophenol	0.90U	0.90	0.21
121-14-2	2,4-Dinitrotoluene	0.18U	0.18	0.027
606-20-2	2,6-Dinitrotoluene	0.090U	0.090	0.0085
117-84-0	Di-n-octyl Phthalate	0.090U	0.090	0.0060
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.031JB**	0.18	0.022
206-44-0	Fluoranthene	**0.39**	0.090	0.0030
86-73-7	Fluorene	**0.017J**	0.18	0.0033
118-74-1	Hexachlorobenzene	0.090U	0.090	0.0054
87-68-3	Hexachlorobutadiene	0.090U	0.090	0.0039
77-47-4	Hexachlorocyclopentadiene	0.090U	0.090	0.015
67-72-1	Hexachloroethane	0.090U	0.090	0.0072
193-39-5	Indeno(1,2,3-cd)pyrene	**0.053J**	0.18	0.017
78-59-1	Isophorone	0.090U	0.090	0.0057
91-57-6	2-Methylnaphthalene	0.090U	0.090	0.0073
95-48-7	2-Methylphenol	0.090U	0.090	0.018
106-44-5	4-Methylphenol	0.090U	0.090	0.011
91-20-3	Naphthalene	**0.0037J**	0.090	0.0028
88-74-4	2-Nitroaniline	0.090U	0.090	0.032
99-09-2	3-Nitroaniline	0.18U	0.18	0.088
100-01-6	4-Nitroaniline	0.18U	0.18	0.085
98-95-3	Nitrobenzene	0.090U	0.090	0.0079
100-02-7	4-Nitrophenol	3.6U	3.6	0.14
88-75-5	2-Nitrophenol	0.090U	0.090	0.0082
86-30-6	N-Nitroso-diphenylamine	0.090U	0.090	0.0057
621-64-7	N-Nitroso-di-n-propylamine	0.090U	0.090	0.012
87-86-5	Pentachlorophenol	0.90U	0.90	0.080

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.29**	0.090	0.0039
108-95-2	Phenol	0.90U	0.90	0.0071
129-00-0	Pyrene	**0.39**	0.090	0.0065
88-06-2	2,4,6-Trichlorophenol	0.090U	0.090	0.0092
95-95-4	2,4,5-Trichlorophenol	0.090U	0.090	0.021

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*66*	*33-113*
Phenol-d6	*69*	*30-115*
Nitrobenzene-d5	*60*	*33-131*
2-Fluorobiphenyl	*72*	*46-122*
2,4,6-Tribromophenol	*25*	*12-124*
o-Terphenyl	*86*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.096**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:14	DSC	1213548
Arsenic	**1.1**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Barium	**21**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/10/12 09:59	DSC	1213574
Beryllium	**0.16**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Cadmium	**0.036**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Chromium	**4.9**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:47	DSC	1213574
Cobalt	**1.6**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Copper	**2.8**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Iron	**4900**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 16:55	CKD	1213573
Lead	**10**		5.0	0.033	mg/kg dry wt.	5	USEPA-6020A	11/10/12 09:59	DSC	1213574
Manganese	**79**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/12/12 12:13	DSC	1213574
Molybdenum	**0.12**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Mercury	**0.0068**	**J**	0.046	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:21	CKD	1213516
Nickel	**4.3**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Selenium	**0.091**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:47	DSC	1213574
Silver	**0.019**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Thallium	**0.033**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:26	DSC	1213574
Vanadium	**7.5**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:47	DSC	1213574
Zinc	**13**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:16	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-122**	Sampled:	10/30/12 13:40
Lab Sample ID:	**1210636-12**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*97*	*45-135*
Tetrachloro-m-xylene	*86*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.72U	0.72	0.052
71-43-2	Benzene	0.048U	0.048	0.0068
75-27-4	Bromodichloromethane	0.048U	0.048	0.0065
75-25-2	Bromoform	0.048U	0.048	0.012
*74-83-9	Bromomethane	0.048U	0.048	0.021
75-15-0	Carbon Disulfide	0.24U	0.24	0.011
56-23-5	Carbon Tetrachloride	0.048U	0.048	0.016
108-90-7	Chlorobenzene	0.048U	0.048	0.0081
75-00-3	Chloroethane	0.048U	0.048	0.017
67-66-3	Chloroform	0.048U	0.048	0.0081
74-87-3	Chloromethane	0.048U	0.048	0.019
110-82-7	Cyclohexane	0.24U	0.24	0.023
96-12-8	1,2-Dibromo-3-chloropropane	0.24U	0.24	0.025
124-48-1	Dibromochloromethane	0.048U	0.048	0.0073
106-93-4	1,2-Dibromoethane	0.048U	0.048	0.016
95-50-1	1,2-Dichlorobenzene	0.048U	0.048	0.011
541-73-1	1,3-Dichlorobenzene	0.048U	0.048	0.011
106-46-7	1,4-Dichlorobenzene	0.048U	0.048	0.012
75-71-8	Dichlorodifluoromethane	0.048U	0.048	0.010
75-34-3	1,1-Dichloroethane	0.048U	0.048	0.011
107-06-2	1,2-Dichloroethane	0.048U	0.048	0.010
75-35-4	1,1-Dichloroethene	0.048U	0.048	0.010
156-59-2	cis-1,2-Dichloroethene	0.048U	0.048	0.011
156-60-5	trans-1,2-Dichloroethene	0.048U	0.048	0.011
78-87-5	1,2-Dichloropropane	0.048U	0.048	0.013
10061-01-5	cis-1,3-Dichloropropene	0.048U	0.048	0.0092
10061-02-6	trans-1,3-Dichloropropene	0.048U	0.048	0.0091
100-41-4	Ethylbenzene	0.048U	0.048	0.0099
591-78-6	2-Hexanone	2.4U	2.4	0.024

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.048U	0.048	0.011
*79-20-9	Methyl Acetate	0.24U	0.24	0.031
1634-04-4	Methyl tert-Butyl Ether	0.048U	0.048	0.0092
108-87-2	Methylcyclohexane	0.24U	0.24	0.018
75-09-2	Methylene Chloride	0.096U	0.096	0.026
78-93-3	2-Butanone (MEK)	0.72U	0.72	0.061
108-10-1	4-Methyl-2-pentanone (MIBK)	2.4U	2.4	0.019
100-42-5	Styrene	0.048U	0.048	0.0099
79-34-5	1,1,2,2-Tetrachloroethane	0.048U	0.048	0.012
127-18-4	Tetrachloroethene	**0.026J**	0.048	0.013
108-88-3	Toluene	0.048U	0.048	0.011
120-82-1	1,2,4-Trichlorobenzene	0.048U	0.048	0.0068
71-55-6	1,1,1-Trichloroethane	0.048U	0.048	0.0067
79-00-5	1,1,2-Trichloroethane	0.048U	0.048	0.015
79-01-6	Trichloroethene	0.048U	0.048	0.010
*75-69-4	Trichlorofluoromethane	0.048U	0.048	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.048U	0.048	0.017
75-01-4	Vinyl Chloride	0.039U	0.039	0.0081
1330-20-7	Xylene (Total)	0.14U	0.14	0.019

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.018U	0.018	0.00083
208-96-8	Acenaphthylene	0.018U	0.018	0.00087
98-86-2	Acetophenone	0.018U	0.018	0.010
120-12-7	Anthracene	0.018U	0.018	0.00090
1912-24-9	Atrazine	0.018U	0.018	0.010
*100-52-7	Benzaldehyde	0.070U	0.070	0.010
56-55-3	Benzo(a)anthracene	0.018U	0.018	0.0015
50-32-8	Benzo(a)pyrene	0.018U	0.018	0.00090
205-99-2	Benzo(b)fluoranthene	0.018U	0.018	0.0018
207-08-9	Benzo(k)fluoranthene	0.018U	0.018	0.0023
191-24-2	Benzo(g,h,i)perylene	0.035U	0.035	0.00087
92-52-4	1,1'-Biphenyl	0.018U	0.018	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.018U	0.018	0.00099
85-68-7	Butyl Benzyl Phthalate	0.035U	0.035	0.0018
105-60-2	Caprolactam	0.070U	0.070	0.012
86-74-8	Carbazole	0.18U	0.18	0.0094
59-50-7	4-Chloro-3-methylphenol	0.018U	0.018	0.0039
106-47-8	4-Chloroaniline	0.070U	0.070	0.0093
111-91-1	Bis(2-chloroethoxy)methane	0.018U	0.018	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.018U	0.018	0.00083
108-60-1	Bis(2-chloroisopropyl) Ether	0.018U	0.018	0.0028
91-58-7	2-Chloronaphthalene	0.018U	0.018	0.0028
95-57-8	2-Chlorophenol	0.018U	0.018	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.018U	0.018	0.00076
218-01-9	Chrysene	**0.0015J**	0.018	0.00090
53-70-3	Dibenz(a,h)anthracene	0.035U	0.035	0.0013
132-64-9	Dibenzofuran	0.018U	0.018	0.00087
*84-74-2	Di-n-butyl Phthalate	**0.025J**	0.070	0.015
91-94-1	3,3´-Dichlorobenzidine	0.88U	0.88	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.011JB**	0.018	0.0025
105-67-9	2,4-Dimethylphenol	0.18U	0.18	0.031
131-11-3	Dimethyl Phthalate	0.018U	0.018	0.0020
534-52-1	4,6-Dinitro-2-methylphenol	0.18U	0.18	0.0057
51-28-5	2,4-Dinitrophenol	0.18U	0.18	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.018U	0.018	0.0017
117-84-0	Di-n-octyl Phthalate	0.018U	0.018	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.0096JB**	0.035	0.0043
206-44-0	Fluoranthene	**0.0011J**	0.018	0.00059
86-73-7	Fluorene	0.035U	0.035	0.00064
118-74-1	Hexachlorobenzene	0.018U	0.018	0.0010
87-68-3	Hexachlorobutadiene	0.018U	0.018	0.00076
77-47-4	Hexachlorocyclopentadiene	0.018U	0.018	0.0028
67-72-1	Hexachloroethane	0.018U	0.018	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	0.035U	0.035	0.0032
78-59-1	Isophorone	0.018U	0.018	0.0011
91-57-6	2-Methylnaphthalene	0.018U	0.018	0.0014
95-48-7	2-Methylphenol	0.018U	0.018	0.0035
106-44-5	4-Methylphenol	0.018U	0.018	0.0021
91-20-3	Naphthalene	0.018U	0.018	0.00054
88-74-4	2-Nitroaniline	0.018U	0.018	0.0062
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.017
98-95-3	Nitrobenzene	0.018U	0.018	0.0015
100-02-7	4-Nitrophenol	0.70U	0.70	0.028
88-75-5	2-Nitrophenol	0.018U	0.018	0.0016
86-30-6	N-Nitroso-diphenylamine	0.018U	0.018	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.018U	0.018	0.0023
87-86-5	Pentachlorophenol	0.18U	0.18	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.0011J**	0.018	0.00076
108-95-2	Phenol	0.18U	0.18	0.0014
129-00-0	Pyrene	0.018U	0.018	0.0013
88-06-2	2,4,6-Trichlorophenol	0.018U	0.018	0.0018
95-95-4	2,4,5-Trichlorophenol	0.018U	0.018	0.0041

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*75*	*33-113*
Phenol-d6	*74*	*30-115*
Nitrobenzene-d5	*75*	*33-131*
2-Fluorobiphenyl	*80*	*46-122*
2,4,6-Tribromophenol	*63*	*12-124*
o-Terphenyl	*85*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	95		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.11**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:16	DSC	1213548
Arsenic	**7.3**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Barium	**8.6**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Beryllium	**0.12**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Cadmium	**0.041**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Chromium	**6.8**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 14:25	DSC	1213574
Cobalt	**3.0**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Copper	**8.0**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Iron	**16000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:02	CKD	1213573
Lead	**5.0**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Manganese	**250**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 12:19	DSC	1213574
Molybdenum	**0.51**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Mercury	0.047	U	0.047	0.0058	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:27	CKD	1213516
Nickel	**8.1**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Selenium	**0.16**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 12:16	CKD	1213574
Silver	**0.026**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Thallium	**0.049**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:30	DSC	1213574
Vanadium	**13**		0.50	0.048	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:22	DSC	1213574
Zinc	**26**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:22	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-123**	Sampled:	10/30/12 13:50
Lab Sample ID:	**1210636-13**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0074
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	**0.0064J**	0.35	0.0036
11096-82-5	PCB-1260	**0.0056J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*80*	*45-135*
Tetrachloro-m-xylene	*85*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.80U	0.80	0.058
71-43-2	Benzene	0.053U	0.053	0.0076
75-27-4	Bromodichloromethane	0.053U	0.053	0.0072
75-25-2	Bromoform	0.053U	0.053	0.014
*74-83-9	Bromomethane	0.053U	0.053	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.053U	0.053	0.018
108-90-7	Chlorobenzene	0.053U	0.053	0.0090
75-00-3	Chloroethane	0.053U	0.053	0.019
67-66-3	Chloroform	0.053U	0.053	0.0090
74-87-3	Chloromethane	0.053U	0.053	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.027
124-48-1	Dibromochloromethane	0.053U	0.053	0.0081
106-93-4	1,2-Dibromoethane	0.053U	0.053	0.017
95-50-1	1,2-Dichlorobenzene	0.053U	0.053	0.013
541-73-1	1,3-Dichlorobenzene	0.053U	0.053	0.013
106-46-7	1,4-Dichlorobenzene	0.053U	0.053	0.013
75-71-8	Dichlorodifluoromethane	0.053U	0.053	0.011
75-34-3	1,1-Dichloroethane	0.053U	0.053	0.012
107-06-2	1,2-Dichloroethane	0.053U	0.053	0.011
75-35-4	1,1-Dichloroethene	0.053U	0.053	0.011
156-59-2	cis-1,2-Dichloroethene	0.053U	0.053	0.012
156-60-5	trans-1,2-Dichloroethene	0.053U	0.053	0.012
78-87-5	1,2-Dichloropropane	0.053U	0.053	0.015
10061-01-5	cis-1,3-Dichloropropene	0.053U	0.053	0.010
10061-02-6	trans-1,3-Dichloropropene	0.053U	0.053	0.010
100-41-4	Ethylbenzene	0.053U	0.053	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.053U	0.053	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.034
1634-04-4	Methyl tert-Butyl Ether	0.053U	0.053	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.80U	0.80	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.053U	0.053	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.053U	0.053	0.014
127-18-4	Tetrachloroethene	0.053U	0.053	0.015
108-88-3	Toluene	0.053U	0.053	0.012
120-82-1	1,2,4-Trichlorobenzene	0.053U	0.053	0.0075
71-55-6	1,1,1-Trichloroethane	0.053U	0.053	0.0074
79-00-5	1,1,2-Trichloroethane	0.053U	0.053	0.017
79-01-6	Trichloroethene	0.053U	0.053	0.011
*75-69-4	Trichlorofluoromethane	0.053U	0.053	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.053U	0.053	0.019
75-01-4	Vinyl Chloride	0.043U	0.043	0.0090
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.014J**	0.089	0.0042
208-96-8	Acenaphthylene	**0.0053J**	0.089	0.0044
98-86-2	Acetophenone	0.089U	0.089	0.053
120-12-7	Anthracene	**0.035J**	0.089	0.0046
1912-24-9	Atrazine	0.089U	0.089	0.052
*100-52-7	Benzaldehyde	0.36U	0.36	0.051
56-55-3	Benzo(a)anthracene	**0.17**	0.089	0.0077
50-32-8	Benzo(a)pyrene	**0.12**	0.089	0.0046
*205-99-2	Benzo(b)fluoranthene	**0.19**	0.089	0.0091
*207-08-9	Benzo(k)fluoranthene	**0.062J**	0.089	0.012
191-24-2	Benzo(g,h,i)perylene	**0.089J**	0.18	0.0044
92-52-4	1,1'-Biphenyl	0.089U	0.089	0.057
101-55-3	4-Bromophenyl Phenyl Ether	0.089U	0.089	0.0050
*85-68-7	Butyl Benzyl Phthalate	**0.035J**	0.18	0.0090
105-60-2	Caprolactam	0.36U	0.36	0.059
86-74-8	Carbazole	0.89U	0.89	0.048
59-50-7	4-Chloro-3-methylphenol	0.089U	0.089	0.020
106-47-8	4-Chloroaniline	0.36U	0.36	0.047
111-91-1	Bis(2-chloroethoxy)methane	0.089U	0.089	0.0060
111-44-4	Bis(2-chloroethyl) Ether	0.089U	0.089	0.0042
108-60-1	Bis(2-chloroisopropyl) Ether	0.089U	0.089	0.014
91-58-7	2-Chloronaphthalene	0.089U	0.089	0.014
95-57-8	2-Chlorophenol	0.089U	0.089	0.0042
7005-72-3	4-Chlorophenyl Phenyl Ether	0.089U	0.089	0.0039
218-01-9	Chrysene	**0.16**	0.089	0.0046
53-70-3	Dibenz(a,h)anthracene	**0.037J**	0.18	0.0068
132-64-9	Dibenzofuran	**0.011J**	0.089	0.0044
84-74-2	Di-n-butyl Phthalate	0.36U	0.36	0.075
91-94-1	3,3´-Dichlorobenzidine	4.4U	4.4	0.17

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.18U	0.18	0.0082
*84-66-2	Diethyl Phthalate	**0.021JB**	0.089	0.013
105-67-9	2,4-Dimethylphenol	0.89U	0.89	0.16
131-11-3	Dimethyl Phthalate	0.089U	0.089	0.0099
534-52-1	4,6-Dinitro-2-methylphenol	0.89U	0.89	0.029
51-28-5	2,4-Dinitrophenol	0.89U	0.89	0.21
121-14-2	2,4-Dinitrotoluene	**0.041J**	0.18	0.027
606-20-2	2,6-Dinitrotoluene	**0.37**	0.089	0.0084
117-84-0	Di-n-octyl Phthalate	**0.025J**	0.089	0.0060
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.041JB**	0.18	0.022
206-44-0	Fluoranthene	**0.32**	0.089	0.0030
86-73-7	Fluorene	**0.012J**	0.18	0.0032
118-74-1	Hexachlorobenzene	0.089U	0.089	0.0053
87-68-3	Hexachlorobutadiene	0.089U	0.089	0.0039
77-47-4	Hexachlorocyclopentadiene	0.089U	0.089	0.014
67-72-1	Hexachloroethane	**0.048J**	0.089	0.0071
193-39-5	Indeno(1,2,3-cd)pyrene	**0.080J**	0.18	0.016
78-59-1	Isophorone	0.089U	0.089	0.0056
91-57-6	2-Methylnaphthalene	0.089U	0.089	0.0072
95-48-7	2-Methylphenol	0.089U	0.089	0.018
106-44-5	4-Methylphenol	0.089U	0.089	0.011
91-20-3	Naphthalene	0.089U	0.089	0.0027
88-74-4	2-Nitroaniline	0.089U	0.089	0.031
99-09-2	3-Nitroaniline	0.18U	0.18	0.087
100-01-6	4-Nitroaniline	0.18U	0.18	0.084
98-95-3	Nitrobenzene	0.089U	0.089	0.0078
100-02-7	4-Nitrophenol	3.6U	3.6	0.14
88-75-5	2-Nitrophenol	0.089U	0.089	0.0082
86-30-6	N-Nitroso-diphenylamine	0.089U	0.089	0.0056
621-64-7	N-Nitroso-di-n-propylamine	**0.046J**	0.089	0.012
87-86-5	Pentachlorophenol	0.89U	0.89	0.080

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.19**	0.089	0.0039
108-95-2	Phenol	0.89U	0.89	0.0070
129-00-0	Pyrene	**0.34**	0.089	0.0065
88-06-2	2,4,6-Trichlorophenol	0.089U	0.089	0.0091
95-95-4	2,4,5-Trichlorophenol	0.089U	0.089	0.021

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*82*	*33-113*
Phenol-d6	*73*	*30-115*
Nitrobenzene-d5	*66*	*33-131*
2-Fluorobiphenyl	*82*	*46-122*
2,4,6-Tribromophenol	*32*	*12-124*
o-Terphenyl	*91*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	94		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.071**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:19	DSC	1213548
Arsenic	**1.1**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Barium	**31**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/10/12 10:11	DSC	1213574
Beryllium	**0.16**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 09:27	DSC	1213574
Cadmium	**0.061**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Chromium	**6.3**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:53	DSC	1213574
Cobalt	**1.9**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Copper	**3.8**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Iron	**4800**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:08	CKD	1213573
Lead	**7.7**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Manganese	**160**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 12:25	DSC	1213574
Molybdenum	**0.18**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:32	CKD	1213516
Nickel	**4.9**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:53	DSC	1213574
Silver	**0.018**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Thallium	**0.051**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:34	DSC	1213574
Vanadium	**9.1**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:53	DSC	1213574
Zinc	**20**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:29	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-124**	Sampled:	10/30/12 14:15
Lab Sample ID:	**1210636-14**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	0.34U	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*100*	*45-135*
Tetrachloro-m-xylene	*88*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.78U	0.78	0.056
71-43-2	Benzene	0.052U	0.052	0.0074
75-27-4	Bromodichloromethane	0.052U	0.052	0.0070
75-25-2	Bromoform	0.052U	0.052	0.013
*74-83-9	Bromomethane	0.052U	0.052	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.052U	0.052	0.018
108-90-7	Chlorobenzene	0.052U	0.052	0.0087
75-00-3	Chloroethane	0.052U	0.052	0.018
67-66-3	Chloroform	0.052U	0.052	0.0087
74-87-3	Chloromethane	0.052U	0.052	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.052U	0.052	0.0079
106-93-4	1,2-Dibromoethane	0.052U	0.052	0.017
95-50-1	1,2-Dichlorobenzene	0.052U	0.052	0.012
541-73-1	1,3-Dichlorobenzene	0.052U	0.052	0.012
106-46-7	1,4-Dichlorobenzene	0.052U	0.052	0.013
75-71-8	Dichlorodifluoromethane	0.052U	0.052	0.011
75-34-3	1,1-Dichloroethane	0.052U	0.052	0.011
107-06-2	1,2-Dichloroethane	0.052U	0.052	0.011
75-35-4	1,1-Dichloroethene	0.052U	0.052	0.011
156-59-2	cis-1,2-Dichloroethene	0.052U	0.052	0.012
156-60-5	trans-1,2-Dichloroethene	0.052U	0.052	0.012
78-87-5	1,2-Dichloropropane	0.052U	0.052	0.014
10061-01-5	cis-1,3-Dichloropropene	0.052U	0.052	0.0099
10061-02-6	trans-1,3-Dichloropropene	0.052U	0.052	0.0098
100-41-4	Ethylbenzene	0.052U	0.052	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.052U	0.052	0.011
*79-20-9	Methyl Acetate	0.26U	0.26	0.033
1634-04-4	Methyl tert-Butyl Ether	0.052U	0.052	0.0099
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.10U	0.10	0.028
78-93-3	2-Butanone (MEK)	0.78U	0.78	0.066
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.052U	0.052	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.052U	0.052	0.013
127-18-4	Tetrachloroethene	0.052U	0.052	0.014
108-88-3	Toluene	0.052U	0.052	0.011
120-82-1	1,2,4-Trichlorobenzene	0.052U	0.052	0.0073
71-55-6	1,1,1-Trichloroethane	0.052U	0.052	0.0072
79-00-5	1,1,2-Trichloroethane	0.052U	0.052	0.017
79-01-6	Trichloroethene	0.052U	0.052	0.011
*75-69-4	Trichlorofluoromethane	0.052U	0.052	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.052U	0.052	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0087
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.017U	0.017	0.00082
208-96-8	Acenaphthylene	0.017U	0.017	0.00086
98-86-2	Acetophenone	0.017U	0.017	0.010
120-12-7	Anthracene	0.017U	0.017	0.00089
1912-24-9	Atrazine	0.017U	0.017	0.010
*100-52-7	Benzaldehyde	0.069U	0.069	0.0099
56-55-3	Benzo(a)anthracene	0.017U	0.017	0.0015
50-32-8	Benzo(a)pyrene	0.017U	0.017	0.00089
205-99-2	Benzo(b)fluoranthene	0.017U	0.017	0.0018
207-08-9	Benzo(k)fluoranthene	0.017U	0.017	0.0023
191-24-2	Benzo(g,h,i)perylene	0.035U	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.017U	0.017	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.017U	0.017	0.00098
85-68-7	Butyl Benzyl Phthalate	0.035U	0.035	0.0017
105-60-2	Caprolactam	0.069U	0.069	0.011
86-74-8	Carbazole	0.17U	0.17	0.0093
59-50-7	4-Chloro-3-methylphenol	0.017U	0.017	0.0039
106-47-8	4-Chloroaniline	0.069U	0.069	0.0092
111-91-1	Bis(2-chloroethoxy)methane	0.017U	0.017	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.017U	0.017	0.00082
108-60-1	Bis(2-chloroisopropyl) Ether	0.017U	0.017	0.0028
91-58-7	2-Chloronaphthalene	0.017U	0.017	0.0027
95-57-8	2-Chlorophenol	0.017U	0.017	0.00082
7005-72-3	4-Chlorophenyl Phenyl Ether	0.017U	0.017	0.00075
218-01-9	Chrysene	0.017U	0.017	0.00089
53-70-3	Dibenz(a,h)anthracene	0.035U	0.035	0.0013
132-64-9	Dibenzofuran	0.017U	0.017	0.00085
*84-74-2	Di-n-butyl Phthalate	**0.018J**	0.069	0.015
91-94-1	3,3´-Dichlorobenzidine	0.86U	0.86	0.034

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ANALYTICAL REPORT

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Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.0086JB**	0.017	0.0025
105-67-9	2,4-Dimethylphenol	0.17U	0.17	0.031
131-11-3	Dimethyl Phthalate	0.017U	0.017	0.0019
534-52-1	4,6-Dinitro-2-methylphenol	0.17U	0.17	0.0057
51-28-5	2,4-Dinitrophenol	0.17U	0.17	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.017U	0.017	0.0016
117-84-0	Di-n-octyl Phthalate	0.017U	0.017	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.0078JB**	0.035	0.0042
206-44-0	Fluoranthene	0.017U	0.017	0.00058
86-73-7	Fluorene	0.035U	0.035	0.00063
118-74-1	Hexachlorobenzene	0.017U	0.017	0.0010
87-68-3	Hexachlorobutadiene	0.017U	0.017	0.00075
77-47-4	Hexachlorocyclopentadiene	0.017U	0.017	0.0028
67-72-1	Hexachloroethane	0.017U	0.017	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	0.035U	0.035	0.0032
78-59-1	Isophorone	0.017U	0.017	0.0011
91-57-6	2-Methylnaphthalene	0.017U	0.017	0.0014
95-48-7	2-Methylphenol	0.017U	0.017	0.0035
106-44-5	4-Methylphenol	0.017U	0.017	0.0021
91-20-3	Naphthalene	0.017U	0.017	0.00053
88-74-4	2-Nitroaniline	0.017U	0.017	0.0061
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.017U	0.017	0.0015
100-02-7	4-Nitrophenol	0.69U	0.69	0.028
88-75-5	2-Nitrophenol	0.017U	0.017	0.0016
86-30-6	N-Nitroso-diphenylamine	0.017U	0.017	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.017U	0.017	0.0023
87-86-5	Pentachlorophenol	0.17U	0.17	0.015

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.017U	0.017	0.00075
108-95-2	Phenol	0.17U	0.17	0.0014
129-00-0	Pyrene	0.017U	0.017	0.0013
88-06-2	2,4,6-Trichlorophenol	0.017U	0.017	0.0018
95-95-4	2,4,5-Trichlorophenol	0.017U	0.017	0.0041

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*73*	*33-113*
Phenol-d6	*66*	*30-115*
Nitrobenzene-d5	*67*	*33-131*
2-Fluorobiphenyl	*79*	*46-122*
2,4,6-Tribromophenol	*59*	*12-124*
o-Terphenyl	*89*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	96		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.062**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:21	DSC	1213548
Arsenic	**2.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Barium	**6.2**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Beryllium	**0.12**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Cadmium	**0.035**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Chromium	**5.9**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:56	DSC	1213574
Cobalt	**3.0**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Copper	**7.4**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Iron	**6500**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:14	CKD	1213573
Lead	**2.1**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Manganese	**190**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 12:32	DSC	1213574
Molybdenum	**0.27**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Mercury	0.046	U	0.046	0.0057	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:37	CKD	1213516
Nickel	**7.3**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:56	DSC	1213574
Silver	**0.022**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Thallium	**0.029**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:38	DSC	1213574
Vanadium	**11**		0.50	0.048	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:35	DSC	1213574
Zinc	**20**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:35	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-125**	Sampled:	10/30/12 14:25
Lab Sample ID:	**1210636-15**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/10/12 By: ASC
QC Batch:	1213428	Analytical Batch:	2K12005

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	*% Recovery*	*Control Limits*
Tetrachloro-m-xylene	*81*	*26-118*
Decachlorobiphenyl	*99*	*52-139*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.89J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.37J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*107*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
*98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
*100-52-7	Benzaldehyde	0.50U	0.50	0.087
*56-55-3	Benzo(a)anthracene	**2.8**	0.50	0.026
50-32-8	Benzo(a)pyrene	**2.8**	0.50	0.040
*205-99-2	Benzo(b)fluoranthene	**2.8**	0.50	0.071
*207-08-9	Benzo(k)fluoranthene	**2.2**	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	**1.9**	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
*106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	**3.0**	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	**0.66**	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
*91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	**0.93**	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	**0.62**	0.50	0.40
206-44-0	Fluoranthene	**3.9**	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	**1.9**	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
*99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00
Unit:	ug/L	Prepared:	11/1/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/13/12 By: JLB
QC Batch:	1213318	Analytical Batch:	2K19060

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	**3.5**	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*40*	*20-70*
Phenol-d6	*19*	*18-45*
Nitrobenzene-d5	*77*	*31-123*
2-Fluorobiphenyl	*73*	*25-113*
2,4,6-Tribromophenol	*76*	*30-121*
o-Terphenyl	*81*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103012-DD-126**	Sampled:	10/30/12 15:00
Lab Sample ID:	**1210636-16**	Sampled By:	Dan Deitner
Matrix:	Water	Received:	10/30/12 17:00

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.17**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Arsenic	**0.61**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Barium	**29**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Chromium	**0.55**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/10/12 12:17	DSC	1213631
Cobalt	**3.1**		1.0	0.050	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
***Copper**	**1.3**		1.0	0.13	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Iron	**97**		20	6.5	ug/L	1	USEPA-6010C	11/12/12 14:29	KLV	1213630
Lead	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Manganese	**250**		5.0	0.70	ug/L	5	USEPA-6020A	11/10/12 10:08	DSC	1213631
Molybdenum	**8.6**		1.0	0.075	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 12:08	CKD	1213552
Nickel	**8.0**		1.0	0.17	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Selenium	**3.9**		1.0	0.31	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Thallium	**0.035**	**J**	1.0	0.027	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631
Vanadium	1.0	U	1.0	0.066	ug/L	1	USEPA-6020A	11/10/12 12:17	DSC	1213631
Zinc	**8.5**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/10/12 09:29	DSC	1213631

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-127**	Sampled:	10/30/12 16:00
Lab Sample ID:	**1210636-17**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0023
11141-16-5	PCB-1232	0.35U	0.35	0.0023
53469-21-9	PCB-1242	0.35U	0.35	0.0074
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	**0.035J**	0.35	0.0036
11096-82-5	PCB-1260	**0.032J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*82*	*45-135*
Tetrachloro-m-xylene	*108*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-127**	Sampled:	10/30/12 16:00
Lab Sample ID:	**1210636-17**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
*74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.013
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.011
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-127**	Sampled:	10/30/12 16:00
Lab Sample ID:	**1210636-17**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
*79-20-9	Methyl Acetate	0.25U	0.25	0.032
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
*75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-127**	Sampled:	10/30/12 16:00
Lab Sample ID:	**1210636-17**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: ALK
Dilution Factor:	5	Analyzed:	11/20/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K21007
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.28J**	0.90	0.0042
208-96-8	Acenaphthylene	**0.0075J**	0.90	0.0044
120-12-7	Anthracene	**0.35J**	0.90	0.0046
56-55-3	Benzo(a)anthracene	**0.99**	0.90	0.0077
50-32-8	Benzo(a)pyrene	**0.67J**	0.90	0.0046
*205-99-2	Benzo(b)fluoranthene	**1.1**	0.90	0.0092
191-24-2	Benzo(g,h,i)perylene	**0.36J**	0.90	0.0044
*207-08-9	Benzo(k)fluoranthene	**0.43J**	0.90	0.012
218-01-9	Chrysene	**0.98**	0.90	0.0046
53-70-3	Dibenz(a,h)anthracene	**0.13J**	0.90	0.0068
206-44-0	Fluoranthene	**2.2**	0.90	0.0030
86-73-7	Fluorene	**0.20J**	0.90	0.0032
193-39-5	Indeno(1,2,3-cd)pyrene	**0.36J**	0.90	0.017
91-57-6	2-Methylnaphthalene	**0.10J**	0.90	0.0072
91-20-3	Naphthalene	**0.069J**	0.90	0.0027
85-01-8	Phenanthrene	**2.3**	0.90	0.0039
129-00-0	Pyrene	**2.2**	0.90	0.0065

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*68*	*33-131*
2-Fluorobiphenyl	*79*	*46-122*
o-Terphenyl	*86*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-127**	Sampled:	10/30/12 16:00
Lab Sample ID:	**1210636-17**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.28**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:24	DSC	1213548
Arsenic	**1.6**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Barium	**35**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/10/12 10:14	DSC	1213574
Beryllium	**0.19**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Cadmium	**0.077**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Chromium	**6.6**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:59	DSC	1213574
Cobalt	**2.0**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Copper	**7.6**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Iron	**5100**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:21	CKD	1213573
Lead	**37**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/10/12 10:14	DSC	1213574
Manganese	**140**		50	1.2	mg/kg dry wt.	50	USEPA-6020A	11/12/12 12:38	DSC	1213574
Molybdenum	**0.38**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Mercury	**0.012**	**J**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:54	CKD	1213516
Nickel	**5.2**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Selenium	**0.044**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:59	DSC	1213574
Silver	**0.033**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Thallium	**0.040**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:42	DSC	1213574
Vanadium	**9.4**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 09:59	DSC	1213574
Zinc	**24**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/12/12 12:48	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-127**	Sampled:	10/30/12 16:00
Lab Sample ID:	**1210636-17**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-128**	Sampled:	10/30/12 16:10
Lab Sample ID:	**1210636-18**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*106*	*45-135*
Tetrachloro-m-xylene	*97*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-128**	Sampled:	10/30/12 16:10
Lab Sample ID:	**1210636-18**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.85U	0.85	0.061
71-43-2	Benzene	0.057U	0.057	0.0080
75-27-4	Bromodichloromethane	0.057U	0.057	0.0076
75-25-2	Bromoform	0.057U	0.057	0.015
*74-83-9	Bromomethane	0.057U	0.057	0.024
75-15-0	Carbon Disulfide	0.28U	0.28	0.013
56-23-5	Carbon Tetrachloride	0.057U	0.057	0.019
108-90-7	Chlorobenzene	0.057U	0.057	0.0095
75-00-3	Chloroethane	0.057U	0.057	0.020
67-66-3	Chloroform	0.057U	0.057	0.0095
74-87-3	Chloromethane	0.057U	0.057	0.022
110-82-7	Cyclohexane	0.28U	0.28	0.027
96-12-8	1,2-Dibromo-3-chloropropane	0.28U	0.28	0.029
124-48-1	Dibromochloromethane	0.057U	0.057	0.0086
106-93-4	1,2-Dibromoethane	0.057U	0.057	0.018
95-50-1	1,2-Dichlorobenzene	0.057U	0.057	0.013
541-73-1	1,3-Dichlorobenzene	0.057U	0.057	0.013
106-46-7	1,4-Dichlorobenzene	0.057U	0.057	0.014
75-71-8	Dichlorodifluoromethane	0.057U	0.057	0.012
75-34-3	1,1-Dichloroethane	0.057U	0.057	0.012
107-06-2	1,2-Dichloroethane	0.057U	0.057	0.012
75-35-4	1,1-Dichloroethene	0.057U	0.057	0.012
156-59-2	cis-1,2-Dichloroethene	0.057U	0.057	0.013
156-60-5	trans-1,2-Dichloroethene	0.057U	0.057	0.013
78-87-5	1,2-Dichloropropane	0.057U	0.057	0.016
10061-01-5	cis-1,3-Dichloropropene	0.057U	0.057	0.011
10061-02-6	trans-1,3-Dichloropropene	0.057U	0.057	0.011
100-41-4	Ethylbenzene	0.057U	0.057	0.012
591-78-6	2-Hexanone	2.8U	2.8	0.028

Continued on next page

*See Statement of Data Qualifications

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-128**	Sampled:	10/30/12 16:10
Lab Sample ID:	**1210636-18**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213727	Analytical Batch:	2K09004
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.057U	0.057	0.012
*79-20-9	Methyl Acetate	0.28U	0.28	0.036
1634-04-4	Methyl tert-Butyl Ether	0.057U	0.057	0.011
108-87-2	Methylcyclohexane	0.28U	0.28	0.021
75-09-2	Methylene Chloride	0.11U	0.11	0.030
78-93-3	2-Butanone (MEK)	0.85U	0.85	0.072
108-10-1	4-Methyl-2-pentanone (MIBK)	2.8U	2.8	0.022
100-42-5	Styrene	0.057U	0.057	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.057U	0.057	0.014
127-18-4	Tetrachloroethene	0.057U	0.057	0.016
108-88-3	Toluene	0.057U	0.057	0.012
120-82-1	1,2,4-Trichlorobenzene	0.057U	0.057	0.0079
71-55-6	1,1,1-Trichloroethane	0.057U	0.057	0.0078
79-00-5	1,1,2-Trichloroethane	0.057U	0.057	0.018
79-01-6	Trichloroethene	0.057U	0.057	0.012
*75-69-4	Trichlorofluoromethane	0.057U	0.057	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.057U	0.057	0.020
75-01-4	Vinyl Chloride	0.045U	0.045	0.0095
1330-20-7	Xylene (Total)	0.17U	0.17	0.023

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-128**	Sampled:	10/30/12 16:10
Lab Sample ID:	**1210636-18**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Unit:	mg/kg dry	Prepared:	11/8/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/19/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K20078
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.0029J**	0.35	0.00083
208-96-8	Acenaphthylene	**0.0011J**	0.35	0.00087
120-12-7	Anthracene	**0.011J**	0.35	0.00090
56-55-3	Benzo(a)anthracene	**0.045J**	0.35	0.0015
50-32-8	Benzo(a)pyrene	**0.034J**	0.35	0.00090
*205-99-2	Benzo(b)fluoranthene	**0.053J**	0.35	0.0018
191-24-2	Benzo(g,h,i)perylene	**0.031J**	0.35	0.00087
*207-08-9	Benzo(k)fluoranthene	**0.024J**	0.35	0.0023
218-01-9	Chrysene	**0.048J**	0.35	0.00090
53-70-3	Dibenz(a,h)anthracene	**0.013J**	0.35	0.0013
206-44-0	Fluoranthene	**0.065J**	0.35	0.00059
86-73-7	Fluorene	**0.0032J**	0.35	0.00064
193-39-5	Indeno(1,2,3-cd)pyrene	**0.028J**	0.35	0.0032
91-57-6	2-Methylnaphthalene	**0.0025J**	0.35	0.0014
91-20-3	Naphthalene	**0.0021J**	0.35	0.00054
85-01-8	Phenanthrene	**0.034J**	0.35	0.00076
129-00-0	Pyrene	**0.068J**	0.35	0.0013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*73*	*33-131*
2-Fluorobiphenyl	*80*	*46-122*
o-Terphenyl	*87*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-128**	Sampled:	10/30/12 16:10
Lab Sample ID:	**1210636-18**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00
Percent Solids:	95		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.027**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:31	DSC	1213548
Arsenic	**0.23**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Barium	**3.1**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Beryllium	**0.062**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Cadmium	**0.038**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Chromium	**2.7**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:02	DSC	1213574
Cobalt	**1.1**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Copper	**2.3**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Iron	**1500**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:27	CKD	1213573
Lead	**1.1**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Manganese	**13**		5.0	0.12	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:51	DSC	1213574
Molybdenum	**0.035**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 16:59	CKD	1213516
Nickel	**2.7**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:02	DSC	1213574
Silver	**0.013**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Thallium	**0.017**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574
Vanadium	**3.8**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:02	DSC	1213574
Zinc	**7.3**		1.0	0.28	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:46	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1210636**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103012-DD-128**	Sampled:	10/30/12 16:10
Lab Sample ID:	**1210636-18**	Sampled By:	Dan Deitner
Matrix:	Soil	Received:	10/30/12 17:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550C	11/01/12 11:15	CLB	1213338

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213428 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*74*	*26-118*				
Laboratory Control Sample					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.939**	94	44-146	--	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*106*	*52-139*				
Tetrachloro-m-xylene				*76*	*26-118*				
Laboratory Control Sample Duplicate					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.887**	89	44-146	6	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*72*	*26-118*				
QC Batch: 1213733 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213733 (Continued) 3550C Sonication Extraction/USEPA-8082A									
Method Blank (Continued)					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
Surrogates (Continued):									
Tetrachloro-m-xylene				*88*	*56-123*				
Laboratory Control Sample					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1248		0.159	**0.142 J**	90	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				
Tetrachloro-m-xylene				*88*	*56-123*				

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: LEW
Unit: ug/L Analytical Batch: 2K09045

Acetone	**2.5 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U	--	1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	**0.97 J**	--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*105*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Acetone	40.0	**52.8**	132	53-138	--	20	5.0	1.1
Benzene	40.0	**42.6**	106	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**44.8**	112	82-124	--	20	1.0	0.13
Bromoform	40.0	**41.8**	105	65-123	--	20	1.0	0.26
Bromomethane	40.0	**47.7**	119	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**72.1**	**180**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**45.4**	114	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**44.0**	110	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.2**	98	76-124	--	20	1.0	0.14
Chloroform	40.0	**43.3**	108	82-119	--	20	1.0	0.098
Chloromethane	40.0	**41.2**	103	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**37.1**	93	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**43.7**	109	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**42.9**	107	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**46.3**	116	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**45.5**	114	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**44.9**	112	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**38.6**	97	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.6**	107	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**44.3**	111	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**41.9**	105	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**43.7**	109	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**43.3**	108	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**43.0**	107	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**40.0**	100	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**39.7**	99	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**46.0**	115	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**39.3**	98	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**40.7**	102	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**38.3**	96	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**42.3**	106	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**37.2**	93	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.7**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**46.6**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**41.1**	103	60-142	--	20	5.0	0.40
Styrene		40.0	**42.2**	105	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.3**	108	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**44.0**	110	81-117	--	20	1.0	0.23
Toluene		40.0	**42.9**	107	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.4**	101	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**44.5**	111	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**43.6**	109	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**43.6**	109	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**42.6**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**39.7**	99	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)		120	**135**	113	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*105*	*87-122*				
Toluene-d8				*100*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW
Unit: ug/L Analytical Batch: 2K09045

Surrogates (Continued):

4-Bromofluorobenzene		*102*	*82-110*	

Laboratory Control Sample Duplicate Analyzed: 11/08/2012 By: LEW
Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acetone	40.0	**50.0**	125	53-138	5	20	5.0	1.1
Benzene	40.0	**39.7**	99	84-119	7	20	1.0	0.11
Bromodichloromethane	40.0	**42.5**	106	82-124	5	20	1.0	0.13
Bromoform	40.0	**39.8**	100	65-123	5	20	1.0	0.26
Bromomethane	40.0	**45.2**	113	55-142	5	20	1.0	0.21
Carbon Disulfide	40.0	**68.2**	**170**	70-131	6	20	5.0	0.23
Carbon Tetrachloride	40.0	**41.7**	104	79-127	9	20	1.0	0.26
Chlorobenzene	40.0	**41.8**	105	84-118	5	20	1.0	0.17
Chloroethane	40.0	**36.3**	91	76-124	8	20	1.0	0.14
Chloroform	40.0	**40.6**	102	82-119	6	20	1.0	0.098
Chloromethane	40.0	**38.2**	96	73-125	8	20	1.0	0.29
Cyclohexane	40.0	**35.2**	88	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**43.4**	109	58-130	0.5	20	1.0	0.13
Dibromochloromethane	40.0	**40.4**	101	74-121	6	20	1.0	0.15
1,2-Dibromoethane	40.0	**44.4**	111	84-125	4	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**44.4**	111	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene	40.0	**43.7**	109	81-124	3	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**41.8**	104	79-122	3	20	1.0	0.25
Dichlorodifluoromethane	40.0	**35.2**	88	68-130	9	20	1.0	0.21
1,1-Dichloroethane	40.0	**40.1**	100	80-118	6	20	1.0	0.18
1,2-Dichloroethane	40.0	**41.6**	104	81-122	6	20	1.0	0.21
1,1-Dichloroethene	40.0	**38.9**	97	77-123	7	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**41.2**	103	84-119	6	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**40.5**	101	76-126	7	20	1.0	0.20
1,2-Dichloropropane	40.0	**41.4**	104	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**38.6**	97	77-120	4	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**38.6**	97	73-116	3	20	1.0	0.19
Ethylbenzene	40.0	**43.2**	108	87-119	6	20	1.0	0.21
2-Hexanone	40.0	**41.8**	104	55-141	6	20	5.0	0.49
Isopropylbenzene	40.0	**40.0**	100	76-126	2	20	1.0	0.22
Methyl Acetate	40.0	**37.9**	95	67-129	1	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**41.0**	102	72-128	3	20	1.0	0.19
Methylcyclohexane		40.0	**35.1**	88	78-126	6	20	5.0	0.37
Methylene Chloride		40.0	**38.5**	96	75-129	6	20	1.0	0.24
2-Butanone (MEK)		40.0	**47.4**	119	52-142	2	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**40.6**	102	60-142	1	20	5.0	0.40
Styrene		40.0	**39.8**	100	84-120	6	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.2**	108	70-137	0.4	20	1.0	0.26
Tetrachloroethene		40.0	**41.0**	103	81-117	7	20	1.0	0.23
Toluene		40.0	**40.0**	100	85-118	7	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.5**	101	75-125	0.3	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**41.1**	103	81-122	8	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**41.8**	105	83-121	4	20	1.0	0.20
Trichloroethene		40.0	**41.3**	103	82-119	5	20	1.0	0.21
Trichlorofluoromethane		40.0	**38.5**	96	76-128	10	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**36.1**	90	76-126	9	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	9	20	1.0	0.21
Xylene (Total)		120	**127**	106	86-119	6	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*102*	*87-122*				
Toluene-d8				*99*	*85-113*				
4-Bromofluorobenzene				*100*	*82-110*				

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213727 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K09004

Acetone	0.75 U			0.75	0.054
Benzene	0.050 U			0.050	0.0071
Bromodichloromethane	0.050 U			0.050	0.0067
Bromoform	0.050 U			0.050	0.013
Bromomethane	0.050 U			0.050	0.021
Carbon Disulfide	0.25 U		--	0.25	0.012
Carbon Tetrachloride	0.050 U			0.050	0.017
Chlorobenzene	0.050 U			0.050	0.0084
Chloroethane	0.050 U			0.050	0.018
Chloroform	0.050 U			0.050	0.0084
Chloromethane	0.050 U			0.050	0.020
Cyclohexane	0.25 U			0.25	0.024
1,2-Dibromo-3-chloropropane	0.25 U			0.25	0.026
Dibromochloromethane	0.050 U			0.050	0.0076
1,2-Dibromoethane	0.050 U			0.050	0.016
1,2-Dichlorobenzene	0.050 U			0.050	0.012
1,3-Dichlorobenzene	0.050 U		--	0.050	0.012
1,4-Dichlorobenzene	0.050 U		--	0.050	0.012
Dichlorodifluoromethane	0.050 U			0.050	0.011
1,1-Dichloroethane	0.050 U			0.050	0.011
1,2-Dichloroethane	0.050 U			0.050	0.011
1,1-Dichloroethene	0.050 U			0.050	0.010
cis-1,2-Dichloroethene	0.050 U			0.050	0.011
trans-1,2-Dichloroethene	0.050 U			0.050	0.012
1,2-Dichloropropane	0.050 U			0.050	0.014
cis-1,3-Dichloropropene	0.050 U			0.050	0.0095
trans-1,3-Dichloropropene	0.050 U			0.050	0.0094
Ethylbenzene	0.050 U			0.050	0.010
2-Hexanone	2.5 U			2.5	0.025
Isopropylbenzene	0.050 U			0.050	0.011
Methyl Acetate	0.25 U			0.25	0.032
Methyl tert-Butyl Ether	0.050 U			0.050	0.0095
Methylcyclohexane	0.25 U			0.25	0.018
Methylene Chloride	0.10 U			0.10	0.027
2-Butanone (MEK)	0.75 U			0.75	0.063
4-Methyl-2-pentanone (MIBK)	2.5 U			2.5	0.020

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213727 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09004

Styrene		0.050 U				0.050	0.010
1,1,2,2-Tetrachloroethane		0.050 U				0.050	0.013
Tetrachloroethene		0.050 U				0.050	0.014
Toluene		0.050 U				0.050	0.011
1,2,4-Trichlorobenzene		**0.013 J**			--	0.050	0.0070
1,1,1-Trichloroethane		0.050 U				0.050	0.0069
1,1,2-Trichloroethane		0.050 U				0.050	0.016
Trichloroethene		0.050 U				0.050	0.011
Trichlorofluoromethane		0.050 U				0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		0.050 U				0.050	0.018
Vinyl Chloride		0.040 U				0.040	0.0084
Xylene (Total)		0.15 U				0.15	0.020

Method Blank Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09004

Surrogates:		
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09004

Acetone	2.00	**1.52**	76	64-130	--	20	0.75	0.054
Benzene	2.00	**2.00**	100	85-118	--	20	0.050	0.0071
Bromodichloromethane	2.00	**1.94**	97	80-123	--	20	0.050	0.0067
Bromoform	2.00	**1.94**	97	58-128	--	20	0.050	0.013
Bromomethane	2.00	**2.36**	118	57-139	--	20	0.050	0.021
Carbon Disulfide	2.00	**2.26**	113	65-138	--	20	0.25	0.012
Carbon Tetrachloride	2.00	**1.97**	99	76-125	--	20	0.050	0.017
Chlorobenzene	2.00	**2.00**	100	86-114	--	20	0.050	0.0084
Chloroethane	2.00	**2.43**	122	76-123	--	20	0.050	0.018
Chloroform	2.00	**1.93**	97	86-118	--	20	0.050	0.0084
Chloromethane	2.00	**1.95**	98	73-123	--	20	0.050	0.020
Cyclohexane	2.00	**1.99**	99	79-122	--	20	0.25	0.024
1,2-Dibromo-3-chloropropane	2.00	**1.76**	88	51-132	--	20	0.25	0.026
Dibromochloromethane	2.00	**1.96**	98	72-119	--	20	0.050	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213727 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K09004

1,2-Dibromoethane	2.00	**1.97**	98	81-118	--	20	0.050	0.016
1,2-Dichlorobenzene	2.00	**2.02**	101	82-124	--	20	0.050	0.012
1,3-Dichlorobenzene	2.00	**2.06**	103	85-119	--	20	0.050	0.012
1,4-Dichlorobenzene	2.00	**1.96**	98	85-119	--	20	0.050	0.012
Dichlorodifluoromethane	2.00	**1.69**	84	68-135	--	20	0.050	0.011
1,1-Dichloroethane	2.00	**1.94**	97	81-121	--	20	0.050	0.011
1,2-Dichloroethane	2.00	**1.89**	95	82-119	--	20	0.050	0.011
1,1-Dichloroethene	2.00	**1.92**	96	80-121	--	20	0.050	0.010
cis-1,2-Dichloroethene	2.00	**1.98**	99	85-118	--	20	0.050	0.011
trans-1,2-Dichloroethene	2.00	**1.94**	97	85-117	--	20	0.050	0.012
1,2-Dichloropropane	2.00	**1.98**	99	80-122	--	20	0.050	0.014
cis-1,3-Dichloropropene	2.00	**2.08**	104	79-121	--	20	0.050	0.0095
trans-1,3-Dichloropropene	2.00	**2.01**	101	73-125	--	20	0.050	0.0094
Ethylbenzene	2.00	**2.08**	104	84-116	--	20	0.050	0.010
2-Hexanone	2.00	**1.89 J**	94	63-131	--	20	2.5	0.025
Isopropylbenzene	2.00	**2.14**	107	82-125	--	20	0.050	0.011
Methyl Acetate	2.00	**1.52**	76	75-123	--	20	0.25	0.032
Methyl tert-Butyl Ether	2.00	**1.83**	92	81-119	--	20	0.050	0.0095
Methylcyclohexane	2.00	**2.04**	102	77-125	--	20	0.25	0.018
Methylene Chloride	2.00	**1.94**	97	78-123	--	20	0.10	0.027
2-Butanone (MEK)	2.00	**1.61**	81	68-130	--	20	0.75	0.063
4-Methyl-2-pentanone (MIBK)	2.00	**1.89 J**	94	68-133	--	20	2.5	0.020
Naphthalene	2.00	**1.63**	82	53-133	--	20	0.25	0.014
Styrene	2.00	**2.15**	107	79-115	--	20	0.050	0.010
1,1,2,2-Tetrachloroethane	2.00	**1.83**	92	75-125	--	20	0.050	0.013
Tetrachloroethene	2.00	**2.01**	101	85-116	--	20	0.050	0.014
Toluene	2.00	**2.02**	101	86-120	--	20	0.050	0.011
1,2,4-Trichlorobenzene	2.00	**1.96**	98	66-133	--	20	0.050	0.0070
1,1,1-Trichloroethane	2.00	**1.98**	99	84-121	--	20	0.050	0.0069
1,1,2-Trichloroethane	2.00	**1.93**	96	85-120	--	20	0.050	0.016
Trichloroethene	2.00	**2.00**	100	83-125	--	20	0.050	0.011
Trichlorofluoromethane	2.00	**3.52**	**176**	82-123	--	20	0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane	2.00	**1.88**	94	81-122	--	20	0.050	0.018
Vinyl Chloride	2.00	**1.90**	95	77-124	--	20	0.040	0.0084
Xylene (Total)	6.00	**6.32**	105	84-117	--	20	0.15	0.020

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV

Unit: ug/L Analytical Batch: 2K09004

Surrogates:

Dibromofluoromethane	*98*	*75-123*

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213727 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09004

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Surrogates (Continued):									
1,2-Dichloroethane-d4				*95*	*83-116*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*81-117*				

Matrix Spike 1210636-02 S-17360-103012-DD-112 Analyzed: 11/08/2012 By: DLV
Unit: mg/kg dry Analytical Batch: 2K09004

Acetone	0.81 U	2.16	**1.77**	82	56-144	--	18	0.81	0.059
Benzene	0.054 U	2.16	**2.19**	101	85-125	--	9	0.054	0.0077
Bromodichloromethane	0.054 U	2.16	**2.10**	97	78-124	--	9	0.054	0.0072
Bromoform	0.054 U	2.16	**2.13**	99	75-118	--	11	0.054	0.014
Bromomethane	0.054 U	2.16	**2.35**	109	70-135	--	24	0.054	0.023
Carbon Disulfide	0.27 U	2.16	**2.43**	**112**	45-108	--	21	0.27	0.012
Carbon Tetrachloride	0.054 U	2.16	**2.16**	100	71-130	--	14	0.054	0.018
Chlorobenzene	0.054 U	2.16	**2.16**	100	86-118	--	11	0.054	0.0091
Chloroethane	0.054 U	2.16	**2.27**	105	32-136	--	21	0.054	0.019
Chloroform	0.054 U	2.16	**2.11**	98	86-126	--	7	0.054	0.0091
Chloromethane	0.054 U	2.16	**2.24**	104	70-142	--	15	0.054	0.021
Cyclohexane	0.27 U	2.16	**2.21**	102	72-135	--	11	0.27	0.026
1,2-Dibromo-3-chloropropane	0.27 U	2.16	**1.97**	91	69-125	--	11	0.27	0.028
Dibromochloromethane	0.054 U	2.16	**2.12**	98	57-121	--	12	0.054	0.0082
1,2-Dibromoethane	0.054 U	2.16	**2.14**	99	72-124	--	11	0.054	0.017
1,2-Dichlorobenzene	0.054 U	2.16	**2.18**	101	85-121	--	10	0.054	0.013
1,3-Dichlorobenzene	0.054 U	2.16	**2.22**	103	86-116	--	8	0.054	0.013
1,4-Dichlorobenzene	0.054 U	2.16	**2.10**	98	87-115	--	9	0.054	0.013
Dichlorodifluoromethane	0.054 U	2.16	**2.35**	109	65-133	--	12	0.054	0.012
1,1-Dichloroethane	0.054 U	2.16	**2.07**	96	85-127	--	9	0.054	0.012
1,2-Dichloroethane	0.054 U	2.16	**2.08**	96	82-125	--	8	0.054	0.011
1,1-Dichloroethene	0.054 U	2.16	**2.17**	101	81-135	--	11	0.054	0.011
cis-1,2-Dichloroethene	0.054 U	2.16	**2.16**	100	88-125	--	9	0.054	0.012
trans-1,2-Dichloroethene	0.054 U	2.16	**2.23**	103	81-135	--	10	0.054	0.013
1,2-Dichloropropane	0.054 U	2.16	**2.11**	98	78-132	--	11	0.054	0.015
cis-1,3-Dichloropropene	0.054 U	2.16	**2.11**	98	70-124	--	10	0.054	0.010
trans-1,3-Dichloropropene	0.054 U	2.16	**2.04**	94	63-122	--	9	0.054	0.010
Ethylbenzene	0.054 U	2.16	**2.26**	105	80-122	--	10	0.054	0.011
2-Hexanone	2.7 U	2.16	**2.22 J**	103	49-135	--	16	2.7	0.027

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213727 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B									
Matrix Spike (Continued) 1210636-02 S-17360-103012-DD-112					Analyzed:	11/08/2012	By: DLV		
Unit: mg/kg dry					Analytical Batch:	2K09004			
Isopropylbenzene	0.054 U	2.16	**2.28**	106	84-120	--	9	0.054	0.012
Methyl Acetate	0.27 U	2.16	**1.31**	61	57-133	--	17	0.27	0.035
Methyl tert-Butyl Ether	0.054 U	2.16	**1.78**	83	63-134	--	11	0.054	0.010
Methylcyclohexane	0.27 U	2.16	**2.21**	103	68-134	--	15	0.27	0.020
Methylene Chloride	0.11 U	2.16	**2.15**	99	78-139	--	9	0.11	0.029
2-Butanone (MEK)	0.81 U	2.16	**1.86**	86	49-152	--	16	0.81	0.068
4-Methyl-2-pentanone (MIBK)	2.7 U	2.16	**2.17 J**	101	60-134	--	17	2.7	0.021
Naphthalene	0.27 U	2.16	**1.83**	85	67-119	--	15	0.27	0.015
Styrene	0.054 U	2.16	**2.34**	108	80-117	--	10	0.054	0.011
1,1,2,2-Tetrachloroethane	0.054 U	2.16	**1.96**	91	64-122	--	14	0.054	0.014
Tetrachloroethene	0.054 U	2.16	**2.22**	103	74-130	--	11	0.054	0.015
Toluene	0.054 U	2.16	**2.22**	103	81-128	--	10	0.054	0.012
1,2,4-Trichlorobenzene	0.054 U	2.16	**2.07**	96	76-131	--	11	0.054	0.0075
1,1,1-Trichloroethane	0.054 U	2.16	**2.07**	96	84-126	--	9	0.054	0.0074
1,1,2-Trichloroethane	0.054 U	2.16	**2.09**	97	81-124	--	8	0.054	0.017
Trichloroethene	0.054 U	2.16	**2.24**	104	90-130	--	12	0.054	0.011
Trichlorofluoromethane	0.054 U	2.16	**1.22**	57	50-155	--	13	0.054	0.014
1,1,2-Trichloro-1,2,2-trifluoroethane	0.054 U	2.16	**2.15**	100	69-130	--	13	0.054	0.020
Vinyl Chloride	0.043 U	2.16	**2.21**	103	63-148	--	11	0.043	0.0091
Xylene (Total)	0.16 U	6.47	**6.88**	106	80-123	--	10	0.16	0.022
Matrix Spike 1210636-02 S-17360-103012-DD-112					Analyzed:	11/08/2012	By: DLV		
Unit: ug/L					Analytical Batch:	2K09004			
Surrogates:									
Dibromofluoromethane				*99*	*75-123*				
1,2-Dichloroethane-d4				*95*	*83-116*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*100*	*81-117*				
Matrix Spike Duplicate 1210636-02 S-17360-103012-DD-112					Analyzed:	11/08/2012	By: DLV		
Unit: mg/kg dry					Analytical Batch:	2K09004			
Acetone	0.81 U	2.16	**1.78**	83	56-144	0.8	18	0.81	0.059
Benzene	0.054 U	2.16	**2.22**	103	85-125	1	9	0.054	0.0077
Bromodichloromethane	0.054 U	2.16	**2.08**	96	78-124	0.9	9	0.054	0.0072
Bromoform	0.054 U	2.16	**2.12**	98	75-118	0.6	11	0.054	0.014
Bromomethane	0.054 U	2.16	**2.44**	113	70-135	4	24	0.054	0.023
Carbon Disulfide	0.27 U	2.16	**2.51**	**116**	45-108	3	21	0.27	0.012

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213727 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Matrix Spike Duplicate (Continued) 1210636-02 S-17360-103012-DD-112 Analyzed: 11/08/2012 By: DLV

Unit: mg/kg dry Analytical Batch: 2K09004

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Carbon Tetrachloride	0.054 U	2.16	**2.18**	101	71-130	1	14	0.054	0.018
Chlorobenzene	0.054 U	2.16	**2.20**	102	86-118	2	11	0.054	0.0091
Chloroethane	0.054 U	2.16	**2.29**	106	32-136	0.9	21	0.054	0.019
Chloroform	0.054 U	2.16	**2.13**	99	86-126	0.8	7	0.054	0.0091
Chloromethane	0.054 U	2.16	**2.40**	111	70-142	7	15	0.054	0.021
Cyclohexane	0.27 U	2.16	**2.28**	106	72-135	3	11	0.27	0.026
1,2-Dibromo-3-chloropropane	0.27 U	2.16	**2.01**	93	69-125	2	11	0.27	0.028
Dibromochloromethane	0.054 U	2.16	**2.13**	99	57-121	0.6	12	0.054	0.0082
1,2-Dibromoethane	0.054 U	2.16	**2.13**	99	72-124	0.8	11	0.054	0.017
1,2-Dichlorobenzene	0.054 U	2.16	**2.21**	102	85-121	1	10	0.054	0.013
1,3-Dichlorobenzene	0.054 U	2.16	**2.26**	105	86-116	2	8	0.054	0.013
1,4-Dichlorobenzene	0.054 U	2.16	**2.15**	99	87-115	2	9	0.054	0.013
Dichlorodifluoromethane	0.054 U	2.16	**2.51**	116	65-133	6	12	0.054	0.012
1,1-Dichloroethane	0.054 U	2.16	**2.14**	99	85-127	3	9	0.054	0.012
1,2-Dichloroethane	0.054 U	2.16	**2.07**	96	82-125	0.2	8	0.054	0.011
1,1-Dichloroethene	0.054 U	2.16	**2.26**	105	81-135	4	11	0.054	0.011
cis-1,2-Dichloroethene	0.054 U	2.16	**2.19**	102	88-125	1	9	0.054	0.012
trans-1,2-Dichloroethene	0.054 U	2.16	**2.30**	107	81-135	3	10	0.054	0.013
1,2-Dichloropropane	0.054 U	2.16	**2.13**	99	78-132	0.9	11	0.054	0.015
cis-1,3-Dichloropropene	0.054 U	2.16	**2.11**	98	70-124	0.1	10	0.054	0.010
trans-1,3-Dichloropropene	0.054 U	2.16	**2.01**	93	63-122	1	9	0.054	0.010
Ethylbenzene	0.054 U	2.16	**2.30**	107	80-122	2	10	0.054	0.011
2-Hexanone	2.7 U	2.16	**2.26 J**	105	49-135	2	16	2.7	0.027
Isopropylbenzene	0.054 U	2.16	**2.35**	109	84-120	3	9	0.054	0.012
Methyl Acetate	0.27 U	2.16	**1.33**	62	57-133	2	17	0.27	0.035
Methyl tert-Butyl Ether	0.054 U	2.16	**1.84**	85	63-134	3	11	0.054	0.010
Methylcyclohexane	0.27 U	2.16	**2.27**	105	68-134	3	15	0.27	0.020
Methylene Chloride	0.11 U	2.16	**2.20**	102	78-139	2	9	0.11	0.029
2-Butanone (MEK)	0.81 U	2.16	**1.88**	87	49-152	1	16	0.81	0.068
4-Methyl-2-pentanone (MIBK)	2.7 U	2.16	**2.20 J**	102	60-134	1	17	2.7	0.021
Naphthalene	0.27 U	2.16	**1.97**	91	67-119	7	15	0.27	0.015
Styrene	0.054 U	2.16	**2.36**	110	80-117	1	10	0.054	0.011
1,1,2,2-Tetrachloroethane	0.054 U	2.16	**1.97**	91	64-122	0.6	14	0.054	0.014
Tetrachloroethene	0.054 U	2.16	**2.27**	105	74-130	2	11	0.054	0.015
Toluene	0.054 U	2.16	**2.22**	103	81-128	0.05	10	0.054	0.012
1,2,4-Trichlorobenzene	0.054 U	2.16	**2.19**	101	76-131	6	11	0.054	0.0075

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213727 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B									
Matrix Spike Duplicate (Continued) 1210636-02 S-17360-103012-DD-112					Analyzed:		11/08/2012	By: DLV	
Unit: mg/kg dry					Analytical Batch:		2K09004		
1,1,1-Trichloroethane	0.054 U	2.16	**2.12**	99	84-126	3	9	0.054	0.0074
1,1,2-Trichloroethane	0.054 U	2.16	**2.07**	96	81-124	0.9	8	0.054	0.017
Trichloroethene	0.054 U	2.16	**2.27**	105	90-130	1	12	0.054	0.011
Trichlorofluoromethane	0.054 U	2.16	**1.43**	66	50-155	**16**	13	0.054	0.014
1,1,2-Trichloro-1,2,2-trifluoroethane	0.054 U	2.16	**2.25**	104	69-130	5	13	0.054	0.020
Vinyl Chloride	0.043 U	2.16	**2.33**	108	63-148	5	11	0.043	0.0091
Xylene (Total)	0.16 U	6.47	**6.99**	108	80-123	2	10	0.16	0.022
Matrix Spike Duplicate 1210636-02 S-17360-103012-DD-112					Analyzed:		11/08/2012	By: DLV	
Unit: ug/L					Analytical Batch:		2K09004		
Surrogates:									
Dibromofluoromethane				*99*	*75-123*				
1,2-Dichloroethane-d4				*96*	*83-116*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*81-117*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Acenaphthene	0.50 U				0.50
Acenaphthylene	0.50 U				0.50
Acetophenone	0.50 U				0.50
Anthracene	0.50 U				0.50
Atrazine	0.50 U				0.50
Benzaldehyde	0.50 U				0.50
Benzo(a)anthracene	0.50 U			--	0.50
Benzo(a)pyrene	0.50 U			--	0.50
Benzo(b)fluoranthene	0.50 U				0.50
Benzo(k)fluoranthene	0.50 U			--	0.50
Benzo(g,h,i)perylene	0.50 U				0.50
1,1'-Biphenyl	0.50 U				0.50
4-Bromophenyl Phenyl Ether	0.50 U				0.50
Butyl Benzyl Phthalate	1.0 U			--	1.0
Caprolactam	1.0 U				1.0
Carbazole	0.50 U				0.50
4-Chloro-3-methylphenol	0.50 U				0.50
4-Chloroaniline	1.0 U				1.0
Bis(2-chloroethoxy)methane	0.50 U				0.50
Bis(2-chloroethyl) Ether	0.50 U				0.50
Bis(2-chloroisopropyl) Ether	0.50 U			--	0.50
2-Chloronaphthalene	0.50 U				0.50
2-Chlorophenol	0.50 U				0.50
4-Chlorophenyl Phenyl Ether	0.50 U				0.50
Chrysene	0.50 U			--	0.50
Dibenz(a,h)anthracene	0.50 U				0.50
Dibenzofuran	0.50 U				0.50
Di-n-butyl Phthalate	1.0 U			--	1.0
3,3´-Dichlorobenzidine	1.0 U				1.0
2,4-Dichlorophenol	0.50 U				0.50
Diethyl Phthalate	0.50 U			--	0.50
2,4-Dimethylphenol	1.0 U				1.0
Dimethyl Phthalate	0.50 U				0.50
4,6-Dinitro-2-methylphenol	5.0 U				5.0
2,4-Dinitrophenol	5.0 U				5.0
2,4-Dinitrotoluene	0.50 U				0.50

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

2,6-Dinitrotoluene	0.50 U					0.50
Di-n-octyl Phthalate	0.50 U					0.50
Bis(2-ethylhexyl) Phthalate	0.50 U				--	0.50
Fluoranthene	0.50 U					0.50
Fluorene	0.50 U					0.50
Hexachlorobenzene	0.50 U					0.50
Hexachlorobutadiene	0.50 U					0.50
Hexachlorocyclopentadiene	0.50 U					0.50
Hexachloroethane	0.50 U					0.50
Indeno(1,2,3-cd)pyrene	0.50 U					0.50
Isophorone	0.50 U					0.50
2-Methylnaphthalene	0.50 U					0.50
2-Methylphenol	0.50 U					0.50
4-Methylphenol	0.50 U					0.50
Naphthalene	0.50 U					0.50
2-Nitroaniline	0.50 U					0.50
3-Nitroaniline	1.0 U					1.0
4-Nitroaniline	1.0 U					1.0
Nitrobenzene	0.50 U					0.50
4-Nitrophenol	5.0 U					5.0
2-Nitrophenol	0.50 U					0.50
N-Nitroso-diphenylamine	0.50 U					0.50
N-Nitroso-di-n-propylamine	0.50 U					0.50
Pentachlorophenol	0.50 U					0.50
Phenanthrene	0.50 U					0.50
Phenol	0.50 U					0.50
Pyrene	0.50 U					0.50
2,4,6-Trichlorophenol	0.50 U					0.50
2,4,5-Trichlorophenol	0.50 U					0.50
Surrogates:						
2-Fluorophenol			*43*	*20-70*		
Phenol-d6			*29*	*18-45*		
Nitrobenzene-d5			*71*	*31-123*		
2-Fluorobiphenyl			*73*	*25-113*		
2,4,6-Tribromophenol			*71*	*30-121*		
o-Terphenyl			*81*	*42-125*		

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**6.85**	68	53-126	--	20	0.50	
Acenaphthylene		10.0	**6.76**	68	62-133	--	20	0.50	
Acetophenone		10.0	**4.66**	**47**	58-115	--	20	0.50	
Anthracene		10.0	**7.00**	70	64-130	--	20	0.50	
Atrazine		10.0	**8.40**	84	60-140	--	20	0.50	
Benzaldehyde		10.0	**0.250 J**	**2**	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.83**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.26**	73	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.83**	78	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**6.70**	67	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**8.11**	81	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**6.98**	70	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**7.53**	75	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**8.64**	86	58-141	--	20	1.0	
Caprolactam		10.0	**6.99**	70	23-76	--	20	1.0	
Carbazole		10.0	**7.54**	75	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**6.78**	68	53-120	--	20	0.50	
4-Chloroaniline		10.0	**1.41**	**14**	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**5.69**	57	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**6.18**	62	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**5.91**	59	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.05**	70	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.30**	63	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**6.92**	69	57-122	--	20	0.50	
Chrysene		10.0	**7.37**	74	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**8.35**	84	57-130	--	20	0.50	
Dibenzofuran		10.0	**6.97**	70	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.21**	82	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**7.96**	**40**	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**6.51**	65	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.72**	77	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.91**	59	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.61**	76	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**7.10**	71	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**7.59**	76	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**7.52**	75	55-131	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213318 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: JLB

Unit: ug/L Analytical Batch: 2K11003

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**7.08**	71	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.61**	86	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**9.06**	91	60-136	--	20	0.50	
Fluoranthene		10.0	**8.00**	80	64-138	--	20	0.50	
Fluorene		10.0	**6.96**	70	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**7.24**	72	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**7.16**	72	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**5.92**	59	21-138	--	20	0.50	
Hexachloroethane		10.0	**6.56**	66	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**8.21**	82	57-129	--	20	0.50	
Isophorone		10.0	**6.09**	61	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**6.73**	67	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.73**	57	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.88**	59	33-122	--	20	0.50	
Naphthalene		10.0	**6.80**	68	50-127	--	20	0.50	
2-Nitroaniline		10.0	**7.08**	71	57-130	--	20	0.50	
3-Nitroaniline		10.0	**3.64**	**36**	49-144	--	20	1.0	
4-Nitroaniline		10.0	**5.54**	55	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.47**	65	53-121	--	20	0.50	
4-Nitrophenol		10.0	**6.41**	64	17-70	--	20	5.0	
2-Nitrophenol		10.0	**6.21**	62	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.66**	77	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**6.20**	62	49-125	--	20	0.50	
Pentachlorophenol		10.0	**5.41**	54	21-124	--	20	0.50	
Phenanthrene		10.0	**7.38**	74	63-126	--	20	0.50	
Phenol		10.0	**5.94**	59	22-60	--	20	0.50	
Pyrene		10.0	**7.99**	80	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.77**	68	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.58**	76	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*58*	*20-70*				
Phenol-d6				***55***	*18-45*				
Nitrobenzene-d5				*63*	*31-123*				
2-Fluorobiphenyl				*69*	*25-113*				
2,4,6-Tribromophenol				*74*	*30-121*				
o-Terphenyl				*76*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 3550C Sonication Extraction/USEPA-8270C

Method Blank — Analyzed: 11/15/2012 By: JLB
Unit: mg/kg wet — Analytical Batch: 2K16029

Acenaphthene			0.017 U			0.017	0.00079
Acenaphthylene			0.017 U			0.017	0.00082
Acetophenone			0.017 U			0.017	0.0099
Anthracene			0.017 U			0.017	0.00086
Atrazine			0.017 U			0.017	0.0097
Benzaldehyde			0.067 U			0.067	0.0096
Benzo(a)anthracene			0.017 U		--	0.017	0.0014
Benzo(a)pyrene			0.017 U			0.017	0.00086
Benzo(b)fluoranthene			0.017 U			0.017	0.0017
Benzo(k)fluoranthene			0.017 U			0.017	0.0022
Benzo(g,h,i)perylene			0.033 U			0.033	0.00082
1,1'-Biphenyl			0.017 U		--	0.017	0.011
4-Bromophenyl Phenyl Ether			0.017 U			0.017	0.00094
Butyl Benzyl Phthalate			**0.0056 J**		--	0.033	0.0017
Caprolactam			0.067 U		--	0.067	0.011
Carbazole			0.17 U		--	0.17	0.0089
4-Chloro-3-methylphenol			0.017 U		--	0.017	0.0038
4-Chloroaniline			0.067 U			0.067	0.0088
Bis(2-chloroethoxy)methane			0.017 U			0.017	0.0011
Bis(2-chloroethyl) Ether			0.017 U			0.017	0.00079
Bis(2-chloroisopropyl) Ether			0.017 U			0.017	0.0027
2-Chloronaphthalene			0.017 U			0.017	0.0026
2-Chlorophenol			0.017 U			0.017	0.00079
4-Chlorophenyl Phenyl Ether			0.017 U		--	0.017	0.00072
Chrysene			0.017 U		--	0.017	0.00086
Dibenz(a,h)anthracene			0.033 U			0.033	0.0013
Dibenzofuran			0.017 U			0.017	0.00082
Di-n-butyl Phthalate			**0.050 J**		--	0.067	0.014
3,3´-Dichlorobenzidine			0.83 U		--	0.83	0.032
2,4-Dichlorophenol			0.033 U			0.033	0.0015
Diethyl Phthalate			**0.0040 J**		--	0.017	0.0024
2,4-Dimethylphenol			0.17 U			0.17	0.030
Dimethyl Phthalate			0.017 U			0.017	0.0019
4,6-Dinitro-2-methylphenol			0.17 U			0.17	0.0055
2,4-Dinitrophenol			0.17 U			0.17	0.038
2,4-Dinitrotoluene			0.033 U			0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

2,6-Dinitrotoluene	0.017 U		--	0.017	0.0016
Di-n-octyl Phthalate	0.017 U			0.017	0.0011
Bis(2-ethylhexyl) Phthalate	**0.13**		--	0.033	0.0041
Fluoranthene	0.017 U			0.017	0.00056
Fluorene	0.033 U			0.033	0.00060
Hexachlorobenzene	0.017 U			0.017	0.0010
Hexachlorobutadiene	0.017 U			0.017	0.00072
Hexachlorocyclopentadiene	0.017 U		--	0.017	0.0027
Hexachloroethane	0.017 U			0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.033 U			0.033	0.0031
Isophorone	0.017 U			0.017	0.0010
2-Methylnaphthalene	0.017 U			0.017	0.0014
2-Methylphenol	0.017 U			0.017	0.0034
4-Methylphenol	0.017 U			0.017	0.0020
Naphthalene	0.017 U		--	0.017	0.00051
2-Nitroaniline	0.017 U			0.017	0.0059
3-Nitroaniline	0.033 U			0.033	0.016
4-Nitroaniline	0.033 U			0.033	0.016
Nitrobenzene	0.017 U			0.017	0.0015
4-Nitrophenol	0.67 U		--	0.67	0.027
2-Nitrophenol	0.017 U			0.017	0.0015
N-Nitroso-diphenylamine	0.017 U			0.017	0.0010
N-Nitroso-di-n-propylamine	0.017 U			0.017	0.0022
Pentachlorophenol	0.17 U		--	0.17	0.015
Phenanthrene	0.017 U		--	0.017	0.00072
Phenol	0.17 U		--	0.17	0.0013
Pyrene	0.017 U		--	0.017	0.0012
2,4,6-Trichlorophenol	0.017 U			0.017	0.0017
2,4,5-Trichlorophenol	0.017 U			0.017	0.0039

Surrogates:

2-Fluorophenol	*72*	*33-113*
Phenol-d6	*78*	*30-115*
Nitrobenzene-d5	*76*	*33-131*
2-Fluorobiphenyl	*82*	*46-122*
2,4,6-Tribromophenol	*42*	*12-124*
o-Terphenyl	*74*	*20-155*

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Acenaphthene	0.33 U		0.33	0.00079
Acenaphthene	0.017 U		0.017	0.00079
Acenaphthylene	0.33 U		0.33	0.00082
Acenaphthylene	0.017 U		0.017	0.00082
Acetophenone	0.017 U		0.017	0.0099
Anthracene	0.33 U	--	0.33	0.00086
Benzo(a)anthracene	0.33 U	--	0.33	0.0014
Benzo(a)pyrene	0.33 U	--	0.33	0.00086
Benzo(b)fluoranthene	0.33 U	--	0.33	0.0017
Benzo(g,h,i)perylene	0.33 U		0.33	0.00082
Anthracene	0.017 U	--	0.017	0.00086
Benzo(k)fluoranthene	0.33 U	--	0.33	0.0022
Atrazine	0.017 U		0.017	0.0097
Benzaldehyde	0.067 U		0.067	0.0096
Benzo(a)anthracene	0.017 U	--	0.017	0.0014
Benzo(a)pyrene	0.017 U	--	0.017	0.00086
Benzo(b)fluoranthene	0.017 U	--	0.017	0.0017
Benzo(k)fluoranthene	0.017 U	--	0.017	0.0022
Benzo(g,h,i)perylene	0.033 U		0.033	0.00082
Chrysene	0.33 U	--	0.33	0.00086
Dibenz(a,h)anthracene	0.33 U		0.33	0.0013
1,1'-Biphenyl	0.017 U		0.017	0.011
4-Bromophenyl Phenyl Ether	0.017 U		0.017	0.00094
Butyl Benzyl Phthalate	**0.0066 J**	--	0.033	0.0017
Caprolactam	0.067 U		0.067	0.011
Carbazole	0.17 U	--	0.17	0.0089
Fluoranthene	0.33 U		0.33	0.00056
4-Chloro-3-methylphenol	0.017 U		0.017	0.0038
Fluorene	0.33 U		0.33	0.00060
4-Chloroaniline	0.067 U		0.067	0.0088
Bis(2-chloroethoxy)methane	0.017 U		0.017	0.0011
Indeno(1,2,3-cd)pyrene	0.33 U		0.33	0.0031
Bis(2-chloroethyl) Ether	0.017 U		0.017	0.00079
2-Methylnaphthalene	0.33 U		0.33	0.0014
Bis(2-chloroisopropyl) Ether	0.017 U	--	0.017	0.0027
2-Chloronaphthalene	0.017 U		0.017	0.0026

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

2-Chlorophenol	0.017 U		0.017	0.00079
Naphthalene	0.33 U	--	0.33	0.00051
4-Chlorophenyl Phenyl Ether	0.017 U		0.017	0.00072
Chrysene	0.017 U	--	0.017	0.00086
Dibenz(a,h)anthracene	0.033 U		0.033	0.0013
Dibenzofuran	0.017 U		0.017	0.00082
Phenanthrene	0.33 U	--	0.33	0.00072
Di-n-butyl Phthalate	**0.056 J**	--	0.067	0.014
Pyrene	0.33 U	--	0.33	0.0012
3,3´-Dichlorobenzidine	0.83 U		0.83	0.032
2,4-Dichlorophenol	0.033 U		0.033	0.0015
Diethyl Phthalate	**0.025**	--	0.017	0.0024
2,4-Dimethylphenol	0.17 U		0.17	0.030
Dimethyl Phthalate	0.017 U		0.017	0.0019
4,6-Dinitro-2-methylphenol	0.17 U		0.17	0.0055
2,4-Dinitrophenol	0.17 U		0.17	0.038
2,4-Dinitrotoluene	0.033 U		0.033	0.0050
2,6-Dinitrotoluene	0.017 U		0.017	0.0016
Di-n-octyl Phthalate	0.017 U	--	0.017	0.0011
Bis(2-ethylhexyl) Phthalate	**0.11**	--	0.033	0.0041
Fluoranthene	0.017 U		0.017	0.00056
Fluorene	0.033 U		0.033	0.00060
Hexachlorobenzene	0.017 U		0.017	0.0010
Hexachlorobutadiene	0.017 U		0.017	0.00072
Hexachlorocyclopentadiene	0.017 U		0.017	0.0027
Hexachloroethane	0.017 U		0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.033 U		0.033	0.0031
Isophorone	0.017 U	--	0.017	0.0010
2-Methylnaphthalene	0.017 U		0.017	0.0014
2-Methylphenol	0.017 U		0.017	0.0034
4-Methylphenol	0.017 U		0.017	0.0020
Naphthalene	0.017 U	--	0.017	0.00051
2-Nitroaniline	0.017 U		0.017	0.0059
3-Nitroaniline	0.033 U		0.033	0.016
4-Nitroaniline	0.033 U		0.033	0.016
Nitrobenzene	0.017 U		0.017	0.0015

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

4-Nitrophenol	0.67 U				0.67	0.027
2-Nitrophenol	0.017 U				0.017	0.0015
N-Nitroso-diphenylamine	0.017 U				0.017	0.0010
N-Nitroso-di-n-propylamine	0.017 U				0.017	0.0022
Pentachlorophenol	0.17 U				0.17	0.015
Phenanthrene	0.017 U		--		0.017	0.00072
Phenol	0.17 U				0.17	0.0013
Pyrene	0.017 U		--		0.017	0.0012
2,4,6-Trichlorophenol	0.017 U				0.017	0.0017
2,4,5-Trichlorophenol	0.017 U				0.017	0.0039
Surrogates:						
2-Fluorophenol		*76*	*33-113*			
Phenol-d6		*72*	*30-115*			
Nitrobenzene-d5		*71*	*33-131*			
Nitrobenzene-d5		*71*	*33-131*			
2-Fluorobiphenyl		*79*	*46-122*			
2-Fluorobiphenyl		*79*	*46-122*			
2,4,6-Tribromophenol		*66*	*12-124*			
o-Terphenyl		*85*	*20-155*			
o-Terphenyl		*85*	*20-155*			

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Acenaphthene	0.334	**0.266**	80	55-113	--	20	0.017	0.00079
Acenaphthylene	0.334	**0.273**	82	56-138	--	20	0.017	0.00082
Acetophenone	0.334	**0.269**	80	26-127	--	20	0.017	0.0099
Anthracene	0.334	**0.261**	78	63-134	--	20	0.017	0.00086
Atrazine	0.334	**0.245**	73	52-125	--	20	0.017	0.0097
Benzaldehyde	0.334	**0.0221 J**	**7**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.334	**0.261**	78	53-142	--	20	0.017	0.0014
Benzo(a)pyrene	0.334	**0.251**	75	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene	0.334	**0.256**	76	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene	0.334	**0.244**	73	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene	0.334	**0.245**	73	47-141	--	20	0.033	0.00082
1,1'-Biphenyl	0.334	**0.256**	77	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.334	**0.244**	73	61-124	--	20	0.017	0.00094

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Butyl Benzyl Phthalate		0.334	**0.313**	94	51-145	--	20	0.033	0.0017
Caprolactam		0.334	**0.305**	91	44-130	--	20	0.067	0.011
Carbazole		0.334	**0.265**	79	76-126	--	20	0.17	0.0089
4-Chloro-3-methylphenol		0.334	**0.276**	83	57-124	--	20	0.017	0.0038
4-Chloroaniline		0.334	**0.0495 J**	15	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane		0.334	**0.230**	69	57-121	--	20	0.017	0.0011
Bis(2-chloroethyl) Ether		0.334	**0.269**	80	54-112	--	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether		0.334	**0.245**	73	62-116	--	20	0.017	0.0027
2-Chloronaphthalene		0.334	**0.270**	81	67-111	--	20	0.017	0.0026
2-Chlorophenol		0.334	**0.264**	79	62-118	--	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether		0.334	**0.244**	73	62-114	--	20	0.017	0.00072
Chrysene		0.334	**0.250**	75	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene		0.334	**0.250**	75	52-142	--	20	0.033	0.0013
Dibenzofuran		0.334	**0.266**	79	65-119	--	20	0.017	0.00082
Di-n-butyl Phthalate		0.334	**0.322**	96	65-140	--	20	0.067	0.014
3,3´-Dichlorobenzidine		0.669	**0.212 J**	32	10-107	--	20	0.83	0.032
2,4-Dichlorophenol		0.334	**0.253**	76	50-128	--	20	0.033	0.0015
*Diethyl Phthalate		0.334	**0.273 B**	82	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol		0.334	**0.223**	67	40-122	--	20	0.17	0.030
Dimethyl Phthalate		0.334	**0.273**	81	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol		0.334	**0.237**	71	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol		0.334	**0.176**	53	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene		0.334	**0.290**	87	51-128	--	20	0.033	0.0050
2,6-Dinitrotoluene		0.334	**0.270**	81	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.334	**0.280**	84	63-132	--	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.334	**0.289 B**	86	50-140	--	20	0.033	0.0041
Fluoranthene		0.334	**0.247**	74	66-140	--	20	0.017	0.00056
Fluorene		0.334	**0.259**	77	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.334	**0.235**	70	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.334	**0.227**	68	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.334	**0.221**	66	34-124	--	20	0.017	0.0027
Hexachloroethane		0.334	**0.277**	83	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.334	**0.247**	74	53-135	--	20	0.033	0.0031
Isophorone		0.334	**0.242**	72	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.334	**0.250**	75	56-124	--	20	0.017	0.0014
2-Methylphenol		0.334	**0.236**	71	58-113	--	20	0.017	0.0034

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB
Unit: mg/kg wet Analytical Batch: 2K16029

4-Methylphenol	0.334	**0.324**	97	58-132	--	20	0.017	0.0020
Naphthalene	0.334	**0.266**	79	52-128	--	20	0.017	0.00051
2-Nitroaniline	0.334	**0.300**	90	63-122	--	20	0.017	0.0059
3-Nitroaniline	0.334	**0.122**	36	19-86	--	20	0.033	0.016
4-Nitroaniline	0.334	**0.228**	68	26-125	--	20	0.033	0.016
Nitrobenzene	0.334	**0.247**	74	56-109	--	20	0.017	0.0015
4-Nitrophenol	0.334	**0.236 J**	71	36-131	--	20	0.67	0.027
2-Nitrophenol	0.334	**0.286**	86	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine	0.334	**0.265**	79	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine	0.334	**0.272**	81	48-127	--	20	0.017	0.0022
Pentachlorophenol	0.334	**0.142 J**	43	19-117	--	20	0.17	0.015
Phenanthrene	0.334	**0.263**	79	58-134	--	20	0.017	0.00072
Phenol	0.334	**0.271**	81	53-120	--	20	0.17	0.0013
Pyrene	0.334	**0.289**	86	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol	0.334	**0.224**	67	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol	0.334	**0.240**	72	61-126	--	20	0.017	0.0039
Surrogates:								
2-Fluorophenol			*77*	*33-113*				
Phenol-d6			*76*	*30-115*				
Nitrobenzene-d5			*76*	*33-131*				
2-Fluorobiphenyl			*78*	*46-122*				
2,4,6-Tribromophenol			*64*	*12-124*				
o-Terphenyl			*72*	*20-155*				

Laboratory Control Sample Analyzed: 11/13/2012 By: JLB
Unit: mg/kg wet Analytical Batch: 2K19059

Acenaphthene	0.334	**0.267 J**	80	55-113	--	20	0.33	0.00079
Acenaphthene	0.334	**0.267**	80	55-113	--	20	0.017	0.00079
Acenaphthylene	0.334	**0.266 J**	79	56-138	--	20	0.33	0.00082
Acenaphthylene	0.334	**0.266**	79	56-138	--	20	0.017	0.00082
Acetophenone	0.334	**0.261**	78	26-127	--	20	0.017	0.0099
Anthracene	0.334	**0.281 J**	84	63-134	--	20	0.33	0.00086
Benzo(a)anthracene	0.334	**0.261 J**	78	53-142	--	20	0.33	0.0014
Benzo(a)pyrene	0.334	**0.258 J**	77	54-136	--	20	0.33	0.00086
Benzo(b)fluoranthene	0.334	**0.256 J**	76	49-146	--	20	0.33	0.0017
Benzo(g,h,i)perylene	0.334	**0.294 J**	88	47-141	--	20	0.33	0.00082

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Anthracene	0.334	**0.281**		84	63-134	--	20	0.017	0.00086
Benzo(k)fluoranthene	0.334	**0.252 J**		75	56-136	--	20	0.33	0.0022
Atrazine	0.334	**0.302**		90	52-125	--	20	0.017	0.0097
Benzaldehyde	0.334	0.067 U		**0**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.334	**0.261**		78	53-142	--	20	0.017	0.0014
Benzo(a)pyrene	0.334	**0.258**		77	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene	0.334	**0.256**		76	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene	0.334	**0.252**		75	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene	0.334	**0.294**		88	47-141	--	20	0.033	0.00082
Chrysene	0.334	**0.283 J**		85	66-137	--	20	0.33	0.00086
Dibenz(a,h)anthracene	0.334	**0.306 J**		91	52-142	--	20	0.33	0.0013
1,1'-Biphenyl	0.334	**0.267**		80	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.334	**0.283**		85	61-124	--	20	0.017	0.00094
Butyl Benzyl Phthalate	0.334	**0.292**		87	51-145	--	20	0.033	0.0017
Caprolactam	0.334	**0.309**		92	44-130	--	20	0.067	0.011
Carbazole	0.334	**0.306**		92	76-126	--	20	0.17	0.0089
Fluoranthene	0.334	**0.274 J**		82	66-140	--	20	0.33	0.00056
4-Chloro-3-methylphenol	0.334	**0.268**		80	57-124	--	20	0.017	0.0038
Fluorene	0.334	**0.257 J**		77	60-131	--	20	0.33	0.00060
4-Chloroaniline	0.334	**0.0709**		21	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.334	**0.214**		64	57-121	--	20	0.017	0.0011
Indeno(1,2,3-cd)pyrene	0.334	**0.301 J**		90	53-135	--	20	0.33	0.0031
Bis(2-chloroethyl) Ether	0.334	**0.229**		68	54-112	--	20	0.017	0.00079
2-Methylnaphthalene	0.334	**0.269 J**		80	56-124	--	20	0.33	0.0014
Bis(2-chloroisopropyl) Ether	0.334	**0.248**		74	62-116	--	20	0.017	0.0027
2-Chloronaphthalene	0.334	**0.258**		77	67-111	--	20	0.017	0.0026
2-Chlorophenol	0.334	**0.239**		71	62-118	--	20	0.017	0.00079
Naphthalene	0.334	**0.260 J**		78	52-128	--	20	0.33	0.00051
4-Chlorophenyl Phenyl Ether	0.334	**0.256**		76	62-114	--	20	0.017	0.00072
Chrysene	0.334	**0.283**		85	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene	0.334	**0.306**		91	52-142	--	20	0.033	0.0013
Dibenzofuran	0.334	**0.265**		79	65-119	--	20	0.017	0.00082
Phenanthrene	0.334	**0.263 J**		79	58-134	--	20	0.33	0.00072
Di-n-butyl Phthalate	0.334	**0.348**		104	65-140	--	20	0.067	0.014
Pyrene	0.334	**0.268 J**		80	60-132	--	20	0.33	0.0012
3,3´-Dichlorobenzidine	0.669	**0.320 J**		48	10-107	--	20	0.83	0.032

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,4-Dichlorophenol		0.334	**0.242**	72	50-128	--	20	0.033	0.0015
*Diethyl Phthalate		0.334	**0.304 B**	91	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol		0.334	**0.247**	74	40-122	--	20	0.17	0.030
Dimethyl Phthalate		0.334	**0.272**	81	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol		0.334	**0.239**	72	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol		0.334	**0.205**	61	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene		0.334	**0.267**	80	51-128	--	20	0.033	0.0050
2,6-Dinitrotoluene		0.334	**0.262**	78	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.334	**0.281**	84	63-132	--	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.334	**0.278 B**	83	50-140	--	20	0.033	0.0041
Fluoranthene		0.334	**0.274**	82	66-140	--	20	0.017	0.00056
Fluorene		0.334	**0.257**	77	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.334	**0.276**	82	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.334	**0.270**	81	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.334	**0.220**	66	34-124	--	20	0.017	0.0027
Hexachloroethane		0.334	**0.273**	81	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.334	**0.301**	90	53-135	--	20	0.033	0.0031
Isophorone		0.334	**0.244**	73	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.334	**0.269**	80	56-124	--	20	0.017	0.0014
2-Methylphenol		0.334	**0.233**	70	58-113	--	20	0.017	0.0034
4-Methylphenol		0.334	**0.288**	86	58-132	--	20	0.017	0.0020
Naphthalene		0.334	**0.260**	78	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.334	**0.289**	86	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.334	**0.150**	45	19-86	--	20	0.033	0.016
4-Nitroaniline		0.334	**0.204**	61	26-125	--	20	0.033	0.016
Nitrobenzene		0.334	**0.252**	75	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.334	**0.211 J**	63	36-131	--	20	0.67	0.027
2-Nitrophenol		0.334	**0.247**	74	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.334	**0.293**	87	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.334	**0.261**	78	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.334	**0.209**	62	19-117	--	20	0.17	0.015
Phenanthrene		0.334	**0.263**	79	58-134	--	20	0.017	0.00072
Phenol		0.334	**0.231**	69	53-120	--	20	0.17	0.0013
Pyrene		0.334	**0.268**	80	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.334	**0.244**	73	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.334	**0.303**	91	61-126	--	20	0.017	0.0039

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Surrogates:								
2-Fluorophenol			*73*	*33-113*				
Phenol-d6			*71*	*30-115*				
Nitrobenzene-d5			*76*	*33-131*				
Nitrobenzene-d5			*76*	*33-131*				
2-Fluorobiphenyl			*79*	*46-122*				
2-Fluorobiphenyl			*79*	*46-122*				
2,4,6-Tribromophenol			*81*	*12-124*				
o-Terphenyl			*82*	*20-155*				
o-Terphenyl			*82*	*20-155*				

Laboratory Control Sample Duplicate Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Acenaphthene	0.348	**0.278**	80	55-113	4	20	0.017	0.00079
Acenaphthylene	0.348	**0.285**	82	56-138	4	20	0.017	0.00082
Acetophenone	0.348	**0.283**	81	26-127	5	20	0.017	0.0099
Anthracene	0.348	**0.267**	77	63-134	2	20	0.017	0.00086
Atrazine	0.348	**0.247**	71	52-125	0.9	20	0.017	0.0097
Benzaldehyde	0.348	**0.0226 J**	**6**	10-126	3	20	0.067	0.0096
Benzo(a)anthracene	0.348	**0.275**	79	53-142	5	20	0.017	0.0014
Benzo(a)pyrene	0.348	**0.264**	76	54-136	5	20	0.017	0.00086
Benzo(b)fluoranthene	0.348	**0.264**	76	49-146	3	20	0.017	0.0017
Benzo(k)fluoranthene	0.348	**0.261**	75	56-136	7	20	0.017	0.0022
Benzo(g,h,i)perylene	0.348	**0.258**	74	47-141	5	20	0.033	0.00082
1,1'-Biphenyl	0.348	**0.267**	77	55-105	4	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.348	**0.246**	71	61-124	0.7	20	0.017	0.00094
Butyl Benzyl Phthalate	0.348	**0.330**	95	51-145	5	20	0.033	0.0017
Caprolactam	0.348	**0.324**	93	44-130	6	20	0.067	0.011
Carbazole	0.348	**0.264**	76	76-126	0.3	20	0.17	0.0089
4-Chloro-3-methylphenol	0.348	**0.287**	82	57-124	4	20	0.017	0.0038
4-Chloroaniline	0.348	**0.0557 J**	16	7-75	12	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.348	**0.243**	70	57-121	5	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.348	**0.279**	80	54-112	4	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.348	**0.256**	74	62-116	4	20	0.017	0.0027
2-Chloronaphthalene	0.348	**0.277**	80	67-111	3	20	0.017	0.0026
2-Chlorophenol	0.348	**0.277**	80	62-118	5	20	0.017	0.00079

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
4-Chlorophenyl Phenyl Ether	0.348	**0.252**	72	62-114	3	20	0.017	0.00072	
Chrysene	0.348	**0.263**	76	66-137	5	20	0.017	0.00086	
Dibenz(a,h)anthracene	0.348	**0.261**	75	52-142	4	20	0.033	0.0013	
Dibenzofuran	0.348	**0.275**	79	65-119	4	20	0.017	0.00082	
Di-n-butyl Phthalate	0.348	**0.326**	94	65-140	1	20	0.067	0.014	
3,3´-Dichlorobenzidine	0.697	**0.223 J**	32	10-107	5	20	0.83	0.032	
2,4-Dichlorophenol	0.348	**0.267**	77	50-128	5	20	0.033	0.0015	
*Diethyl Phthalate	0.348	**0.281 B**	81	59-128	3	20	0.017	0.0024	
2,4-Dimethylphenol	0.348	**0.239**	69	40-122	7	20	0.17	0.030	
Dimethyl Phthalate	0.348	**0.281**	81	66-122	3	20	0.017	0.0019	
4,6-Dinitro-2-methylphenol	0.348	**0.245**	70	26-136	3	20	0.17	0.0055	
2,4-Dinitrophenol	0.348	**0.179**	51	25-105	2	20	0.17	0.038	
2,4-Dinitrotoluene	0.348	**0.301**	86	51-128	4	20	0.033	0.0050	
2,6-Dinitrotoluene	0.348	**0.277**	79	61-119	2	20	0.017	0.0016	
Di-n-octyl Phthalate	0.348	**0.295**	85	63-132	5	20	0.017	0.0011	
*Bis(2-ethylhexyl) Phthalate	0.348	**0.305 B**	88	50-140	6	20	0.033	0.0041	
Fluoranthene	0.348	**0.249**	72	66-140	0.8	20	0.017	0.00056	
Fluorene	0.348	**0.268**	77	60-131	3	20	0.033	0.00060	
Hexachlorobenzene	0.348	**0.235**	67	34-141	0.03	20	0.017	0.0010	
Hexachlorobutadiene	0.348	**0.237**	68	56-128	4	20	0.017	0.00072	
Hexachlorocyclopentadiene	0.348	**0.235**	67	34-124	6	20	0.017	0.0027	
Hexachloroethane	0.348	**0.293**	84	60-111	6	20	0.017	0.0013	
Indeno(1,2,3-cd)pyrene	0.348	**0.255**	73	53-135	3	20	0.033	0.0031	
Isophorone	0.348	**0.259**	74	55-127	7	20	0.017	0.0010	
2-Methylnaphthalene	0.348	**0.264**	76	56-124	6	20	0.017	0.0014	
2-Methylphenol	0.348	**0.245**	70	58-113	4	20	0.017	0.0034	
4-Methylphenol	0.348	**0.336**	96	58-132	4	20	0.017	0.0020	
Naphthalene	0.348	**0.278**	80	52-128	4	20	0.017	0.00051	
2-Nitroaniline	0.348	**0.312**	90	63-122	4	20	0.017	0.0059	
3-Nitroaniline	0.348	**0.126**	36	19-86	4	20	0.033	0.016	
4-Nitroaniline	0.348	**0.232**	67	26-125	2	20	0.033	0.016	
Nitrobenzene	0.348	**0.258**	74	56-109	4	20	0.017	0.0015	
4-Nitrophenol	0.348	**0.234 J**	67	36-131	0.5	20	0.67	0.027	
2-Nitrophenol	0.348	**0.301**	86	55-115	5	20	0.017	0.0015	
N-Nitroso-diphenylamine	0.348	**0.270**	78	33-109	2	20	0.017	0.0010	
N-Nitroso-di-n-propylamine	0.348	**0.285**	82	48-127	5	20	0.017	0.0022	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Pentachlorophenol	0.348	**0.144 J**	41	19-117	1	20	0.17	0.015
Phenanthrene	0.348	**0.265**	76	58-134	0.9	20	0.017	0.00072
Phenol	0.348	**0.283**	81	53-120	4	20	0.17	0.0013
Pyrene	0.348	**0.302**	87	60-132	4	20	0.017	0.0012
2,4,6-Trichlorophenol	0.348	**0.237**	68	45-128	6	20	0.017	0.0017
2,4,5-Trichlorophenol	0.348	**0.242**	69	61-126	0.7	20	0.017	0.0039
Surrogates:								
2-Fluorophenol			*77*	*33-113*				
Phenol-d6			*76*	*30-115*				
Nitrobenzene-d5			*78*	*33-131*				
2-Fluorobiphenyl			*78*	*46-122*				
2,4,6-Tribromophenol			*63*	*12-124*				
o-Terphenyl			*70*	*20-155*				

Laboratory Control Sample Duplicate Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Acenaphthene	0.348	**0.277 J**	79	55-113	4	20	0.33	0.00079
Acenaphthene	0.348	**0.277**	79	55-113	4	20	0.017	0.00079
Acenaphthylene	0.348	**0.277 J**	80	56-138	4	20	0.33	0.00082
Acenaphthylene	0.348	**0.277**	80	56-138	4	20	0.017	0.00082
Acetophenone	0.348	**0.267**	77	26-127	3	20	0.017	0.0099
Anthracene	0.348	**0.296 J**	85	63-134	5	20	0.33	0.00086
Benzo(a)anthracene	0.348	**0.266 J**	76	53-142	2	20	0.33	0.0014
Benzo(a)pyrene	0.348	**0.276 J**	79	54-136	7	20	0.33	0.00086
Benzo(b)fluoranthene	0.348	**0.274 J**	79	49-146	7	20	0.33	0.0017
Benzo(g,h,i)perylene	0.348	**0.305 J**	88	47-141	4	20	0.33	0.00082
Anthracene	0.348	**0.296**	85	63-134	5	20	0.017	0.00086
Benzo(k)fluoranthene	0.348	**0.263 J**	76	56-136	4	20	0.33	0.0022
Atrazine	0.348	**0.320**	92	52-125	6	20	0.017	0.0097
Benzaldehyde	0.348	0.067 U	**0**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.348	**0.266**	76	53-142	2	20	0.017	0.0014
Benzo(a)pyrene	0.348	**0.276**	79	54-136	7	20	0.017	0.00086
Benzo(b)fluoranthene	0.348	**0.274**	79	49-146	7	20	0.017	0.0017
Benzo(k)fluoranthene	0.348	**0.263**	76	56-136	4	20	0.017	0.0022
Benzo(g,h,i)perylene	0.348	**0.305**	88	47-141	4	20	0.033	0.00082
Chrysene	0.348	**0.295 J**	85	66-137	4	20	0.33	0.00086

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Dibenz(a,h)anthracene	0.348	**0.322 J**	92	52-142	5	20	0.33	0.0013	
1,1'-Biphenyl	0.348	**0.274**	79	55-105	2	20	0.017	0.011	
4-Bromophenyl Phenyl Ether	0.348	**0.293**	84	61-124	3	20	0.017	0.00094	
Butyl Benzyl Phthalate	0.348	**0.303**	87	51-145	4	20	0.033	0.0017	
Caprolactam	0.348	**0.333**	96	44-130	7	20	0.067	0.011	
Carbazole	0.348	**0.311**	89	76-126	2	20	0.17	0.0089	
Fluoranthene	0.348	**0.287 J**	82	66-140	5	20	0.33	0.00056	
4-Chloro-3-methylphenol	0.348	**0.299**	86	57-124	11	20	0.017	0.0038	
Fluorene	0.348	**0.266 J**	76	60-131	3	20	0.33	0.00060	
4-Chloroaniline	0.348	**0.0787**	23	7-75	10	20	0.067	0.0088	
Bis(2-chloroethoxy)methane	0.348	**0.243**	70	57-121	12	20	0.017	0.0011	
Indeno(1,2,3-cd)pyrene	0.348	**0.311 J**	89	53-135	3	20	0.33	0.0031	
Bis(2-chloroethyl) Ether	0.348	**0.230**	66	54-112	0.7	20	0.017	0.00079	
2-Methylnaphthalene	0.348	**0.280 J**	81	56-124	4	20	0.33	0.0014	
Bis(2-chloroisopropyl) Ether	0.348	**0.257**	74	62-116	4	20	0.017	0.0027	
2-Chloronaphthalene	0.348	**0.273**	78	67-111	6	20	0.017	0.0026	
2-Chlorophenol	0.348	**0.263**	76	62-118	10	20	0.017	0.00079	
Naphthalene	0.348	**0.271 J**	78	52-128	4	20	0.33	0.00051	
4-Chlorophenyl Phenyl Ether	0.348	**0.266**	76	62-114	4	20	0.017	0.00072	
Chrysene	0.348	**0.295**	85	66-137	4	20	0.017	0.00086	
Dibenz(a,h)anthracene	0.348	**0.322**	92	52-142	5	20	0.033	0.0013	
Dibenzofuran	0.348	**0.274**	79	65-119	3	20	0.017	0.00082	
Phenanthrene	0.348	**0.275 J**	79	58-134	4	20	0.33	0.00072	
Di-n-butyl Phthalate	0.348	**0.357**	102	65-140	3	20	0.067	0.014	
Pyrene	0.348	**0.278 J**	80	60-132	4	20	0.33	0.0012	
3,3´-Dichlorobenzidine	0.697	**0.343 J**	49	10-107	7	20	0.83	0.032	
2,4-Dichlorophenol	0.348	**0.254**	73	50-128	5	20	0.033	0.0015	
*Diethyl Phthalate	0.348	**0.319 B**	92	59-128	5	20	0.017	0.0024	
2,4-Dimethylphenol	0.348	**0.254**	73	40-122	3	20	0.17	0.030	
Dimethyl Phthalate	0.348	**0.287**	82	66-122	5	20	0.017	0.0019	
4,6-Dinitro-2-methylphenol	0.348	**0.255**	73	26-136	6	20	0.17	0.0055	
2,4-Dinitrophenol	0.348	**0.201**	58	25-105	2	20	0.17	0.038	
2,4-Dinitrotoluene	0.348	**0.268**	77	51-128	0.4	20	0.033	0.0050	
2,6-Dinitrotoluene	0.348	**0.273**	78	61-119	4	20	0.017	0.0016	
Di-n-octyl Phthalate	0.348	**0.289**	83	63-132	3	20	0.017	0.0011	
*Bis(2-ethylhexyl) Phthalate	0.348	**0.289 B**	83	50-140	4	20	0.033	0.0041	

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Fluoranthene	0.348		**0.287**	82	66-140	5	20	0.017	0.00056
Fluorene	0.348		**0.266**	76	60-131	3	20	0.033	0.00060
Hexachlorobenzene	0.348		**0.284**	82	34-141	3	20	0.017	0.0010
Hexachlorobutadiene	0.348		**0.281**	81	56-128	4	20	0.017	0.00072
Hexachlorocyclopentadiene	0.348		**0.229**	66	34-124	4	20	0.017	0.0027
Hexachloroethane	0.348		**0.279**	80	60-111	2	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.348		**0.311**	89	53-135	3	20	0.033	0.0031
Isophorone	0.348		**0.258**	74	55-127	6	20	0.017	0.0010
2-Methylnaphthalene	0.348		**0.280**	81	56-124	4	20	0.017	0.0014
2-Methylphenol	0.348		**0.237**	68	58-113	1	20	0.017	0.0034
4-Methylphenol	0.348		**0.295**	85	58-132	2	20	0.017	0.0020
Naphthalene	0.348		**0.271**	78	52-128	4	20	0.017	0.00051
2-Nitroaniline	0.348		**0.298**	85	63-122	3	20	0.017	0.0059
3-Nitroaniline	0.348		**0.162**	47	19-86	8	20	0.033	0.016
4-Nitroaniline	0.348		**0.246**	71	26-125	19	20	0.033	0.016
Nitrobenzene	0.348		**0.262**	75	56-109	4	20	0.017	0.0015
4-Nitrophenol	0.348		**0.237 J**	68	36-131	11	20	0.67	0.027
2-Nitrophenol	0.348		**0.259**	74	55-115	5	20	0.017	0.0015
N-Nitroso-diphenylamine	0.348		**0.306**	88	33-109	4	20	0.017	0.0010
N-Nitroso-di-n-propylamine	0.348		**0.266**	76	48-127	2	20	0.017	0.0022
Pentachlorophenol	0.348		**0.210**	60	19-117	0.7	20	0.17	0.015
Phenanthrene	0.348		**0.275**	79	58-134	4	20	0.017	0.00072
Phenol	0.348		**0.237**	68	53-120	2	20	0.17	0.0013
Pyrene	0.348		**0.278**	80	60-132	4	20	0.017	0.0012
2,4,6-Trichlorophenol	0.348		**0.253**	73	45-128	4	20	0.017	0.0017
2,4,5-Trichlorophenol	0.348		**0.291**	83	61-126	4	20	0.017	0.0039
Surrogates:									
**2-Fluorophenol*				*68*	*33-113*				
Phenol-d6				*69*	*30-115*				
Nitrobenzene-d5				*77*	*33-131*				
Nitrobenzene-d5				*77*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*84*	*12-124*				
o-Terphenyl				*81*	*20-155*				
o-Terphenyl				*81*	*20-155*				

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**49.8**	ug/L	100	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**49.3**	ug/L			1	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**51.3**	ug/L	103	80-120		20	1.0	0.18
Laboratory Control Sample Duplicate			**50.4**	ug/L			2	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**51.5**	ug/L	103	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**50.7**	ug/L			2	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120		20	1.0	0.11
Laboratory Control Sample Duplicate			**48.8**	ug/L			1	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.038
Laboratory Control Sample		50.0	**51.0**	ug/L	102	80-120		20	0.20	0.038
Laboratory Control Sample Duplicate			**49.9**	ug/L			2	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.20

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Chromium/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**49.7**	ug/L	99	80-120		20	1.0	0.20
Laboratory Control Sample Duplicate			**49.6**	ug/L			0.3	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**51.1**	ug/L	102	80-120		20	1.0	0.050
Laboratory Control Sample Duplicate			**51.4**	ug/L			0.5	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**51.2**	ug/L	102	80-120		20	1.0	0.13
Laboratory Control Sample Duplicate			**50.3**	ug/L			2	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213630 (3010A Digestion)							Analyzed: 11/12/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5
Laboratory Control Sample		400	**382**	ug/L	96	80-120		20	20	6.5
Laboratory Control Sample Duplicate			**392**	ug/L			3	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**52.2**	ug/L	104	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**51.4**	ug/L			2	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Manganese/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**49.9**	ug/L			0.6	20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213552 (7470A Digestion - Dissolved)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**1.95**	ug/L	98	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.075
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	1.0	0.075
Laboratory Control Sample Duplicate			**49.7**	ug/L			0.6	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**50.4**	ug/L	101	80-120		20	1.0	0.17
Laboratory Control Sample Duplicate			**50.5**	ug/L			0.2	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120		20	1.0	0.31
Laboratory Control Sample Duplicate			**50.0**	ug/L			1	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	0.20	0.037

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Silver/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample Duplicate			**49.2**	ug/L			1	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.027
Laboratory Control Sample	50.0		**51.6**	ug/L	103	80-120		20	1.0	0.027
Laboratory Control Sample Duplicate			**50.4**	ug/L			2	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample	50.0		**49.9**	ug/L	100	80-120		20	1.0	0.066
Laboratory Control Sample Duplicate			**50.2**	ug/L			0.6	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			10 U	ug/L					10	1.5
Laboratory Control Sample	50.0		**52.3**	ug/L	105	80-120		20	10	1.5
Laboratory Control Sample Duplicate			**51.1**	ug/L			2	20	10	1.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213548 (3050B Digestion)							Analyzed: 11/06/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample	4.00		**3.55**	mg/kg dry wt.	89	80-120		20	0.10	0.024
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			**0.021 J**	mg/kg dry wt.					0.10	0.016
Laboratory Control Sample	4.00		**4.36**	mg/kg dry wt.	109	80-120		20	0.10	0.016
Analyte: Barium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.012
Laboratory Control Sample	4.00		**4.25**	mg/kg dry wt.	106	80-120		20	1.0	0.012
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			0.50 U	mg/kg dry wt.					0.50	0.020
Laboratory Control Sample	4.00		**4.23**	mg/kg dry wt.	106	80-120		20	0.50	0.020
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0033
Laboratory Control Sample	4.00		**4.19**	mg/kg dry wt.	105	80-120		20	0.050	0.0033
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.014
Laboratory Control Sample	4.00		**4.69**	mg/kg dry wt.	117	80-120		20	1.0	0.014
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0064

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cobalt/USEPA-6020A (Continued)										
QC Batch: 1213574 (Continued) (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Laboratory Control Sample		4.00	**4.49**	mg/kg dry wt.	112	80-120		20	1.0	0.0064
Analyte: Copper/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.025
Laboratory Control Sample		4.00	**4.45**	mg/kg dry wt.	111	80-120		20	1.0	0.025
Analyte: Iron/USEPA-6010C										
QC Batch: 1213573 (3050B Digestion)							Analyzed: 11/07/2012		By: CKD	
Method Blank			5.0 U	mg/kg dry wt.					5.0	0.62
Laboratory Control Sample		25.0	**23.8**	mg/kg dry wt.	95	80-120		20	5.0	0.62
Analyte: Lead/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0066
Laboratory Control Sample		4.00	**4.35**	mg/kg dry wt.	109	80-120		20	1.0	0.0066
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.023
Laboratory Control Sample		4.00	**4.62**	mg/kg dry wt.	116	80-120		20	1.0	0.023
Analyte: Mercury/USEPA-7471A										
QC Batch: 1213516 (7471A Mercury Digestion)							Analyzed: 11/06/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0061
Laboratory Control Sample		0.333	**0.335**	mg/kg dry wt.	100	80-120		20	0.050	0.0061
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0081

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213574 (Continued) (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Laboratory Control Sample		4.00	**4.16**	mg/kg dry wt.	104	80-120		20	1.0	0.0081
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.016
Laboratory Control Sample		4.00	**4.41**	mg/kg dry wt.	110	80-120		20	1.0	0.016
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/12/2012	By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.033
Laboratory Control Sample		4.00	**4.60**	mg/kg dry wt.	115	80-120		20	0.10	0.033
Analyte: Silver/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0039
Laboratory Control Sample		4.00	**4.24**	mg/kg dry wt.	106	80-120		20	0.050	0.0039
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0026
Laboratory Control Sample		4.00	**4.30**	mg/kg dry wt.	107	80-120		20	0.050	0.0026
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/12/2012	By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.0097
Laboratory Control Sample		4.00	**4.75**	mg/kg dry wt.	119	80-120		20	0.10	0.0097
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			**0.44 J**	mg/kg dry wt.					1.0	0.28

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Zinc**/USEPA-6020A (Continued)										
QC Batch: 1213574 (Continued) (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Laboratory Control Sample		4.00	**4.54**	mg/kg dry wt.	113	80-120		20	1.0	0.28

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical / Chemical Parameters by EPA / APHA / ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213338 (Method Specific Preparation)							Analyzed: 11/01/2012		By: CLB	
Method Blank			0.1 U	%					0.1	
1210636-02 [S-17360-103012-DD-112]										
Duplicate	93		**93**	%			0.6	5	0.1	

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CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES
E. 1210636

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

#511-R (WTR) #687-R (MEOH) PART 9 (37-12)

COC NO. PL- 09728 ✓
PAGE 1 OF 2
(See Reverse Side for Instructions)

Project No/ Phase/Task Code:	Rice - Former Grand Rapids Metal - Stage III
Project Name:	17360-105121-013
Project Location:	Grand Rapids
Chemistry Contact:	Paul Wisemay
Sampler(s):	Dan Deitre
Laboratory Name:	Tri Matrix
Lab Contact:	Jenifer Rice
Lab Location:	Grand Rapids MI
Lab Quote No:	
SSOW ID:	11960-105121-013
Cooler No:	
Carrier:	Dropoff at Lab
Airbill No:	
Date Shipped:	10-30-12

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)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	TCL VOC	TCL SVOC	PCBs	TAL Metals	Fractionated Lead Hold	Speciated chromium Hold	MS/MSD Request	Comments/ Special Instructions:
01	1	trip blank	10-30-12	—	SOQ	—					1			1	X							02
02	2	S-17360-103012-MW-112	10-30-12	0855	SO	G	1				1			2	X	X	X	X				03
03	3	S-17360-103012-MW-113	10-30-12	0910	SO	G	1				1			2	X	X	X	X				1
04	4	GW-17360-103012-MW-114	10-30-12	0945	WG	G	3	3	1					7	X	X	X	X				06
05	5	S-17360-103012-MW-115	10-30-12	1020	SO	G	1				1			2	X	X	X	X				03
06	6	S-17360-103012-MW-116	10-30-12	1035	SO	G	1				1			2	X	X	X	X				|
07	7	S-17360-103012-MW-117	10-30-12	1105	SO	G	1				1			2	X	X	X	X				|
08	8	S-17360-103012-MW-118	10-30-12	1115	SO	G	1				1			2	X	X	X	X				|
09	9	GW-17360-103012-MW-119	10-30-12	1145	WG	G	3	3	1					7	X	X	X	X				06
	10	~~trip blank~~ 10-30-12	~~10-30-12~~	—	WQ	—	1							1	X							MW 10-30-12
10	11	S-17360-103012-MW-120	10-30-12	1300	SO	G	1				1			2	X	X	X	X				03
11	12	S-17360-103012-MW-121	10-30-12	1310	SO	G	1				1			2	X	X	X	X				↓
12	13	S-17360-103012-MW-122	10-30-12	1340	SO	G	1				1			2	X	X	X	X	X	X		
13	14	S-17360-103012-MW-123	10-30-12	~~1350~~	SO	G	1				1			2	X	X	X	X	X	X		
14	15	S-17360-103012-MW-124	10-30-12	~~1405~~ 1415	SO	G	1				1			2	X	X	X	X	X	X		↓

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:

All Samples in Cooler must be on COC

Notes/ Special Requirements: GW metals samples were Field Filtered. Hold Fractionated Lead (Speciated chromium) soil samples

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitre	CRA	10-30-12	1700	1. D. Hardin	TRIMATRIX	10/30/12	1700
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

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CHAIN OF CUSTODY RECORD #511-R (WTR) #687-R (METH) CART 9 (37-18)

COC NO. PL- 09734 PAGE 2 OF 2

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

E: 12106036

(See Reverse Side for Instructions)

Project No/ Phase/Task Code:	Race. - Former Grand Rapids Metro Stage III
Project Name:	017360-105121-013
Project Location:	Grand Rapids MI
Chemistry Contact:	Paul Wiseman
Sampler(s):	Dan Deitz
Laboratory Name:	Tri Matrix
Lab Contact:	Jennifer Rice
Lab Location:	Grand Rapids MI
Lab Quote No:	
SSOW ID:	11980-105121-013
Cooler No:	
Carrier:	Drop off at Lab
Airbill No:	
Date Shipped:	10-30-12

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	TCL VOC	TCL SVOC	PCBs	TAL Metals	Fractionated Lead (HOLD)	Speciated chromium (HOLD)	PAH		MS/MSD Request	Comments/ Special Instructions:
15	S-17360-103012-DD-125	10-30-12	1425	SO	G	1					1			2	X	X	X	X	X			03		
16	GW-17360-103012-DD-126	10-30-12	1500	WG	G	3	3	1						7	X	X	X	X				06		
17	S-17360-103012-DD-127	10-30-12	1600	SO	G	1					1			2	X		X	X	X	X	X	07		
18	S-17360-103012-DD-128	10-30-12	1610	SO	G	1					1			2	X		X	X	X	X	X	1		

Dan Deitz 10-30-12

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:

All Samples in Cooler must be on COC

Notes/ Special Requirements: GW metals samples were field-filtered - HOLD soil samples fractionated Lead + Speciated chromium

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitz	CRA	10-30-12	1700	1. J. Dardin	TRIMATRIX	10/30/12	1700
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)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 1210636
Receipt Record Page/Line #: 37-18 | New / Add To | Project Chemist: JLR | Sample #s

Recorded by (initials/date): DRL 10/30/12

☑ Cooler ☐ Box ☐ Other | Qty Received: 2

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
1112639	1841	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
1113093	1850	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container

Cooler #	Recorded °C	Correction Factor °C	Actual °C
1112639	Temp Blank: 0		1.9
	TB location: Representative / Not Representative		
	1: 5.9	0	5.9
	2: 7.6	0	7.6
	3: 6.1	0	6.1
	Average °C		5.5
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		
1113093	Temp Blank: 0		1.9
	TB location: Representative / Not Representative		
	1: 3.8	0	3.8
	2: 3.8	0	3.8
	3: 2.7	0	2.7
	Average °C		3.1
	☐ Cooler ID on COC?		
	☑ VOC Trip Blank received? (MEOH)		
	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		
	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: PL-09728 PL-09734

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
☑		☐	Received pre-preserved VOC soils?

☑ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☑ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☐ Green-tagged containers
- ☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

(MEOH)

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 10/30/12	10/30/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

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TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client	CRA	Work Order #	1210636
Receipt Log #	37-18	Completed By (initials/date)	DN 10/30/12
		Project Chemist	JLR

COC ID # PL-09728

Adjusted by: _____ Date: _____

Container Type	5 / 23	4	13		DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4						✓		
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9						✓		
COC Line #10								

Comments

COC ID # PL-09734

Adjusted by: _____ Date: _____

Container Type	5	4	13		DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2						✓		
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Ph Strip Lot # ☑ HC137671 ☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211010

Date:
November 26, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on October 31, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/26/12

Date

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Sample Receipt and Login -- Work Order: 1211010

TriMatrix Laboratories received the cooler(s) for this work order on October 31, 2012, at 16:55. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
SO-17360-103112-EB-132	1211010-01	Soil	10/31/2012
SO-17360-103112-EB-133	1211010-02	Soil	10/31/2012
SO-17360-103112-EB-137	1211010-03	Soil	10/31/2012
SO-17360-103112-EB-138	1211010-04	Soil	10/31/2012
SO-17360-103112-EB-142	1211010-05	Soil	10/31/2012
SO-17360-103112-EB-143	1211010-06	Soil	10/31/2012
SO-17360-103112-EB-148	1211010-07	Soil	10/31/2012
SO-17360-103112-EB-149	1211010-08	Soil	10/31/2012
SO-17360-103112-EB-153	1211010-09	Soil	10/31/2012
SO-17360-103112-EB-154	1211010-10	Soil	10/31/2012
SO-17360-103112-EB-155	1211010-11	Soil	10/31/2012
SO-17360-103112-EB-162	1211010-12	Soil	10/31/2012
SO-17360-103112-EB-163	1211010-13	Soil	10/31/2012
SO-17360-103112-EB-167	1211010-14	Soil	10/31/2012
SO-17360-103112-EB-168	1211010-15	Soil	10/31/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: Surrogate results are unavailable due to positive results in the sample, resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8082A

Sample: 1211010-08 SO-17360-103112-EB-149

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211010**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**SO-17360-103112-EB-149**	Sampled:	10/31/12 11:15
Lab Sample ID:	**1211010-08**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	10	Analyzed:	11/15/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K15027
Percent Solids:	95		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.018
11104-28-2	PCB-1221	0.35U	0.35	0.022
11141-16-5	PCB-1232	0.35U	0.35	0.022
53469-21-9	PCB-1242	0.35U	0.35	0.072
12672-29-6	PCB-1248	0.35U	0.35	0.026
11097-69-1	PCB-1254	0.35U	0.35	0.036
11096-82-5	PCB-1260	**1.3**	0.35	0.029

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211010**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**SO-17360-103112-EB-149**	Sampled:	10/31/12 11:15
Lab Sample ID:	**1211010-08**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550C	11/12/12 15:40	SKA	1213868

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213733 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				
Tetrachloro-m-xylene				*88*	*56-123*				
Laboratory Control Sample					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1248		0.159	**0.142 J**	90	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				
Tetrachloro-m-xylene				*88*	*56-123*				

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213868 (General Inorganic Prep)							Analyzed: 11/12/2012		By: SKA	
Method Blank			0.1 U	%					0.1	

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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-10048
PAGE 1 OF 3
(See Reverse Side for Instructions)

12/10/10 ~~12/10/08~~ 11/1/12 LR

10RT10 (39-19)

Project No/ Phase/Task Code: 017760-T05121-10Y12	Laboratory Name: TML	Lab Location: Grand Rapids MI	SSOW ID: 11980-T05Y12-013
Project Name: Former GRMP	Lab Contact: J. Rice	Lab Quote No: —	Cooler No: —
Project Location: Wyoming MI			Carrier: Drop @ lab
Chemistry Contact: P. Wiseman			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)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	(17) PCBs	MS/MSD Request	Comments/ Special Instructions:
1	SD-17860-103112-EB -129	10/31/12	910	SO	G	1								1	X		
2	-130		912														
3	-131		918														~~HOLD~~ (EB 10/31/12)
4	01 -132		922													10	HOLD
5	02 -133		925													10	HOLD
6	-134		955														
7	-135		958														
8	-136		1000														
9	03 -137		1008													10	HOLD
10	04 -138		1010													10	HOLD
11	-139		1032														
12	-140		1033														
13	-141		1035														
14	05 -142		1040													10	HOLD
15	06 -143		1043													10	HOLD

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: 15

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Ouellet	CRA	10-31-12	1655	1. Lyn Romeyn	TriMatrix	10/31/12	1655
2.				2.			
3.				3.			

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CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

1211010

COC NO.: PL- 10037
PAGE 2 OF 3

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-TOS121-10X12	Laboratory Name: TML	Lab Location: Grand Rapids, MI (10/31/12)	SSOW ID: 11980-TOS12-0173
Project Name: Former GRMP	Lab Contact: J. Rice	Lab Quote No: —	Cooler No: —
Project Location: Wyoming, MI			Carrier: Drop @ Lab
Chemistry Contact: P. Wiseman			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)	Sample Type: Matrix Code (see back of COC)	Sample Type: 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)	EnCores 3x5-g; 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PCBs (17)	MS/MSD Request	Comments/ Special Instructions:
1	SO-17360-103112-EB-144	10/31/12	1055	SO	G	1								1	X		
2	-145		1057			1								1			
3	-146		1100			2								2		X	MS/MSD
4	-147		1103			1								1			
07	-148		1110			1								1			HOLD
08	-149		1115			1								1			HOLD
7	-150		1140			1								1			
8	-151		1142			1								1			
9	-152		1145			1								1			
09	-153		1151			1								1			HOLD
10	-154		1152			1								1			HOLD
11	-155		1153			1								1			HOLD
13	-156		1240			1								1			
14	-157		1242			1								1			
15	-158		1301			1								1			

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: 16
All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	10/31/12	1655	1.	TriMatrix	10/31/12	1655
2.				2.			
3.				3.			

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Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10A (20110804)

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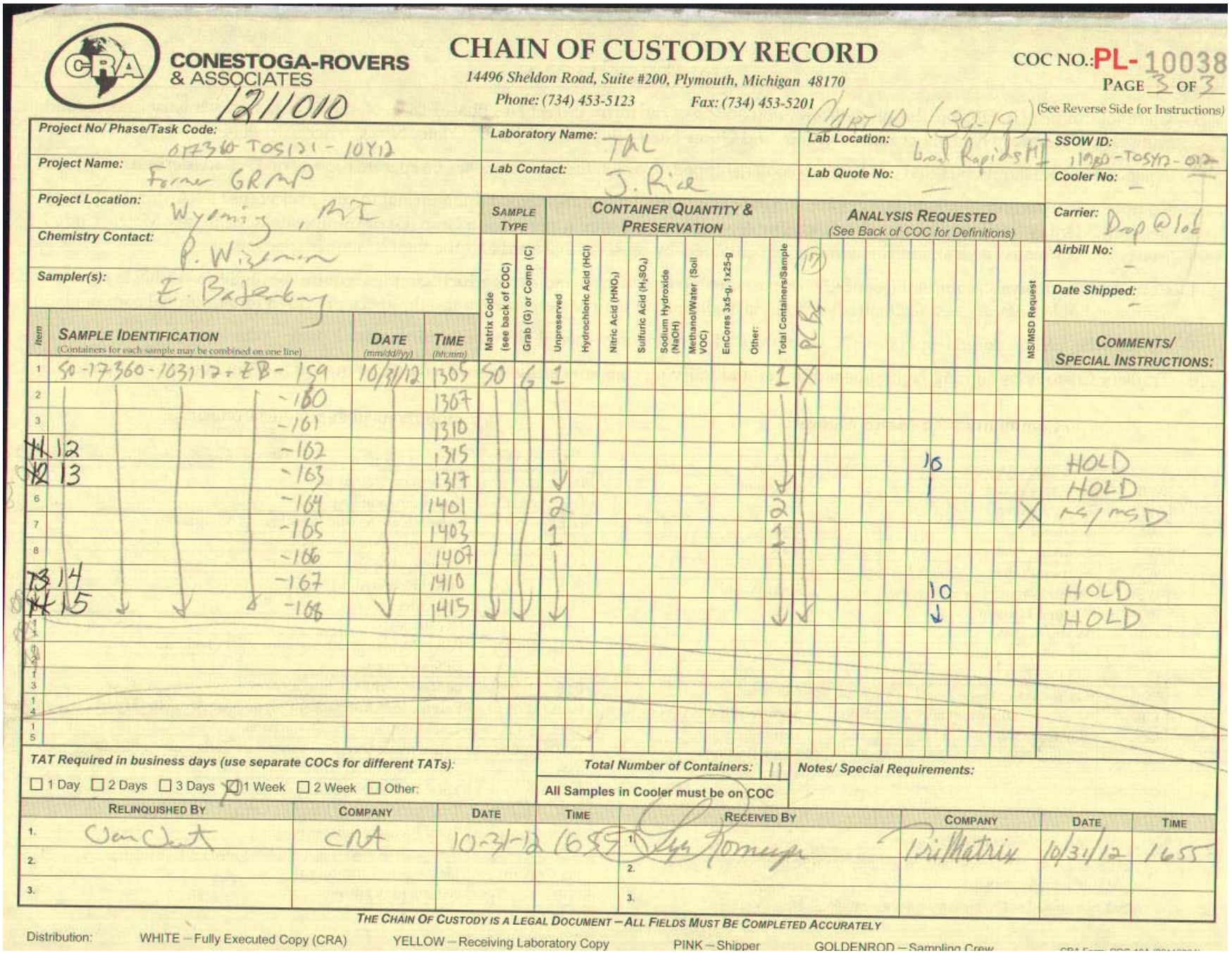
TRIMATRIX LABORATORIES



CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL- 10038
PAGE 3 OF 3
(See Reverse Side for Instructions)

12/1/2010

Project No/ Phase/Task Code:	017360 TO5121 - 10Y12
Project Name:	Former GRMP
Project Location:	Wyoming, MI
Chemistry Contact:	P. Wiseman
Sampler(s):	E. Bajenting
Laboratory Name:	TAL
Lab Contact:	J. Rice
Lab Location:	Grand Rapids MI (ART 10 (30-19))
Lab Quote No:	—
SSOW ID:	10360 - TO5121 - 012
Cooler No:	—
Carrier:	Drop @ lab
Airbill No:	—
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)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	(17) PCBs	MS/MSD Request	Comments/ Special Instructions:
1	SO-17360-103112-EB-159	10/31/12	1305	SO	G	1								1	X		
2	-160		1307														
3	-161		1310														
4	12 -162		1315													10	HOLD
5	13 -163		1317													1	HOLD
6	-164		1401			2								2			
7	-165		1403			1								1		X	MS/MSD
8	-166		1407														
9	14 -167		1410														
10	15 -168		1415													10	HOLD
11																↓	HOLD
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: 11
All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Dutt	CRA	10-31-12	1655	1. Lyn Komuja	TriMatrix	10/31/12	1655
2.				2.			
3.				3.			

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 121100
Receipt Record Page/Line #: 39-19 | New / Add To | Project Chemist: JLR | Sample #s

Recorded by (initials/date): JN 10/31/12

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler # / Time	Cooler # / Time	Cooler # / Time	Cooler # / Time
TM3100 / 1838			

Custody Seals:
- Cooler 1: ☑ None ☐ Present / Intact ☐ Present / Not Intact
- Cooler 2: ☐ None ☐ Present / Intact ☐ Present / Not Intact
- Cooler 3: ☐ None ☐ Present / Intact ☐ Present / Not Intact
- Cooler 4: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Location: Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
- Cooler 1: ☐ Loose Ice / Avg 2-3 containers ☑ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
- Cooler 2: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
- Cooler 3: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
- Cooler 4: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
- Cooler 1: ☑ Temperature Blank (TB) ☐ 1 Container
- Cooler 2: ☐ Temperature Blank (TB) ☐ 1 Container
- Cooler 3: ☐ Temperature Blank (TB) ☐ 1 Container
- Cooler 4: ☐ Temperature Blank (TB) ☐ 1 Container

Cooler 1	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		0	6.2
TB location: Representative / Not Representative			
1	5.1	0	5.1
2	5.8	0	5.8
3	6.7	0	6.7
Average °C			5.9

Cooler 1: ☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler 2: ☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler 3: ☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler 4: ☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: 7L-10048

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Initials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☐ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☐ Green-tagged containers
- ☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
- ☑ NONE RECEIVED
- ☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
JN 10/31/12	10/31/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211011

Date:
November 07, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on October 31, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

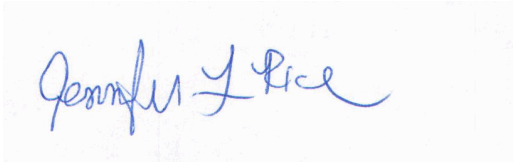
Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.



Jennifer L. Rice, Project Chemist

11/7/12

Date

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Sample Receipt and Login -- Work Order: 1211011

TriMatrix Laboratories received the cooler(s) for this work order on October 31, 2012, at 16:55. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
SO-17360-103112-EB-129	1211011-01	Soil	10/31/2012
SO-17360-103112-EB-130	1211011-02	Soil	10/31/2012
SO-17360-103112-EB-131	1211011-03	Soil	10/31/2012
SO-17360-103112-EB-134	1211011-04	Soil	10/31/2012
SO-17360-103112-EB-135	1211011-05	Soil	10/31/2012
SO-17360-103112-EB-136	1211011-06	Soil	10/31/2012
SO-17360-103112-EB-139	1211011-07	Soil	10/31/2012
SO-17360-103112-EB-140	1211011-08	Soil	10/31/2012
SO-17360-103112-EB-141	1211011-09	Soil	10/31/2012
SO-17360-103112-EB-144	1211011-10	Soil	10/31/2012
SO-17360-103112-EB-145	1211011-11	Soil	10/31/2012
SO-17360-103112-EB-146	1211011-12	Soil	10/31/2012
SO-17360-103112-EB-147	1211011-13	Soil	10/31/2012
SO-17360-103112-EB-150	1211011-14	Soil	10/31/2012
SO-17360-103112-EB-151	1211011-15	Soil	10/31/2012
SO-17360-103112-EB-152	1211011-16	Soil	10/31/2012
SO-17360-103112-EB-156	1211011-17	Soil	10/31/2012
SO-17360-103112-EB-157	1211011-18	Soil	10/31/2012
SO-17360-103112-EB-158	1211011-19	Soil	10/31/2012
SO-17360-103112-EB-159	1211011-20	Soil	10/31/2012
SO-17360-103112-EB-160	1211011-21	Soil	10/31/2012
SO-17360-103112-EB-161	1211011-22	Soil	10/31/2012
SO-17360-103112-EB-164	1211011-23	Soil	10/31/2012
SO-17360-103112-EB-165	1211011-24	Soil	10/31/2012
SO-17360-103112-EB-166	1211011-25	Soil	10/31/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification:	The RPD between the detected values from the primary and confirmation analyses exceeded 40%. The lower concentration result has been reported. The higher concentration result was: 0.039 mg/kg.		
Analysis:	USEPA-8082A		
Sample/Analyte:	1211011-19	SO-17360-103112-EB-158	PCB-1254

Qualification:	A conclusive PCB Aroclor identification is not possible due to matrix interference and/or weathering of the sample. The identity of the reported Aroclor is tentative.		
Analysis:	USEPA-8082A		
Sample/Analyte:	1211011-04	SO-17360-103112-EB-134	PCB-1254
	1211011-05	SO-17360-103112-EB-135	PCB-1254
	1211011-19	SO-17360-103112-EB-158	PCB-1254

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-129**	Sampled:	10/31/12 09:10
Lab Sample ID:	**1211011-01**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	89		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.37U	0.37	0.0019
11104-28-2	PCB-1221	0.37U	0.37	0.0024
11141-16-5	PCB-1232	0.37U	0.37	0.0024
53469-21-9	PCB-1242	0.37U	0.37	0.0077
12672-29-6	PCB-1248	0.37U	0.37	0.0028
11097-69-1	PCB-1254	0.37U	0.37	0.0038
11096-82-5	PCB-1260	**0.033J**	0.37	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*98*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-129**	Sampled:	10/31/12 09:10
Lab Sample ID:	**1211011-01**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**89**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-130**	Sampled:	10/31/12 09:12
Lab Sample ID:	**1211011-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.028J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*99*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-130**	Sampled:	10/31/12 09:12
Lab Sample ID:	**1211011-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-131**	Sampled:	10/31/12 09:18
Lab Sample ID:	**1211011-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0074
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	0.36U	0.36	0.0037
11096-82-5	PCB-1260	**0.038J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*87*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-131**	Sampled:	10/31/12 09:18
Lab Sample ID:	**1211011-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-134**	Sampled:	10/31/12 09:55
Lab Sample ID:	**1211011-04**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
*11097-69-1	PCB-1254	**0.034J**	0.34	0.0035
11096-82-5	PCB-1260	**0.042J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*88*	*45-135*
Tetrachloro-m-xylene	*72*	*56-123*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-134**	Sampled:	10/31/12 09:55
Lab Sample ID:	**1211011-04**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-135**	Sampled:	10/31/12 09:58
Lab Sample ID:	**1211011-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
*11097-69-1	PCB-1254	**0.021J**	0.34	0.0035
11096-82-5	PCB-1260	**0.042J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*88*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-135**	Sampled:	10/31/12 09:58
Lab Sample ID:	**1211011-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-136**	Sampled:	10/31/12 10:00
Lab Sample ID:	**1211011-06**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.060J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*98*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-136**	Sampled:	10/31/12 10:00
Lab Sample ID:	**1211011-06**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-139**	Sampled:	10/31/12 10:32
Lab Sample ID:	**1211011-07**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	3	Analyzed:	11/05/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K06015
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0052
11104-28-2	PCB-1221	0.34U	0.34	0.0065
11141-16-5	PCB-1232	0.34U	0.34	0.0065
53469-21-9	PCB-1242	0.34U	0.34	0.021
12672-29-6	PCB-1248	0.34U	0.34	0.0077
11097-69-1	PCB-1254	0.34U	0.34	0.010
11096-82-5	PCB-1260	**0.68**	0.34	0.0086

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*102*	*45-135*
Tetrachloro-m-xylene	*87*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-139**	Sampled:	10/31/12 10:32
Lab Sample ID:	**1211011-07**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-140**	Sampled:	10/31/12 10:33
Lab Sample ID:	**1211011-08**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	4	Analyzed:	11/06/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K06062
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0070
11104-28-2	PCB-1221	0.34U	0.34	0.0086
11141-16-5	PCB-1232	0.34U	0.34	0.0086
53469-21-9	PCB-1242	0.34U	0.34	0.028
12672-29-6	PCB-1248	0.34U	0.34	0.010
11097-69-1	PCB-1254	0.34U	0.34	0.014
11096-82-5	PCB-1260	**0.88**	0.34	0.012

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*103*	*45-135*
Tetrachloro-m-xylene	*89*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-140**	Sampled:	10/31/12 10:33
Lab Sample ID:	**1211011-08**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-141**	Sampled:	10/31/12 10:35
Lab Sample ID:	**1211011-09**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.15J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*96*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-141**	Sampled:	10/31/12 10:35
Lab Sample ID:	**1211011-09**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-144**	Sampled:	10/31/12 10:55
Lab Sample ID:	**1211011-10**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.25J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*78*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-144**	Sampled:	10/31/12 10:55
Lab Sample ID:	**1211011-10**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-145**	Sampled:	10/31/12 10:57
Lab Sample ID:	**1211011-11**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.24J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*91*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-145**	Sampled:	10/31/12 10:57
Lab Sample ID:	**1211011-11**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-146**	Sampled:	10/31/12 11:00
Lab Sample ID:	**1211011-12**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	2	Analyzed:	11/05/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K06015
Percent Solids:	98		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0035
11104-28-2	PCB-1221	0.34U	0.34	0.0043
11141-16-5	PCB-1232	0.34U	0.34	0.0043
53469-21-9	PCB-1242	0.34U	0.34	0.014
12672-29-6	PCB-1248	0.34U	0.34	0.0051
11097-69-1	PCB-1254	0.34U	0.34	0.0069
11096-82-5	PCB-1260	**0.38**	0.34	0.0057

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*103*	*45-135*
Tetrachloro-m-xylene	*90*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-146**	Sampled:	10/31/12 11:00
Lab Sample ID:	**1211011-12**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**98**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-147**	Sampled:	10/31/12 11:03
Lab Sample ID:	**1211011-13**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/02/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0017
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.19J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*98*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-147**	Sampled:	10/31/12 11:03
Lab Sample ID:	**1211011-13**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-150**	Sampled:	10/31/12 11:40
Lab Sample ID:	**1211011-14**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.071J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*99*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-150**	Sampled:	10/31/12 11:40
Lab Sample ID:	**1211011-14**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-151**	Sampled:	10/31/12 11:42
Lab Sample ID:	**1211011-15**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	3	Analyzed:	11/06/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K06062
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0053
11104-28-2	PCB-1221	0.34U	0.34	0.0065
11141-16-5	PCB-1232	0.34U	0.34	0.0065
53469-21-9	PCB-1242	0.34U	0.34	0.021
12672-29-6	PCB-1248	0.34U	0.34	0.0078
11097-69-1	PCB-1254	0.34U	0.34	0.011
11096-82-5	PCB-1260	**0.66**	0.34	0.0087

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*107*	*45-135*
Tetrachloro-m-xylene	*99*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-151**	Sampled:	10/31/12 11:42
Lab Sample ID:	**1211011-15**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-152**	Sampled:	10/31/12 11:45
Lab Sample ID:	**1211011-16**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.062J**	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*99*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-152**	Sampled:	10/31/12 11:45
Lab Sample ID:	**1211011-16**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-156**	Sampled:	10/31/12 12:40
Lab Sample ID:	**1211011-17**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0036
11096-82-5	PCB-1260	**0.0059J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*96*	*45-135*
Tetrachloro-m-xylene	*73*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-156**	Sampled:	10/31/12 12:40
Lab Sample ID:	**1211011-17**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-157**	Sampled:	10/31/12 12:42
Lab Sample ID:	**1211011-18**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.0068J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*98*	*45-135*
Tetrachloro-m-xylene	*75*	*56-123*

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-157**	Sampled:	10/31/12 12:42
Lab Sample ID:	**1211011-18**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-158**	Sampled:	10/31/12 13:01
Lab Sample ID:	**1211011-19**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
*11097-69-1	PCB-1254	**0.019J**	0.34	0.0035
11096-82-5	PCB-1260	**0.021J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*66*	*45-135*
Tetrachloro-m-xylene	*71*	*56-123*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-158**	Sampled:	10/31/12 13:01
Lab Sample ID:	**1211011-19**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-159**	Sampled:	10/31/12 13:05
Lab Sample ID:	**1211011-20**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213368	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.0045J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*97*	*45-135*
Tetrachloro-m-xylene	*74*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-159**	Sampled:	10/31/12 13:05
Lab Sample ID:	**1211011-20**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213468

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-160**	Sampled:	10/31/12 13:07
Lab Sample ID:	**1211011-21**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/05/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K06015
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	**0.0040J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*97*	*45-135*
Tetrachloro-m-xylene	*88*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-160**	Sampled:	10/31/12 13:07
Lab Sample ID:	**1211011-21**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213469

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-161**	Sampled:	10/31/12 13:10
Lab Sample ID:	**1211011-22**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/03/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K05018
Percent Solids:	97		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0071
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0035
11096-82-5	PCB-1260	0.34U	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*93*	*45-135*
Tetrachloro-m-xylene	*72*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-161**	Sampled:	10/31/12 13:10
Lab Sample ID:	**1211011-22**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**97**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213469

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-164**	Sampled:	10/31/12 14:01
Lab Sample ID:	**1211011-23**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/05/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K06015
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0036
11096-82-5	PCB-1260	**0.049J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*57*	*45-135*
Tetrachloro-m-xylene	*83*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-164**	Sampled:	10/31/12 14:01
Lab Sample ID:	**1211011-23**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213469

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-165**	Sampled:	10/31/12 14:03
Lab Sample ID:	**1211011-24**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/05/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K06015
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.038J**	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*85*	*45-135*
Tetrachloro-m-xylene	*86*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-165**	Sampled:	10/31/12 14:03
Lab Sample ID:	**1211011-24**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213469

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-166**	Sampled:	10/31/12 14:07
Lab Sample ID:	**1211011-25**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/05/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K06015
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.046J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*84*	*45-135*
Tetrachloro-m-xylene	*84*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211011**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	017360-T05121-10Y12
Client Sample ID:	**SO-17360-103112-EB-166**	Sampled:	10/31/12 14:07
Lab Sample ID:	**1211011-25**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550B	11/05/12 12:45	CLB	1213469

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213368 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/02/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K05018			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*102*	*45-135*				
Tetrachloro-m-xylene				*72*	*56-123*				
Laboratory Control Sample					Analyzed:	11/02/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K05018			
PCB-1248		0.160	**0.143 J**	89	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*101*	*45-135*				
Tetrachloro-m-xylene				*75*	*56-123*				
Matrix Spike 1211011-12 SO-17360-103112-EB-146					Analyzed:	11/02/2012	By: ASC		
Unit: mg/kg dry					Analytical Batch:	2K05018			
PCB-1248	0.34 U	0.176	**0.156 J**	88	42-168	--	30	0.34	0.0026
Surrogates:									
Decachlorobiphenyl				*95*	*45-135*				
Tetrachloro-m-xylene				*74*	*56-123*				
Matrix Spike Duplicate 1211011-12 SO-17360-103112-EB-146					Analyzed:	11/02/2012	By: ASC		
Unit: mg/kg dry					Analytical Batch:	2K05018			
PCB-1248	0.34 U	0.177	**0.157 J**	89	42-168	0.8	30	0.34	0.0026
Surrogates:									
Decachlorobiphenyl				*96*	*45-135*				
Tetrachloro-m-xylene				*75*	*56-123*				
QC Batch: 1213369 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/03/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K05018			
PCB-1016			0.33 U					0.33	0.0017

Continued on next page

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213369 (Continued) 3550C Sonication Extraction/USEPA-8082A									
Method Blank (Continued)					Analyzed:		11/03/2012	By: ASC	
Unit: mg/kg wet					Analytical Batch:		2K05018		
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*101*	*45-135*				
Tetrachloro-m-xylene				*74*	*56-123*				
Laboratory Control Sample					Analyzed:		11/03/2012	By: ASC	
Unit: mg/kg wet					Analytical Batch:		2K05018		
PCB-1248		0.174	**0.157 J**	91	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*101*	*45-135*				
Tetrachloro-m-xylene				*75*	*56-123*				
Matrix Spike 1211011-23 SO-17360-103112-EB-164					Analyzed:		11/03/2012	By: ASC	
Unit: mg/kg dry					Analytical Batch:		2K05018		
PCB-1248	0.34 U	0.179	**0.114 J**	64	42-168	--	30	0.34	0.0026
Surrogates:									
Decachlorobiphenyl				*74*	*45-135*				
Tetrachloro-m-xylene				*64*	*56-123*				
Matrix Spike Duplicate 1211011-23 SO-17360-103112-EB-164					Analyzed:		11/03/2012	By: ASC	
Unit: mg/kg dry					Analytical Batch:		2K05018		
PCB-1248	0.34 U	0.174	**0.114 J**	66	42-168	0.4	30	0.34	0.0026
Surrogates:									
Decachlorobiphenyl				*58*	*45-135*				
Tetrachloro-m-xylene				*65*	*56-123*				

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QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Percent Solids**/USEPA-3550B										
QC Batch: 1213468 (Method Specific Preparation)							Analyzed: 11/05/2012		By: CLB	
Method Blank			0.1 U	%					0.1	
1211011-12 [SO-17360-103112-EB-146]										
Duplicate	98		**98**	%			0.2	5	0.1	
1211011-20 [SO-17360-103112-EB-159]										
Duplicate	97		**96**	%			0.3	5	0.1	
QC Batch: 1213469 (Method Specific Preparation)							Analyzed: 11/05/2012		By: CLB	
Method Blank			0.1 U	%					0.1	
1211011-23 [SO-17360-103112-EB-164]										
Duplicate	96		**96**	%			0.09	5	0.1	

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CHAIN OF CUSTODY RECORD

COC NO.: PL-10048

PAGE 1 OF 3

CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170

Phone: (734) 453-5123 Fax: (734) 453-5201

(See Reverse Side for Instructions)

1211011 — 10RT10 (39-19)

Project No/ Phase/Task Code:	017360-T05121-10Y12
Project Name:	Former GRMP
Project Location:	Wyoming MI
Chemistry Contact:	P. Wiseman
Sampler(s):	E. Batenburg
Laboratory Name:	TML
Lab Contact:	J. Rice
Lab Location:	Grand Rapids MI
Lab Quote No:	—
SSOW ID:	11980-T05Y12-0113
Cooler No:	—
Carrier:	Drop @ lab
Airbill No:	—
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	HNO3	H2SO4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): (17) PCBs	MS/MSD Request	Comments/ Special Instructions:
01	SO-17360-103112-EB-129	10/31/12	910	SO	G	1								1	X		
02	-130		912													SB	
03	-131		918														HOLD EB 10/31/12
4	-132		922												X		HOLD
5	-133		925												X		HOLD
04	-134		955													SB	
05	-135		958														
06	-136		1000														
9	-137		1008												X		HOLD
10	-138		1010												X		HOLD
07	-139		1032													SB	
08	-140		1033														
09	-141		1035														
14	-142		1040												X		HOLD
15	-143		1043												X		HOLD

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: 15

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Jon Cook	CRA	10-31-12	1655	1. Lyn Romeyn	TriMatrix	10/31/12	1655
2.				2.			
3.				3.			

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CRA Form: COC-10A (20110804)

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TRIMATRIX LABORATORIES

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

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COC NO.: PL-10037
PAGE 2 OF 3

1211011 — ART 10 (39-19) — (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-TOS121-10Y12	Laboratory Name: TML	Lab Location: Grand Rapids, MI	SSOW ID: 11480-TOSY12-012
Project Name: Former GRMP	Lab Contact: J. Rizz	Lab Quote No: —	Cooler No: —
Project Location: Wyoming, MI			Carrier: Drop @ Lab
Chemistry Contact: P. Wiseman			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)	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 (See Back of COC for Definitions): (17) PCBs	MS/MSD Request	Comments/ Special Instructions:
10	SO-17360-10312-EB-144	10/31/12	1055	SO	G	1								1	X		
11	-145		1057			1								1			
12	-146		1100			2								2		X	MS/MSD
13	-147		1103			1								1			
5	-148		1110			1								1			HOLD
6	-149		1115			1								1			HOLD
14	-150		1140			1								1			
15	-151		1142			1								1			
16	-152		1145			1								1			
10	-153		1151			1								1			HOLD
11	-154		1152			1								1			HOLD
12	-155		1153			1								1			HOLD
17	-156		1240			1								1			
18	-157		1242			1								1			
19	-158		1301			1								1			

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☒ Week ☐ 2 Week ☐ Other:

Total Number of Containers: 16
All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	10/31/12	1655	1.	TriMatrix	10/31/12	1655
2.				2.			
3.				3.			

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CRA Form: COC-10A (20110804)

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TRIMATRIX LABORATORIES

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- 10038
PAGE 3 OF 3

1211011 CART ID (39-19) (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-TOS121-10Y12	Laboratory Name: TAL	Lab Location: Grand Rapids MI	SSOW ID: 17360-TOSY12-012
Project Name: Former GRMP	Lab Contact: J. Rice	Lab Quote No: —	Cooler No: —
Project Location: Wyoming, MI			Carrier: Drop @ lab
Chemistry Contact: P. Wiseman			Airbill No: —
Sampler(s): E. Baterbury			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 (See Back of COC for Definitions) (17) PCBs	MS/MSD Request	Comments/ Special Instructions:
2	SO-17360-163112-EB-159	10/31/12	1305	SO	G	1								1	X		HOLD
3	-160		1307														
4	-161		1310														
5	-162		1315														HOLD
6	-163		1317														HOLD
7	-164		1401			2								2		X	MS/MSD
8	-165		1403			1								1			
9	-166		1407														
10	-167		1410														HOLD
11	-168		1415														HOLD
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: 11

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Clark	CRA	10-31-12	1655	1. Lyn Romeyn	TriMatrix	10/31/12	1655
2.				2.			
3.				3.			

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 1211011 | New / Add To
Receipt Record Page/Line #: 39-19 | Project Chemist: JLR | Sample #s:

Recorded by (initials/date): DN 10/31/12

Cooler ☑ | Box ☐ | Other ☐ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler # / Time	Cooler 1	Cooler 2	Cooler 3	Cooler 4
Cooler # / Time	TM3100 / 1838			
Custody Seals	☑ None ☐ Present / Intact ☐ Present / Not Intact	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via	☐ Loose Ice / Avg 2-3 containers ☑ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via	☑ Temperature Blank (TB) ☐ 1 Container	☐ Temperature Blank (TB) ☐ 1 Container	☐ Temperature Blank (TB) ☐ 1 Container	☐ Temperature Blank (TB) ☐ 1 Container
Recorded °C / Correction Factor °C / Actual °C	Temp Blank: 0 / 6.2	Temp Blank:	Temp Blank:	Temp Blank:
TB location: Representative / Not Representative	1: 5.1 / 0 / 5.1 2: 5.8 / 0 / 5.8 3: 6.7 / 0 / 6.7	1 2 3	1 2 3	1 2 3
Average °C	5.9			
☐ Cooler ID on COC?				
☐ VOC Trip Blank received?				

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: 2L-10048

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐	☐	If "No", Project Chemist Approval Intials: _____
☑	☐	☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐	☐	Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐	☐	If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 10/31/12	10/31/12	Yes / No

Log In Forms - Receiving Log-In_Checklist

revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211014

Date:
November 28, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on October 31, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

This report relates only to the samples(s) as received. Estimates of analytical uncertainties for the test results contained within this report are available upon request. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC) and one or more of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#12-056-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#002841); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#03068); Michigan DPH (#0034); Minnesota DPH (#367345); New York ELAP (#46503); North Carolina DNRE (#659); Texas CEQ (#T104704495-12-2); Virginia DCLS (#1622); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-09-00163).

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

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11/28/12

Gary L. Wood, Project Chemist

Date

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Sample Receipt and Login -- Work Order: 1211014

TriMatrix Laboratories received the cooler(s) for this work order on October 31, 2012, at 16:55. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
Trip Blank	1211014-01	Soil	10/31/2012
S-17360-103112- DD-169	1211014-02	Soil	10/31/2012
S-17360-103112- DD-170	1211014-03	Soil	10/31/2012
GW-17360-103112- DD-171	1211014-04	Water	10/31/2012
S-17360-103112-DD-172	1211014-05	Soil	10/31/2012

No administrative issues were encountered during the receipt and analysis of this work order.

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8082A

Sample: 1211014-04 GW-17360-103112- DD-171

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. Because the analyte was not detected in the test sample, the result is not qualified.

Analysis: USEPA-8082A

Sample/Analyte: 1211014-03RE S-17360-103112- DD-170 PCB-1242

Qualification: One or more surrogate recoveries for the sample were less than the lower control limit but greater than or equal to 10%. All results are considered estimated.

Analysis: USEPA-8082A

Sample: 1211014-03 S-17360-103112- DD-170

Qualification: This sample was re-extracted due to low surrogate recovery in the initial extract. The re-extracted sample also had low surrogate recovery, confirming matrix interference. The original sample extract result was reported.

Analysis: USEPA-8082A

Sample: 1211014-03RE S-17360-103112- DD-170

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1211014-04	GW-17360-103112- DD-171	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1211014-04	GW-17360-103112- DD-171	Carbon Disulfide

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:	1211014-04	GW-17360-103112- DD-171	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8260B

Sample/Analyte:			
	1211014-01	Trip Blank	Methyl Acetate
	1211014-02	S-17360-103112- DD-169	Methyl Acetate
	1211014-03	S-17360-103112- DD-170	Methyl Acetate
	1211014-05	S-17360-103112-DD-172	Methyl Acetate

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1211014-01	Trip Blank	Chloroethane
	1211014-01	Trip Blank	Trichlorofluoromethane
	1211014-02	S-17360-103112- DD-169	Chloroethane
	1211014-02	S-17360-103112- DD-169	Trichlorofluoromethane
	1211014-03	S-17360-103112- DD-170	Chloroethane
	1211014-03	S-17360-103112- DD-170	Trichlorofluoromethane
	1211014-05	S-17360-103112-DD-172	Chloroethane
	1211014-05	S-17360-103112-DD-172	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:			
	1211014-01	Trip Blank	Bromomethane
	1211014-01	Trip Blank	Chloroethane
	1211014-01	Trip Blank	Trichlorofluoromethane
	1211014-02	S-17360-103112- DD-169	Bromomethane
	1211014-02	S-17360-103112- DD-169	Chloroethane
	1211014-02	S-17360-103112- DD-169	Trichlorofluoromethane
	1211014-03	S-17360-103112- DD-170	Bromomethane
	1211014-03	S-17360-103112- DD-170	Chloroethane
	1211014-03	S-17360-103112- DD-170	Trichlorofluoromethane
	1211014-05	S-17360-103112-DD-172	Bromomethane
	1211014-05	S-17360-103112-DD-172	Chloroethane
	1211014-05	S-17360-103112-DD-172	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery below the lower control limit of the method. Positive results for this analyte in any associated samples are considered estimated; non-detectable results are considered approximate.

Analysis: USEPA-8260B

Sample/Analyte:			
	1211014-01	Trip Blank	Methyl Acetate
	1211014-02	S-17360-103112- DD-169	Methyl Acetate
	1211014-03	S-17360-103112- DD-170	Methyl Acetate
	1211014-05	S-17360-103112-DD-172	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Qualification: The corresponding CCV for this analytical batch had a recovery below the lower control limit of the method. Positive results for this analyte in any associated samples are considered estimated; non-detectable results are considered approximate.

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8260B

Sample/Analyte:	1211014-03	S-17360-103112- DD-170	4-Bromofluorobenzene

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP because client specific matrix QC was not requested. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8270C

Sample:		
	1211014-02	S-17360-103112- DD-169
	1211014-03	S-17360-103112- DD-170
	1211014-05	S-17360-103112-DD-172

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211014-04	GW-17360-103112- DD-171	Caprolactam

Qualification: The LCS recovery was less than 10%. All results, including non-detectable concentrations for this analyte in any sample from the associated QC Batch are considered unusable.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211014-02	S-17360-103112- DD-169	Benzaldehyde
	1211014-03	S-17360-103112- DD-170	Benzaldehyde
	1211014-05	S-17360-103112-DD-172	Benzaldehyde

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211014-03	S-17360-103112- DD-170	Benzo(b)fluoranthene
	1211014-03	S-17360-103112- DD-170	Benzo(k)fluoranthene
	1211014-03	S-17360-103112- DD-170	Naphthalene
	1211014-05	S-17360-103112-DD-172	Acenaphthene
	1211014-05	S-17360-103112-DD-172	Benzo(a)anthracene
	1211014-05	S-17360-103112-DD-172	Benzo(b)fluoranthene
	1211014-05	S-17360-103112-DD-172	Benzo(k)fluoranthene
	1211014-05	S-17360-103112-DD-172	Chrysene
	1211014-05	S-17360-103112-DD-172	Pyrene
	1213587-BS3		4-Nitrophenol
	1213648-BSD2		2-Fluorophenol

Qualification: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211014-02	S-17360-103112- DD-169	Bis(2-ethylhexyl) Phthalate

Continued on next page

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

1211014-05	S-17360-103112-DD-172	Bis(2-ethylhexyl) Phthalate

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte: 1211014-02	S-17360-103112- DD-169	Diethyl Phthalate
1211014-04	GW-17360-103112- DD-171	Diethyl Phthalate
1211014-05	S-17360-103112-DD-172	Diethyl Phthalate

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8270C

Sample: 1211014-03 S-17360-103112- DD-170

Qualification: Surrogate results are unavailable due to sample matrix interference(s), resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8270C

Sample: 1211014-03 S-17360-103112- DD-170

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Attachment 2
Statement of Data Qualifications

Dissolved Metals by EPA 6000/7000 Series Methods

Qualification: The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.

Analysis: USEPA-6020A

Sample/Analyte: 1211014-04 GW-17360-103112- DD-171 Nickel

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:			
	2K10006-CRL1		Selenium
	2K10006-CRL1		Zinc

Qualification: The % difference in results between the sample and a serial dilution of the sample exceeded the control limit. Sample matrix interference is suspected and the reported result is considered estimated.

Analysis: USEPA-6010C

Sample/Analyte:			
	1211014-05	S-17360-103112-DD-172	Iron

Analysis: USEPA-6020A

Sample/Analyte:			
	1211014-05	S-17360-103112-DD-172	Cobalt

Qualification: The post-digestion spike recovery for this sample was outside the control limit. Sample matrix interference is suspected and the reported result must be considered as estimated.

Analysis: USEPA-6010C

Sample/Analyte:			
	1211014-05	S-17360-103112-DD-172	Iron

Analysis: USEPA-6020A

Sample/Analyte:			
	1211014-05	S-17360-103112-DD-172	Chromium

Qualification: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211014-05	S-17360-103112-DD-172	Arsenic
	1211014-05	S-17360-103112-DD-172	Selenium

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211014-05	S-17360-103112-DD-172	Barium

Continued on next page

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods (Continued)

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-6020A

1211014-05	S-17360-103112-DD-172	Zinc

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample concentration for the same analyte was greater than or equal to 4 times the spiked amount; matrix QC results are not available.

Analysis: USEPA-6010C

Sample/Analyte: 1211014-05	S-17360-103112-DD-172	Iron

Analysis: USEPA-6020A

Sample/Analyte: 1211014-05	S-17360-103112-DD-172	Manganese

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/31/12 00:00
Lab Sample ID:	**1211014-01**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
*74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
*75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.012
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.010
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
*79-20-9	Methyl Acetate	0.25U	0.25	0.032

Continued on next page

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	10/31/12 00:00
Lab Sample ID:	**1211014-01**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/08/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
*75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/06/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K06015
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0072
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.17J**	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*95*	*45-135*
Tetrachloro-m-xylene	*86*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.79U	0.79	0.057
71-43-2	Benzene	0.052U	0.052	0.0075
75-27-4	Bromodichloromethane	0.052U	0.052	0.0070
75-25-2	Bromoform	0.052U	0.052	0.014
*74-83-9	Bromomethane	0.052U	0.052	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.052U	0.052	0.018
108-90-7	Chlorobenzene	0.052U	0.052	0.0088
*75-00-3	Chloroethane	0.052U	0.052	0.019
67-66-3	Chloroform	0.052U	0.052	0.0088
74-87-3	Chloromethane	0.052U	0.052	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.052U	0.052	0.0080
106-93-4	1,2-Dibromoethane	0.052U	0.052	0.017
95-50-1	1,2-Dichlorobenzene	0.052U	0.052	0.012
541-73-1	1,3-Dichlorobenzene	0.052U	0.052	0.012
106-46-7	1,4-Dichlorobenzene	0.052U	0.052	0.013
75-71-8	Dichlorodifluoromethane	0.052U	0.052	0.011
75-34-3	1,1-Dichloroethane	0.052U	0.052	0.011
107-06-2	1,2-Dichloroethane	0.052U	0.052	0.011
75-35-4	1,1-Dichloroethene	0.052U	0.052	0.011
156-59-2	cis-1,2-Dichloroethene	0.052U	0.052	0.012
156-60-5	trans-1,2-Dichloroethene	0.052U	0.052	0.012
78-87-5	1,2-Dichloropropane	0.052U	0.052	0.014
10061-01-5	cis-1,3-Dichloropropene	0.052U	0.052	0.010
10061-02-6	trans-1,3-Dichloropropene	0.052U	0.052	0.0099
100-41-4	Ethylbenzene	0.052U	0.052	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.052U	0.052	0.012
*79-20-9	Methyl Acetate	0.26U	0.26	0.034
1634-04-4	Methyl tert-Butyl Ether	0.052U	0.052	0.010
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.10U	0.10	0.028
78-93-3	2-Butanone (MEK)	0.79U	0.79	0.066
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.052U	0.052	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.052U	0.052	0.013
127-18-4	Tetrachloroethene	0.052U	0.052	0.014
108-88-3	Toluene	0.052U	0.052	0.012
120-82-1	1,2,4-Trichlorobenzene	0.052U	0.052	0.0073
71-55-6	1,1,1-Trichloroethane	0.052U	0.052	0.0072
79-00-5	1,1,2-Trichloroethane	0.052U	0.052	0.017
79-01-6	Trichloroethene	0.052U	0.052	0.011
*75-69-4	Trichlorofluoromethane	0.052U	0.052	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.052U	0.052	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0088
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.018U	0.018	0.00083
208-96-8	Acenaphthylene	0.018U	0.018	0.00086
98-86-2	Acetophenone	0.018U	0.018	0.010
120-12-7	Anthracene	0.018U	0.018	0.00090
1912-24-9	Atrazine	0.018U	0.018	0.010
*100-52-7	Benzaldehyde	0.070U	0.070	0.010
56-55-3	Benzo(a)anthracene	0.018U	0.018	0.0015
50-32-8	Benzo(a)pyrene	0.018U	0.018	0.00090
205-99-2	Benzo(b)fluoranthene	0.018U	0.018	0.0018
207-08-9	Benzo(k)fluoranthene	0.018U	0.018	0.0023
191-24-2	Benzo(g,h,i)perylene	0.035U	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.018U	0.018	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.018U	0.018	0.00099
85-68-7	Butyl Benzyl Phthalate	0.035U	0.035	0.0018
105-60-2	Caprolactam	0.070U	0.070	0.012
86-74-8	Carbazole	0.18U	0.18	0.0094
59-50-7	4-Chloro-3-methylphenol	0.018U	0.018	0.0039
106-47-8	4-Chloroaniline	0.070U	0.070	0.0093
111-91-1	Bis(2-chloroethoxy)methane	0.018U	0.018	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.018U	0.018	0.00083
108-60-1	Bis(2-chloroisopropyl) Ether	0.018U	0.018	0.0028
91-58-7	2-Chloronaphthalene	0.018U	0.018	0.0027
95-57-8	2-Chlorophenol	0.018U	0.018	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.018U	0.018	0.00076
218-01-9	Chrysene	0.018U	0.018	0.00090
53-70-3	Dibenz(a,h)anthracene	0.035U	0.035	0.0013
132-64-9	Dibenzofuran	0.018U	0.018	0.00086
84-74-2	Di-n-butyl Phthalate	0.070U	0.070	0.015
91-94-1	3,3´-Dichlorobenzidine	0.87U	0.87	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.011JB**	0.018	0.0025
105-67-9	2,4-Dimethylphenol	0.18U	0.18	0.031
131-11-3	Dimethyl Phthalate	0.018U	0.018	0.0020
534-52-1	4,6-Dinitro-2-methylphenol	**0.021J**	0.18	0.0057
51-28-5	2,4-Dinitrophenol	0.18U	0.18	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.018U	0.018	0.0016
117-84-0	Di-n-octyl Phthalate	0.018U	0.018	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.0075JB**	0.035	0.0043
206-44-0	Fluoranthene	0.018U	0.018	0.00059
86-73-7	Fluorene	0.035U	0.035	0.00063
118-74-1	Hexachlorobenzene	0.018U	0.018	0.0010
87-68-3	Hexachlorobutadiene	0.018U	0.018	0.00076
77-47-4	Hexachlorocyclopentadiene	0.018U	0.018	0.0028
67-72-1	Hexachloroethane	0.018U	0.018	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	0.035U	0.035	0.0032
78-59-1	Isophorone	0.018U	0.018	0.0011
91-57-6	2-Methylnaphthalene	0.018U	0.018	0.0014
95-48-7	2-Methylphenol	0.018U	0.018	0.0035
106-44-5	4-Methylphenol	0.018U	0.018	0.0021
91-20-3	Naphthalene	0.018U	0.018	0.00054
88-74-4	2-Nitroaniline	0.018U	0.018	0.0062
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.018U	0.018	0.0015
100-02-7	4-Nitrophenol	0.70U	0.70	0.028
88-75-5	2-Nitrophenol	0.018U	0.018	0.0016
86-30-6	N-Nitroso-diphenylamine	0.018U	0.018	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.018U	0.018	0.0023
87-86-5	Pentachlorophenol	0.18U	0.18	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	95		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.018U	0.018	0.00076
108-95-2	Phenol	0.18U	0.18	0.0014
129-00-0	Pyrene	0.018U	0.018	0.0013
88-06-2	2,4,6-Trichlorophenol	0.018U	0.018	0.0018
95-95-4	2,4,5-Trichlorophenol	0.018U	0.018	0.0041

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*78*	*33-113*
Phenol-d6	*81*	*30-115*
Nitrobenzene-d5	*77*	*33-131*
2-Fluorobiphenyl	*79*	*46-122*
2,4,6-Tribromophenol	*51*	*12-124*
o-Terphenyl	*72*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Percent Solids:	95		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.14**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:34	DSC	1213548
Arsenic	**1.6**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Barium	**17**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/10/12 10:20	DSC	1213574
Beryllium	**0.13**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Cadmium	**0.071**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Chromium	**5.5**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:06	DSC	1213574
Cobalt	**2.0**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Copper	**6.6**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Iron	**5700**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:39	CKD	1213573
Lead	**7.2**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Manganese	**110**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/12/12 12:54	DSC	1213574
Molybdenum	**0.25**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 17:04	CKD	1213516
Nickel	**4.7**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:06	DSC	1213574
Silver	**0.028**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Thallium	**0.040**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:51	DSC	1213574
Vanadium	**8.9**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:06	DSC	1213574
Zinc	**18**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/12/12 12:57	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-169**	Sampled:	10/31/12 14:35
Lab Sample ID:	**1211014-02**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	4	Analyzed:	11/15/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K15027
Percent Solids:	93		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0073
11104-28-2	PCB-1221	0.35U	0.35	0.0090
11141-16-5	PCB-1232	0.35U	0.35	0.0090
53469-21-9	PCB-1242	0.35U	0.35	0.030
12672-29-6	PCB-1248	0.35U	0.35	0.011
11097-69-1	PCB-1254	0.35U	0.35	0.015
11096-82-5	PCB-1260	**0.034J**	0.35	0.012

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	***42***	*45-135*
Tetrachloro-m-xylene	***48***	*56-123*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.058
71-43-2	Benzene	0.054U	0.054	0.0076
75-27-4	Bromodichloromethane	0.054U	0.054	0.0072
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
75-15-0	Carbon Disulfide	**0.028J**	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
108-90-7	Chlorobenzene	0.054U	0.054	0.0090
*75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0090
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.017
95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.013
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.011
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.012
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	**0.30**	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	93		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	**0.93**	0.054	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.034
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	**0.097J**	0.27	0.020
75-09-2	Methylene Chloride	**0.17**	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0075
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0074
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	0.054U	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.019
75-01-4	Vinyl Chloride	0.043U	0.043	0.0090
1330-20-7	Xylene (Total)	**1.5**	0.16	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*103*	*85-113*
* *4-Bromofluorobenzene*	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	20	Analyzed:	11/21/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K23002
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.71U	0.71	0.033
208-96-8	Acenaphthylene	0.71U	0.71	0.035
98-86-2	Acetophenone	0.71U	0.71	0.42
120-12-7	Anthracene	**0.31J**	0.71	0.036
1912-24-9	Atrazine	0.71U	0.71	0.41
*100-52-7	Benzaldehyde	2.8U	2.8	0.40
56-55-3	Benzo(a)anthracene	**0.61J**	0.71	0.061
50-32-8	Benzo(a)pyrene	**0.42J**	0.71	0.036
*205-99-2	Benzo(b)fluoranthene	**0.46J**	0.71	0.072
*207-08-9	Benzo(k)fluoranthene	**0.21J**	0.71	0.094
191-24-2	Benzo(g,h,i)perylene	**0.18J**	1.4	0.035
92-52-4	1,1'-Biphenyl	**2.4**	0.71	0.45
101-55-3	4-Bromophenyl Phenyl Ether	0.71U	0.71	0.040
85-68-7	Butyl Benzyl Phthalate	1.4U	1.4	0.071
105-60-2	Caprolactam	2.8U	2.8	0.46
86-74-8	Carbazole	7.1U	7.1	0.38
59-50-7	4-Chloro-3-methylphenol	0.71U	0.71	0.16
106-47-8	4-Chloroaniline	2.8U	2.8	0.37
111-91-1	Bis(2-chloroethoxy)methane	0.71U	0.71	0.047
111-44-4	Bis(2-chloroethyl) Ether	0.71U	0.71	0.033
108-60-1	Bis(2-chloroisopropyl) Ether	0.71U	0.71	0.11
91-58-7	2-Chloronaphthalene	0.71U	0.71	0.11
95-57-8	2-Chlorophenol	0.71U	0.71	0.033
7005-72-3	4-Chlorophenyl Phenyl Ether	0.71U	0.71	0.031
218-01-9	Chrysene	**1.5**	0.71	0.036
53-70-3	Dibenz(a,h)anthracene	1.4U	1.4	0.054
132-64-9	Dibenzofuran	**0.65J**	0.71	0.035
84-74-2	Di-n-butyl Phthalate	2.8U	2.8	0.60
91-94-1	3,3´-Dichlorobenzidine	35U	35	1.4

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	20	Analyzed:	11/21/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K23002
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	1.4U	1.4	0.065
84-66-2	Diethyl Phthalate	0.71U	0.71	0.10
105-67-9	2,4-Dimethylphenol	7.1U	7.1	1.3
131-11-3	Dimethyl Phthalate	0.71U	0.71	0.079
534-52-1	4,6-Dinitro-2-methylphenol	7.1U	7.1	0.23
51-28-5	2,4-Dinitrophenol	7.1U	7.1	1.6
121-14-2	2,4-Dinitrotoluene	1.4U	1.4	0.21
606-20-2	2,6-Dinitrotoluene	0.71U	0.71	0.066
117-84-0	Di-n-octyl Phthalate	0.71U	0.71	0.047
117-81-7	Bis(2-ethylhexyl) Phthalate	1.4U	1.4	0.17
206-44-0	Fluoranthene	**0.93**	0.71	0.024
86-73-7	Fluorene	**1.0J**	1.4	0.026
118-74-1	Hexachlorobenzene	0.71U	0.71	0.042
87-68-3	Hexachlorobutadiene	0.71U	0.71	0.031
77-47-4	Hexachlorocyclopentadiene	0.71U	0.71	0.11
67-72-1	Hexachloroethane	0.71U	0.71	0.056
193-39-5	Indeno(1,2,3-cd)pyrene	**0.15J**	1.4	0.13
78-59-1	Isophorone	0.71U	0.71	0.044
91-57-6	2-Methylnaphthalene	**14**	0.71	0.057
95-48-7	2-Methylphenol	0.71U	0.71	0.14
106-44-5	4-Methylphenol	0.71U	0.71	0.085
*91-20-3	Naphthalene	**4.6**	0.71	0.022
88-74-4	2-Nitroaniline	0.71U	0.71	0.25
99-09-2	3-Nitroaniline	1.4U	1.4	0.69
100-01-6	4-Nitroaniline	1.4U	1.4	0.66
98-95-3	Nitrobenzene	0.71U	0.71	0.062
100-02-7	4-Nitrophenol	28U	28	1.1
88-75-5	2-Nitrophenol	0.71U	0.71	0.065
86-30-6	N-Nitroso-diphenylamine	0.71U	0.71	0.044
621-64-7	N-Nitroso-di-n-propylamine	0.71U	0.71	0.092
87-86-5	Pentachlorophenol	7.1U	7.1	0.63

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	20	Analyzed:	11/21/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K23002
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**2.7**	0.71	0.031
108-95-2	Phenol	7.1U	7.1	0.055
129-00-0	Pyrene	**1.5**	0.71	0.051
88-06-2	2,4,6-Trichlorophenol	0.71U	0.71	0.072
95-95-4	2,4,5-Trichlorophenol	0.71U	0.71	0.17

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.044**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:36	DSC	1213548
Arsenic	**0.83**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Barium	**5.6**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Beryllium	**0.086**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Cadmium	**0.016**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Chromium	**6.1**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:09	DSC	1213574
Cobalt	**1.5**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Copper	**3.1**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Iron	**2600**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/07/12 17:45	CKD	1213573
Lead	**2.1**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Manganese	**19**		5.0	0.12	mg/kg dry wt.	5	USEPA-6020A	11/12/12 13:00	DSC	1213574
Molybdenum	**0.11**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/06/12 17:09	CKD	1213516
Nickel	**5.0**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Selenium	0.10	U	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:09	DSC	1213574
Silver	**0.016**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Thallium	**0.022**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574
Vanadium	**6.6**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:09	DSC	1213574
Zinc	**8.5**		1.0	0.28	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:55	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112- DD-170**	Sampled:	10/31/12 14:45
Lab Sample ID:	**1211014-03RE1**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/27/201 By: JTS
Dilution Factor:	4	Analyzed:	11/28/12 By: MSZ
QC Batch:	1213369	Analytical Batch:	2K28029
Percent Solids:	93		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	1.4U	1.4	0.0073
11104-28-2	PCB-1221	1.4U	1.4	0.0090
11141-16-5	PCB-1232	1.4U	1.4	0.0090
*53469-21-9	PCB-1242	1.4U	1.4	0.030
12672-29-6	PCB-1248	1.4U	1.4	0.011
11097-69-1	PCB-1254	1.4U	1.4	0.015
11096-82-5	PCB-1260	**0.034J**	1.4	0.012

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*64*	*45-135*
Tetrachloro-m-xylene	***53***	*56-123*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/10/12 By: ASC
QC Batch:	1213428	Analytical Batch:	2K12005

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*99*	*52-139*
Tetrachloro-m-xylene	*80*	*26-118*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.87J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*96*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
*105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*50*	*20-70*
Phenol-d6	*33*	*18-45*
Nitrobenzene-d5	*81*	*31-123*
2-Fluorobiphenyl	*87*	*25-113*
2,4,6-Tribromophenol	*54*	*30-121*
o-Terphenyl	*77*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-103112- DD-171**	Sampled:	10/31/12 15:45
Lab Sample ID:	**1211014-04**	Sampled By:	CRA
Matrix:	Water	Received:	10/31/12 16:55

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Arsenic	**0.34**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Barium	**9.0**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Chromium	**0.29**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/10/12 12:21	DSC	1213631
Cobalt	**1.3**		1.0	0.050	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Copper	**15**		1.0	0.13	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Iron	**77**		20	6.5	ug/L	1	USEPA-6010C	11/12/12 14:33	KLV	1213630
Lead	**0.81**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Manganese	**72**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Molybdenum	**2.9**		1.0	0.075	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 12:13	CKD	1213552
***Nickel**	**2.8**		1.0	0.17	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Selenium	**1.4**		1.0	0.31	ug/L	1	USEPA-6020A	11/10/12 12:21	DSC	1213631
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631
Vanadium	1.0	U	1.0	0.066	ug/L	1	USEPA-6020A	11/10/12 12:21	DSC	1213631
Zinc	**9.6**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/10/12 09:34	DSC	1213631

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/2/2012 By: ALK
Dilution Factor:	1	Analyzed:	11/06/12 By: ASC
QC Batch:	1213369	Analytical Batch:	2K06015
Percent Solids:	89		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.37U	0.37	0.0019
11104-28-2	PCB-1221	0.37U	0.37	0.0024
11141-16-5	PCB-1232	0.37U	0.37	0.0024
53469-21-9	PCB-1242	0.37U	0.37	0.0077
12672-29-6	PCB-1248	0.37U	0.37	0.0028
11097-69-1	PCB-1254	0.37U	0.37	0.0038
11096-82-5	PCB-1260	**0.0047J**	0.37	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*60*	*45-135*
Tetrachloro-m-xylene	*81*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	89		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.84U	0.84	0.061
71-43-2	Benzene	0.056U	0.056	0.0079
75-27-4	Bromodichloromethane	0.056U	0.056	0.0075
75-25-2	Bromoform	0.056U	0.056	0.014
*74-83-9	Bromomethane	0.056U	0.056	0.024
75-15-0	Carbon Disulfide	0.28U	0.28	0.013
56-23-5	Carbon Tetrachloride	0.056U	0.056	0.019
108-90-7	Chlorobenzene	0.056U	0.056	0.0094
*75-00-3	Chloroethane	0.056U	0.056	0.020
67-66-3	Chloroform	0.056U	0.056	0.0094
74-87-3	Chloromethane	0.056U	0.056	0.022
110-82-7	Cyclohexane	0.28U	0.28	0.027
96-12-8	1,2-Dibromo-3-chloropropane	0.28U	0.28	0.029
124-48-1	Dibromochloromethane	0.056U	0.056	0.0085
106-93-4	1,2-Dibromoethane	0.056U	0.056	0.018
95-50-1	1,2-Dichlorobenzene	0.056U	0.056	0.013
541-73-1	1,3-Dichlorobenzene	0.056U	0.056	0.013
106-46-7	1,4-Dichlorobenzene	0.056U	0.056	0.014
75-71-8	Dichlorodifluoromethane	0.056U	0.056	0.012
75-34-3	1,1-Dichloroethane	0.056U	0.056	0.012
107-06-2	1,2-Dichloroethane	0.056U	0.056	0.012
75-35-4	1,1-Dichloroethene	0.056U	0.056	0.012
156-59-2	cis-1,2-Dichloroethene	0.056U	0.056	0.013
156-60-5	trans-1,2-Dichloroethene	0.056U	0.056	0.013
78-87-5	1,2-Dichloropropane	0.056U	0.056	0.015
10061-01-5	cis-1,3-Dichloropropene	0.056U	0.056	0.011
10061-02-6	trans-1,3-Dichloropropene	0.056U	0.056	0.011
100-41-4	Ethylbenzene	0.056U	0.056	0.012
591-78-6	2-Hexanone	2.8U	2.8	0.028

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	89		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.056U	0.056	0.012
*79-20-9	Methyl Acetate	0.28U	0.28	0.036
1634-04-4	Methyl tert-Butyl Ether	0.056U	0.056	0.011
108-87-2	Methylcyclohexane	0.28U	0.28	0.021
75-09-2	Methylene Chloride	**0.33**	0.11	0.030
78-93-3	2-Butanone (MEK)	0.84U	0.84	0.071
108-10-1	4-Methyl-2-pentanone (MIBK)	2.8U	2.8	0.022
100-42-5	Styrene	0.056U	0.056	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.056U	0.056	0.014
127-18-4	Tetrachloroethene	0.056U	0.056	0.015
108-88-3	Toluene	0.056U	0.056	0.012
120-82-1	1,2,4-Trichlorobenzene	0.056U	0.056	0.0078
71-55-6	1,1,1-Trichloroethane	0.056U	0.056	0.0077
79-00-5	1,1,2-Trichloroethane	0.056U	0.056	0.018
79-01-6	Trichloroethene	0.056U	0.056	0.012
*75-69-4	Trichlorofluoromethane	**0.026J**	0.056	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.056U	0.056	0.020
75-01-4	Vinyl Chloride	0.045U	0.045	0.0094
1330-20-7	Xylene (Total)	0.17U	0.17	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*99*	*83-116*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*100*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	89		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
*83-32-9	Acenaphthene	**0.0015J**	0.019	0.00089
208-96-8	Acenaphthylene	**0.0011J**	0.019	0.00092
98-86-2	Acetophenone	0.019U	0.019	0.011
120-12-7	Anthracene	**0.0022J**	0.019	0.00096
1912-24-9	Atrazine	0.019U	0.019	0.011
*100-52-7	Benzaldehyde	0.075U	0.075	0.011
*56-55-3	Benzo(a)anthracene	**0.0092J**	0.019	0.0016
50-32-8	Benzo(a)pyrene	**0.0063J**	0.019	0.00096
*205-99-2	Benzo(b)fluoranthene	**0.0055J**	0.019	0.0019
*207-08-9	Benzo(k)fluoranthene	**0.0029J**	0.019	0.0025
191-24-2	Benzo(g,h,i)perylene	**0.0096J**	0.037	0.00092
92-52-4	1,1'-Biphenyl	0.019U	0.019	0.012
101-55-3	4-Bromophenyl Phenyl Ether	0.019U	0.019	0.0011
85-68-7	Butyl Benzyl Phthalate	0.037U	0.037	0.0019
105-60-2	Caprolactam	0.075U	0.075	0.012
86-74-8	Carbazole	0.19U	0.19	0.010
59-50-7	4-Chloro-3-methylphenol	0.019U	0.019	0.0042
106-47-8	4-Chloroaniline	0.075U	0.075	0.0099
111-91-1	Bis(2-chloroethoxy)methane	0.019U	0.019	0.0013
111-44-4	Bis(2-chloroethyl) Ether	0.019U	0.019	0.00089
108-60-1	Bis(2-chloroisopropyl) Ether	0.019U	0.019	0.0030
91-58-7	2-Chloronaphthalene	0.019U	0.019	0.0029
95-57-8	2-Chlorophenol	0.019U	0.019	0.00089
7005-72-3	4-Chlorophenyl Phenyl Ether	0.019U	0.019	0.00081
*218-01-9	Chrysene	**0.0059J**	0.019	0.00096
53-70-3	Dibenz(a,h)anthracene	0.037U	0.037	0.0014
132-64-9	Dibenzofuran	**0.0022J**	0.019	0.00092
84-74-2	Di-n-butyl Phthalate	0.075U	0.075	0.016
91-94-1	3,3´-Dichlorobenzidine	0.93U	0.93	0.036

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	89		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.037U	0.037	0.0017
*84-66-2	Diethyl Phthalate	**0.011JB**	0.019	0.0027
105-67-9	2,4-Dimethylphenol	0.19U	0.19	0.033
131-11-3	Dimethyl Phthalate	0.019U	0.019	0.0021
534-52-1	4,6-Dinitro-2-methylphenol	0.19U	0.19	0.0061
51-28-5	2,4-Dinitrophenol	0.19U	0.19	0.043
121-14-2	2,4-Dinitrotoluene	0.037U	0.037	0.0056
606-20-2	2,6-Dinitrotoluene	0.019U	0.019	0.0018
117-84-0	Di-n-octyl Phthalate	0.019U	0.019	0.0013
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.0048JB**	0.037	0.0046
206-44-0	Fluoranthene	**0.011J**	0.019	0.00063
86-73-7	Fluorene	**0.0029J**	0.037	0.00068
118-74-1	Hexachlorobenzene	0.019U	0.019	0.0011
87-68-3	Hexachlorobutadiene	0.019U	0.019	0.00081
77-47-4	Hexachlorocyclopentadiene	0.019U	0.019	0.0030
67-72-1	Hexachloroethane	0.019U	0.019	0.0015
193-39-5	Indeno(1,2,3-cd)pyrene	**0.0055J**	0.037	0.0034
78-59-1	Isophorone	0.019U	0.019	0.0012
91-57-6	2-Methylnaphthalene	**0.021**	0.019	0.0015
95-48-7	2-Methylphenol	0.019U	0.019	0.0037
106-44-5	4-Methylphenol	0.019U	0.019	0.0022
91-20-3	Naphthalene	**0.0048J**	0.019	0.00057
88-74-4	2-Nitroaniline	0.019U	0.019	0.0066
99-09-2	3-Nitroaniline	0.037U	0.037	0.018
100-01-6	4-Nitroaniline	0.037U	0.037	0.018
98-95-3	Nitrobenzene	0.019U	0.019	0.0016
100-02-7	4-Nitrophenol	0.75U	0.75	0.030
88-75-5	2-Nitrophenol	0.019U	0.019	0.0017
86-30-6	N-Nitroso-diphenylamine	0.019U	0.019	0.0012
621-64-7	N-Nitroso-di-n-propylamine	0.019U	0.019	0.0024
87-86-5	Pentachlorophenol	0.19U	0.19	0.017

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	89		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.018J**	0.019	0.00081
108-95-2	Phenol	0.19U	0.19	0.0015
*129-00-0	Pyrene	**0.012J**	0.019	0.0014
88-06-2	2,4,6-Trichlorophenol	0.019U	0.019	0.0019
95-95-4	2,4,5-Trichlorophenol	0.019U	0.019	0.0044

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*74*	*33-113*
Phenol-d6	*76*	*30-115*
Nitrobenzene-d5	*77*	*33-131*
2-Fluorobiphenyl	*82*	*46-122*
2,4,6-Tribromophenol	*43*	*12-124*
o-Terphenyl	*80*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55
Percent Solids:	89		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.032**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/06/12 15:39	DSC	1213548
***Arsenic**	**1.1**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
***Barium**	**7.4**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
Beryllium	**0.075**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
Cadmium	**0.018**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
***Chromium**	**4.3**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:12	DSC	1213574
***Cobalt**	**1.4**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
Copper	**3.3**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
***Iron**	**3800**		500	62	mg/kg dry wt.	100	USEPA-6010C	11/07/12 18:21	CKD	1213573
Lead	**1.5**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
***Manganese**	**39**		10	0.23	mg/kg dry wt.	10	USEPA-6020A	11/12/12 13:04	DSC	1213574
Molybdenum	**0.18**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
Mercury	0.046	U	0.046	0.0056	mg/kg dry wt.	1	USEPA-7471A	11/06/12 17:14	CKD	1213516
Nickel	**3.8**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
***Selenium**	**0.19**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 12:19	CKD	1213574
Silver	**0.017**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
Thallium	**0.025**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/09/12 14:59	DSC	1213574
Vanadium	**6.0**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:12	DSC	1213574
***Zinc**	**7.4**		1.0	0.28	mg/kg dry wt.	1	USEPA-6020A	11/12/12 10:12	DSC	1213574

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211014**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-103112-DD-172**	Sampled:	10/31/12 15:10
Lab Sample ID:	**1211014-05**	Sampled By:	CRA
Matrix:	Soil	Received:	10/31/12 16:55

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**89**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213369 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/03/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K05018			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*101*	*45-135*				
Tetrachloro-m-xylene				*74*	*56-123*				
Method Blank					Analyzed:	11/28/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K28029			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			**0.0084 J**			--		0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*77*	*45-135*				
Tetrachloro-m-xylene				*96*	*56-123*				
Laboratory Control Sample					Analyzed:	11/03/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K05018			
PCB-1248		0.174	**0.157 J**	91	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*101*	*45-135*				
Tetrachloro-m-xylene				*75*	*56-123*				
Laboratory Control Sample					Analyzed:	11/28/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K28029			
PCB-1248		0.174	**0.164 J**	94	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*84*	*45-135*				

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213369 (Continued) 3550C Sonication Extraction/USEPA-8082A									
Laboratory Control Sample (Continued)					Analyzed:	11/28/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K28029			
Surrogates (Continued):									
Tetrachloro-m-xylene				*99*	*56-123*				
QC Batch: 1213428 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*74*	*26-118*				
Laboratory Control Sample					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.939**	94	44-146	--	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*106*	*52-139*				
Tetrachloro-m-xylene				*76*	*26-118*				
Laboratory Control Sample Duplicate					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.887**	89	44-146	6	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*72*	*26-118*				

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Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Acetone	**2.5 J**	--		5.0	1.1
Benzene	1.0 U			1.0	0.11
Bromodichloromethane	1.0 U			1.0	0.13
Bromoform	1.0 U			1.0	0.26
Bromomethane	1.0 U			1.0	0.21
Carbon Disulfide	5.0 U	--		5.0	0.23
Carbon Tetrachloride	1.0 U			1.0	0.26
Chlorobenzene	1.0 U			1.0	0.17
Chloroethane	1.0 U			1.0	0.14
Chloroform	1.0 U			1.0	0.098
Chloromethane	1.0 U			1.0	0.29
Cyclohexane	5.0 U			5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U			1.0	0.13
Dibromochloromethane	1.0 U			1.0	0.15
1,2-Dibromoethane	1.0 U			1.0	0.15
1,2-Dichlorobenzene	1.0 U			1.0	0.24
1,3-Dichlorobenzene	1.0 U			1.0	0.24
1,4-Dichlorobenzene	1.0 U	--		1.0	0.25
Dichlorodifluoromethane	1.0 U			1.0	0.21
1,1-Dichloroethane	1.0 U			1.0	0.18
1,2-Dichloroethane	1.0 U			1.0	0.21
1,1-Dichloroethene	1.0 U			1.0	0.21
cis-1,2-Dichloroethene	1.0 U			1.0	0.12
trans-1,2-Dichloroethene	1.0 U			1.0	0.20
1,2-Dichloropropane	1.0 U			1.0	0.28
cis-1,3-Dichloropropene	1.0 U			1.0	0.19
trans-1,3-Dichloropropene	1.0 U			1.0	0.19
Ethylbenzene	1.0 U			1.0	0.21
2-Hexanone	5.0 U			5.0	0.49
Isopropylbenzene	1.0 U			1.0	0.22
Methyl Acetate	**0.97 J**	--		5.0	0.42
Methyl tert-Butyl Ether	1.0 U			1.0	0.19
Methylcyclohexane	5.0 U			5.0	0.37
Methylene Chloride	1.0 U			1.0	0.24
2-Butanone (MEK)	5.0 U			5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U			5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*105*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Acetone	40.0	**52.8**	132	53-138	--	20	5.0	1.1
Benzene	40.0	**42.6**	106	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**44.8**	112	82-124	--	20	1.0	0.13
Bromoform	40.0	**41.8**	105	65-123	--	20	1.0	0.26
Bromomethane	40.0	**47.7**	119	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**72.1**	**180**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**45.4**	114	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**44.0**	110	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.2**	98	76-124	--	20	1.0	0.14
Chloroform	40.0	**43.3**	108	82-119	--	20	1.0	0.098
Chloromethane	40.0	**41.2**	103	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**37.1**	93	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**43.7**	109	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**42.9**	107	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**46.3**	116	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**45.5**	114	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**44.9**	112	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**38.6**	97	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.6**	107	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**44.3**	111	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**41.9**	105	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**43.7**	109	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**43.3**	108	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**43.0**	107	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**40.0**	100	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**39.7**	99	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**46.0**	115	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**39.3**	98	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**40.7**	102	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**38.3**	96	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**42.3**	106	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**37.2**	93	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.7**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**46.6**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**41.1**	103	60-142	--	20	5.0	0.40
Styrene		40.0	**42.2**	105	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.3**	108	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**44.0**	110	81-117	--	20	1.0	0.23
Toluene		40.0	**42.9**	107	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.4**	101	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**44.5**	111	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**43.6**	109	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**43.6**	109	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**42.6**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**39.7**	99	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)		120	**135**	113	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*105*	*87-122*				
Toluene-d8				*100*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/08/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K09045			
Surrogates (Continued):									
4-Bromofluorobenzene				*102*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/08/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K09045			
Acetone		40.0	**50.0**	125	53-138	5	20	5.0	1.1
Benzene		40.0	**39.7**	99	84-119	7	20	1.0	0.11
Bromodichloromethane		40.0	**42.5**	106	82-124	5	20	1.0	0.13
Bromoform		40.0	**39.8**	100	65-123	5	20	1.0	0.26
Bromomethane		40.0	**45.2**	113	55-142	5	20	1.0	0.21
Carbon Disulfide		40.0	**68.2**	**170**	70-131	6	20	5.0	0.23
Carbon Tetrachloride		40.0	**41.7**	104	79-127	9	20	1.0	0.26
Chlorobenzene		40.0	**41.8**	105	84-118	5	20	1.0	0.17
Chloroethane		40.0	**36.3**	91	76-124	8	20	1.0	0.14
Chloroform		40.0	**40.6**	102	82-119	6	20	1.0	0.098
Chloromethane		40.0	**38.2**	96	73-125	8	20	1.0	0.29
Cyclohexane		40.0	**35.2**	88	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**43.4**	109	58-130	0.5	20	1.0	0.13
Dibromochloromethane		40.0	**40.4**	101	74-121	6	20	1.0	0.15
1,2-Dibromoethane		40.0	**44.4**	111	84-125	4	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**44.4**	111	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**43.7**	109	81-124	3	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**41.8**	104	79-122	3	20	1.0	0.25
Dichlorodifluoromethane		40.0	**35.2**	88	68-130	9	20	1.0	0.21
1,1-Dichloroethane		40.0	**40.1**	100	80-118	6	20	1.0	0.18
1,2-Dichloroethane		40.0	**41.6**	104	81-122	6	20	1.0	0.21
1,1-Dichloroethene		40.0	**38.9**	97	77-123	7	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**41.2**	103	84-119	6	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**40.5**	101	76-126	7	20	1.0	0.20
1,2-Dichloropropane		40.0	**41.4**	104	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**38.6**	97	77-120	4	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**38.6**	97	73-116	3	20	1.0	0.19
Ethylbenzene		40.0	**43.2**	108	87-119	6	20	1.0	0.21
2-Hexanone		40.0	**41.8**	104	55-141	6	20	5.0	0.49
Isopropylbenzene		40.0	**40.0**	100	76-126	2	20	1.0	0.22
Methyl Acetate		40.0	**37.9**	95	67-129	1	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**41.0**	102	72-128	3	20	1.0	0.19
Methylcyclohexane		40.0	**35.1**	88	78-126	6	20	5.0	0.37
Methylene Chloride		40.0	**38.5**	96	75-129	6	20	1.0	0.24
2-Butanone (MEK)		40.0	**47.4**	119	52-142	2	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**40.6**	102	60-142	1	20	5.0	0.40
Styrene		40.0	**39.8**	100	84-120	6	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.2**	108	70-137	0.4	20	1.0	0.26
Tetrachloroethene		40.0	**41.0**	103	81-117	7	20	1.0	0.23
Toluene		40.0	**40.0**	100	85-118	7	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.5**	101	75-125	0.3	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**41.1**	103	81-122	8	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**41.8**	105	83-121	4	20	1.0	0.20
Trichloroethene		40.0	**41.3**	103	82-119	5	20	1.0	0.21
Trichlorofluoromethane		40.0	**38.5**	96	76-128	10	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**36.1**	90	76-126	9	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	9	20	1.0	0.21
Xylene (Total)		120	**127**	106	86-119	6	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*102*	*87-122*				
Toluene-d8				*99*	*85-113*				
4-Bromofluorobenzene				*100*	*82-110*				

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K09008

Acetone	0.75 U			0.75	0.054
Benzene	0.050 U			0.050	0.0071
Bromodichloromethane	0.050 U			0.050	0.0067
Bromoform	0.050 U			0.050	0.013
Bromomethane	0.050 U			0.050	0.021
Carbon Disulfide	0.25 U		--	0.25	0.012
Carbon Tetrachloride	0.050 U			0.050	0.017
Chlorobenzene	0.050 U			0.050	0.0084
Chloroethane	0.050 U			0.050	0.018
Chloroform	0.050 U			0.050	0.0084
Chloromethane	0.050 U			0.050	0.020
Cyclohexane	0.25 U			0.25	0.024
1,2-Dibromo-3-chloropropane	0.25 U			0.25	0.026
Dibromochloromethane	0.050 U			0.050	0.0076
1,2-Dibromoethane	0.050 U			0.050	0.016
1,2-Dichlorobenzene	0.050 U			0.050	0.012
1,3-Dichlorobenzene	0.050 U			0.050	0.012
1,4-Dichlorobenzene	0.050 U			0.050	0.012
Dichlorodifluoromethane	0.050 U			0.050	0.011
1,1-Dichloroethane	0.050 U			0.050	0.011
1,2-Dichloroethane	0.050 U			0.050	0.011
1,1-Dichloroethene	0.050 U			0.050	0.010
cis-1,2-Dichloroethene	0.050 U			0.050	0.011
trans-1,2-Dichloroethene	0.050 U			0.050	0.012
1,2-Dichloropropane	0.050 U			0.050	0.014
cis-1,3-Dichloropropene	0.050 U			0.050	0.0095
trans-1,3-Dichloropropene	0.050 U			0.050	0.0094
Ethylbenzene	0.050 U			0.050	0.010
2-Hexanone	2.5 U			2.5	0.025
Isopropylbenzene	0.050 U			0.050	0.011
Methyl Acetate	0.25 U			0.25	0.032
Methyl tert-Butyl Ether	0.050 U			0.050	0.0095
Methylcyclohexane	0.25 U			0.25	0.018
Methylene Chloride	0.10 U			0.10	0.027
2-Butanone (MEK)	0.75 U			0.75	0.063
4-Methyl-2-pentanone (MIBK)	2.5 U			2.5	0.020

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Styrene		0.050 U				0.050	0.010
1,1,2,2-Tetrachloroethane		0.050 U				0.050	0.013
Tetrachloroethene		0.050 U				0.050	0.014
Toluene		0.050 U				0.050	0.011
1,2,4-Trichlorobenzene		**0.012 J**			--	0.050	0.0070
1,1,1-Trichloroethane		0.050 U				0.050	0.0069
1,1,2-Trichloroethane		0.050 U				0.050	0.016
Trichloroethene		0.050 U				0.050	0.011
Trichlorofluoromethane		0.050 U				0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		0.050 U				0.050	0.018
Vinyl Chloride		0.040 U				0.040	0.0084
Xylene (Total)		0.15 U				0.15	0.020

Method Blank Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09008

Surrogates:		
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Acetone	2.00	**1.46**	73	64-130	--	20	0.75	0.054
Benzene	2.00	**2.05**	102	85-118	--	20	0.050	0.0071
Bromodichloromethane	2.00	**1.98**	99	80-123	--	20	0.050	0.0067
Bromoform	2.00	**1.95**	97	58-128	--	20	0.050	0.013
Bromomethane	2.00	**2.43**	122	57-139	--	20	0.050	0.021
Carbon Disulfide	2.00	**2.19**	110	65-138	--	20	0.25	0.012
Carbon Tetrachloride	2.00	**2.04**	102	76-125	--	20	0.050	0.017
Chlorobenzene	2.00	**2.03**	102	86-114	--	20	0.050	0.0084
Chloroethane	2.00	**2.63**	**132**	76-123	--	20	0.050	0.018
Chloroform	2.00	**1.98**	99	86-118	--	20	0.050	0.0084
Chloromethane	2.00	**1.99**	100	73-123	--	20	0.050	0.020
Cyclohexane	2.00	**2.07**	103	79-122	--	20	0.25	0.024
1,2-Dibromo-3-chloropropane	2.00	**1.70**	85	51-132	--	20	0.25	0.026
Dibromochloromethane	2.00	**1.98**	99	72-119	--	20	0.050	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,2-Dibromoethane		2.00	**1.99**	99	81-118	--	20	0.050	0.016
1,2-Dichlorobenzene		2.00	**2.03**	102	82-124	--	20	0.050	0.012
1,3-Dichlorobenzene		2.00	**2.08**	104	85-119	--	20	0.050	0.012
1,4-Dichlorobenzene		2.00	**1.97**	99	85-119	--	20	0.050	0.012
Dichlorodifluoromethane		2.00	**1.74**	87	68-135	--	20	0.050	0.011
1,1-Dichloroethane		2.00	**1.97**	99	81-121	--	20	0.050	0.011
1,2-Dichloroethane		2.00	**1.92**	96	82-119	--	20	0.050	0.011
1,1-Dichloroethene		2.00	**1.96**	98	80-121	--	20	0.050	0.010
cis-1,2-Dichloroethene		2.00	**2.02**	101	85-118	--	20	0.050	0.011
trans-1,2-Dichloroethene		2.00	**2.05**	102	85-117	--	20	0.050	0.012
1,2-Dichloropropane		2.00	**2.03**	102	80-122	--	20	0.050	0.014
cis-1,3-Dichloropropene		2.00	**2.04**	102	79-121	--	20	0.050	0.0095
trans-1,3-Dichloropropene		2.00	**1.97**	99	73-125	--	20	0.050	0.0094
Ethylbenzene		2.00	**2.12**	106	84-116	--	20	0.050	0.010
2-Hexanone		2.00	**2.08 J**	104	63-131	--	20	2.5	0.025
Isopropylbenzene		2.00	**2.18**	109	82-125	--	20	0.050	0.011
Methyl Acetate		2.00	**1.38**	**69**	75-123	--	20	0.25	0.032
Methyl tert-Butyl Ether		2.00	**1.71**	85	81-119	--	20	0.050	0.0095
Methylcyclohexane		2.00	**2.08**	104	77-125	--	20	0.25	0.018
Methylene Chloride		2.00	**2.02**	101	78-123	--	20	0.10	0.027
2-Butanone (MEK)		2.00	**1.65**	83	68-130	--	20	0.75	0.063
4-Methyl-2-pentanone (MIBK)		2.00	**2.08 J**	104	68-133	--	20	2.5	0.020
Naphthalene		2.00	**1.62**	81	53-133	--	20	0.25	0.014
Styrene		2.00	**2.18**	109	79-115	--	20	0.050	0.010
1,1,2,2-Tetrachloroethane		2.00	**1.85**	92	75-125	--	20	0.050	0.013
Tetrachloroethene		2.00	**2.02**	101	85-116	--	20	0.050	0.014
Toluene		2.00	**2.08**	104	86-120	--	20	0.050	0.011
1,2,4-Trichlorobenzene		2.00	**1.93**	96	66-133	--	20	0.050	0.0070
1,1,1-Trichloroethane		2.00	**2.01**	100	84-121	--	20	0.050	0.0069
1,1,2-Trichloroethane		2.00	**1.95**	97	85-120	--	20	0.050	0.016
Trichloroethene		2.00	**2.04**	102	83-125	--	20	0.050	0.011
Trichlorofluoromethane		2.00	**3.73**	**186**	82-123	--	20	0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		2.00	**1.92**	96	81-122	--	20	0.050	0.018
Vinyl Chloride		2.00	**1.96**	98	77-124	--	20	0.040	0.0084
Xylene (Total)		6.00	**6.42**	107	84-117	--	20	0.15	0.020

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09008

Surrogates:

Dibromofluoromethane	*99*	*75-123*

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV

Unit: ug/L Analytical Batch: 2K09008

Surrogates (Continued):

1,2-Dichloroethane-d4	*96*	*83-116*
Toluene-d8	*101*	*85-113*
4-Bromofluorobenzene	*100*	*81-117*

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213587 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/15/2012 By: JLB
Unit: ug/L Analytical Batch: 2K16027

Acenaphthene	0.50 U			0.50
Acenaphthylene	0.50 U			0.50
Acetophenone	0.50 U		--	0.50
Anthracene	0.50 U			0.50
Atrazine	0.50 U			0.50
Benzaldehyde	0.50 U			0.50
Benzo(a)anthracene	0.50 U		--	0.50
Benzo(a)pyrene	0.50 U			0.50
Benzo(b)fluoranthene	0.50 U			0.50
Benzo(k)fluoranthene	0.50 U			0.50
Benzo(g,h,i)perylene	0.50 U			0.50
1,1'-Biphenyl	0.50 U		--	0.50
4-Bromophenyl Phenyl Ether	0.50 U			0.50
Butyl Benzyl Phthalate	1.0 U		--	1.0
Caprolactam	1.0 U		--	1.0
Carbazole	0.50 U		--	0.50
4-Chloro-3-methylphenol	0.50 U			0.50
4-Chloroaniline	1.0 U			1.0
Bis(2-chloroethoxy)methane	0.50 U			0.50
Bis(2-chloroethyl) Ether	0.50 U			0.50
Bis(2-chloroisopropyl) Ether	0.50 U			0.50
2-Chloronaphthalene	0.50 U			0.50
2-Chlorophenol	0.50 U			0.50
4-Chlorophenyl Phenyl Ether	0.50 U		--	0.50
Chrysene	0.50 U		--	0.50
Dibenz(a,h)anthracene	0.50 U			0.50
Dibenzofuran	0.50 U			0.50
Di-n-butyl Phthalate	1.0 U		--	1.0
3,3´-Dichlorobenzidine	1.0 U			1.0
2,4-Dichlorophenol	0.50 U			0.50
Diethyl Phthalate	0.50 U		--	0.50
2,4-Dimethylphenol	1.0 U			1.0
Dimethyl Phthalate	0.50 U		--	0.50
4,6-Dinitro-2-methylphenol	5.0 U			5.0
2,4-Dinitrophenol	5.0 U			5.0
2,4-Dinitrotoluene	0.50 U			0.50

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

2,6-Dinitrotoluene	0.50 U			--	0.50
Di-n-octyl Phthalate	0.50 U			--	0.50
Bis(2-ethylhexyl) Phthalate	0.50 U			--	0.50
Fluoranthene	0.50 U				0.50
Fluorene	0.50 U				0.50
Hexachlorobenzene	0.50 U				0.50
Hexachlorobutadiene	0.50 U				0.50
Hexachlorocyclopentadiene	0.50 U				0.50
Hexachloroethane	0.50 U				0.50
Indeno(1,2,3-cd)pyrene	0.50 U				0.50
Isophorone	0.50 U				0.50
2-Methylnaphthalene	0.50 U				0.50
2-Methylphenol	0.50 U			--	0.50
4-Methylphenol	0.50 U			--	0.50
Naphthalene	0.50 U				0.50
2-Nitroaniline	0.50 U				0.50
3-Nitroaniline	1.0 U			--	1.0
4-Nitroaniline	1.0 U			--	1.0
Nitrobenzene	0.50 U			--	0.50
4-Nitrophenol	5.0 U			--	5.0
2-Nitrophenol	0.50 U				0.50
N-Nitroso-diphenylamine	0.50 U				0.50
N-Nitroso-di-n-propylamine	0.50 U				0.50
Pentachlorophenol	0.50 U				0.50
Phenanthrene	0.50 U			--	0.50
Phenol	0.50 U				0.50
Pyrene	0.50 U				0.50
2,4,6-Trichlorophenol	0.50 U				0.50
2,4,5-Trichlorophenol	0.50 U				0.50
Surrogates:					
2-Fluorophenol			*46*	*20-70*	
Phenol-d6			*30*	*18-45*	
Nitrobenzene-d5			*78*	*31-123*	
2-Fluorobiphenyl			*80*	*25-113*	
2,4,6-Tribromophenol			*55*	*30-121*	
o-Terphenyl			*73*	*42-125*	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**7.82**	78	53-126	--	20	0.50	
Acenaphthylene		10.0	**8.10**	81	62-133	--	20	0.50	
Acetophenone		10.0	**7.46**	75	58-115	--	20	0.50	
Anthracene		10.0	**7.74**	77	64-130	--	20	0.50	
Atrazine		10.0	**7.27**	73	60-140	--	20	0.50	
Benzaldehyde		10.0	**7.16**	72	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.80**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.66**	77	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.74**	77	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**7.08**	71	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**7.39**	74	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**7.52**	75	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**6.89**	69	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**9.07**	91	58-141	--	20	1.0	
Caprolactam		10.0	**1.68**	**17**	23-76	--	20	1.0	
Carbazole		10.0	**7.80**	78	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**8.10**	81	53-120	--	20	0.50	
4-Chloroaniline		10.0	**7.37**	74	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**6.64**	66	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**7.80**	78	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**6.88**	69	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.58**	76	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.75**	68	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**7.32**	73	57-122	--	20	0.50	
Chrysene		10.0	**7.54**	75	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**7.38**	74	57-130	--	20	0.50	
Dibenzofuran		10.0	**7.82**	78	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.09**	81	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**15.0**	75	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**7.13**	71	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.94**	79	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.15**	52	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.84**	78	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**6.93**	69	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**5.89**	59	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**8.77**	88	55-131	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**8.17**	82	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.09**	81	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**8.22**	82	60-136	--	20	0.50	
Fluoranthene		10.0	**7.28**	73	64-138	--	20	0.50	
Fluorene		10.0	**7.70**	77	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**6.63**	66	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**6.32**	63	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**4.40**	44	21-138	--	20	0.50	
Hexachloroethane		10.0	**7.67**	77	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**7.32**	73	57-129	--	20	0.50	
Isophorone		10.0	**7.07**	71	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**7.09**	71	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.50**	55	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.98**	60	33-122	--	20	0.50	
Naphthalene		10.0	**7.50**	75	50-127	--	20	0.50	
2-Nitroaniline		10.0	**8.88**	89	57-130	--	20	0.50	
3-Nitroaniline		10.0	**8.13**	81	49-144	--	20	1.0	
4-Nitroaniline		10.0	**8.19**	82	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.89**	69	53-121	--	20	0.50	
*4-Nitrophenol		10.0	**3.39 J**	34	17-70	--	20	5.0	
2-Nitrophenol		10.0	**7.93**	79	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.87**	79	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**7.40**	74	49-125	--	20	0.50	
Pentachlorophenol		10.0	**4.60**	46	21-124	--	20	0.50	
Phenanthrene		10.0	**7.46**	75	63-126	--	20	0.50	
Phenol		10.0	**3.58**	36	22-60	--	20	0.50	
Pyrene		10.0	**8.20**	82	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.61**	66	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.11**	71	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*41*	*20-70*				
Phenol-d6				*29*	*18-45*				
Nitrobenzene-d5				*74*	*31-123*				
2-Fluorobiphenyl				*74*	*25-113*				
2,4,6-Tribromophenol				*61*	*30-121*				
o-Terphenyl				*69*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 3550C Sonication Extraction/USEPA-8270C

Method Blank — Analyzed: 11/15/2012 By: JLB
Unit: mg/kg wet — Analytical Batch: 2K16029

Acenaphthene		0.017 U				0.017	0.00079
Acenaphthylene		0.017 U				0.017	0.00082
Acetophenone		0.017 U				0.017	0.0099
Anthracene		0.017 U				0.017	0.00086
Atrazine		0.017 U				0.017	0.0097
Benzaldehyde		0.067 U				0.067	0.0096
Benzo(a)anthracene		0.017 U			--	0.017	0.0014
Benzo(a)pyrene		0.017 U				0.017	0.00086
Benzo(b)fluoranthene		0.017 U				0.017	0.0017
Benzo(k)fluoranthene		0.017 U				0.017	0.0022
Benzo(g,h,i)perylene		0.033 U				0.033	0.00082
1,1'-Biphenyl		0.017 U			--	0.017	0.011
4-Bromophenyl Phenyl Ether		0.017 U				0.017	0.00094
Butyl Benzyl Phthalate		**0.0056 J**			--	0.033	0.0017
Caprolactam		0.067 U			--	0.067	0.011
Carbazole		0.17 U			--	0.17	0.0089
4-Chloro-3-methylphenol		0.017 U			--	0.017	0.0038
4-Chloroaniline		0.067 U				0.067	0.0088
Bis(2-chloroethoxy)methane		0.017 U				0.017	0.0011
Bis(2-chloroethyl) Ether		0.017 U				0.017	0.00079
Bis(2-chloroisopropyl) Ether		0.017 U				0.017	0.0027
2-Chloronaphthalene		0.017 U				0.017	0.0026
2-Chlorophenol		0.017 U				0.017	0.00079
4-Chlorophenyl Phenyl Ether		0.017 U			--	0.017	0.00072
Chrysene		0.017 U			--	0.017	0.00086
Dibenz(a,h)anthracene		0.033 U				0.033	0.0013
Dibenzofuran		0.017 U				0.017	0.00082
Di-n-butyl Phthalate		**0.050 J**			--	0.067	0.014
3,3´-Dichlorobenzidine		0.83 U			--	0.83	0.032
2,4-Dichlorophenol		0.033 U				0.033	0.0015
Diethyl Phthalate		**0.0040 J**			--	0.017	0.0024
2,4-Dimethylphenol		0.17 U				0.17	0.030
Dimethyl Phthalate		0.017 U				0.017	0.0019
4,6-Dinitro-2-methylphenol		0.17 U				0.17	0.0055
2,4-Dinitrophenol		0.17 U				0.17	0.038
2,4-Dinitrotoluene		0.033 U				0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

2,6-Dinitrotoluene	0.017 U		--	0.017	0.0016
Di-n-octyl Phthalate	0.017 U			0.017	0.0011
Bis(2-ethylhexyl) Phthalate	**0.13**		--	0.033	0.0041
Fluoranthene	0.017 U			0.017	0.00056
Fluorene	0.033 U			0.033	0.00060
Hexachlorobenzene	0.017 U			0.017	0.0010
Hexachlorobutadiene	0.017 U			0.017	0.00072
Hexachlorocyclopentadiene	0.017 U		--	0.017	0.0027
Hexachloroethane	0.017 U			0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.033 U			0.033	0.0031
Isophorone	0.017 U			0.017	0.0010
2-Methylnaphthalene	0.017 U			0.017	0.0014
2-Methylphenol	0.017 U			0.017	0.0034
4-Methylphenol	0.017 U			0.017	0.0020
Naphthalene	0.017 U		--	0.017	0.00051
2-Nitroaniline	0.017 U			0.017	0.0059
3-Nitroaniline	0.033 U			0.033	0.016
4-Nitroaniline	0.033 U			0.033	0.016
Nitrobenzene	0.017 U			0.017	0.0015
4-Nitrophenol	0.67 U		--	0.67	0.027
2-Nitrophenol	0.017 U			0.017	0.0015
N-Nitroso-diphenylamine	0.017 U			0.017	0.0010
N-Nitroso-di-n-propylamine	0.017 U			0.017	0.0022
Pentachlorophenol	0.17 U		--	0.17	0.015
Phenanthrene	0.017 U		--	0.017	0.00072
Phenol	0.17 U		--	0.17	0.0013
Pyrene	0.017 U		--	0.017	0.0012
2,4,6-Trichlorophenol	0.017 U			0.017	0.0017
2,4,5-Trichlorophenol	0.017 U			0.017	0.0039

Surrogates:

2-Fluorophenol	*72*	*33-113*
Phenol-d6	*78*	*30-115*
Nitrobenzene-d5	*76*	*33-131*
2-Fluorobiphenyl	*82*	*46-122*
2,4,6-Tribromophenol	*42*	*12-124*
o-Terphenyl	*74*	*20-155*

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Acenaphthene	0.017 U			0.017	0.00079
Acenaphthylene	0.017 U			0.017	0.00082
Acetophenone	0.017 U			0.017	0.0099
Anthracene	0.017 U		--	0.017	0.00086
Atrazine	0.017 U			0.017	0.0097
Benzaldehyde	0.067 U			0.067	0.0096
Benzo(a)anthracene	0.017 U		--	0.017	0.0014
Benzo(a)pyrene	0.017 U		--	0.017	0.00086
Benzo(b)fluoranthene	0.017 U		--	0.017	0.0017
Benzo(k)fluoranthene	0.017 U		--	0.017	0.0022
Benzo(g,h,i)perylene	0.033 U			0.033	0.00082
1,1'-Biphenyl	0.017 U			0.017	0.011
4-Bromophenyl Phenyl Ether	0.017 U			0.017	0.00094
Butyl Benzyl Phthalate	**0.0066 J**		--	0.033	0.0017
Caprolactam	0.067 U			0.067	0.011
Carbazole	0.17 U		--	0.17	0.0089
4-Chloro-3-methylphenol	0.017 U			0.017	0.0038
4-Chloroaniline	0.067 U			0.067	0.0088
Bis(2-chloroethoxy)methane	0.017 U			0.017	0.0011
Bis(2-chloroethyl) Ether	0.017 U			0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.017 U		--	0.017	0.0027
2-Chloronaphthalene	0.017 U			0.017	0.0026
2-Chlorophenol	0.017 U			0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.017 U			0.017	0.00072
Chrysene	0.017 U		--	0.017	0.00086
Dibenz(a,h)anthracene	0.033 U			0.033	0.0013
Dibenzofuran	0.017 U			0.017	0.00082
Di-n-butyl Phthalate	**0.056 J**		--	0.067	0.014
3,3´-Dichlorobenzidine	0.83 U			0.83	0.032
2,4-Dichlorophenol	0.033 U			0.033	0.0015
Diethyl Phthalate	**0.025**		--	0.017	0.0024
2,4-Dimethylphenol	0.17 U			0.17	0.030
Dimethyl Phthalate	0.017 U			0.017	0.0019
4,6-Dinitro-2-methylphenol	0.17 U			0.17	0.0055
2,4-Dinitrophenol	0.17 U			0.17	0.038
2,4-Dinitrotoluene	0.033 U			0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

2,6-Dinitrotoluene			0.017 U					0.017	0.0016
Di-n-octyl Phthalate			0.017 U			--		0.017	0.0011
Bis(2-ethylhexyl) Phthalate			**0.11**			--		0.033	0.0041
Fluoranthene			0.017 U					0.017	0.00056
Fluorene			0.033 U					0.033	0.00060
Hexachlorobenzene			0.017 U					0.017	0.0010
Hexachlorobutadiene			0.017 U					0.017	0.00072
Hexachlorocyclopentadiene			0.017 U					0.017	0.0027
Hexachloroethane			0.017 U					0.017	0.0013
Indeno(1,2,3-cd)pyrene			0.033 U					0.033	0.0031
Isophorone			0.017 U			--		0.017	0.0010
2-Methylnaphthalene			0.017 U					0.017	0.0014
2-Methylphenol			0.017 U					0.017	0.0034
4-Methylphenol			0.017 U					0.017	0.0020
Naphthalene			0.017 U			--		0.017	0.00051
2-Nitroaniline			0.017 U					0.017	0.0059
3-Nitroaniline			0.033 U					0.033	0.016
4-Nitroaniline			0.033 U					0.033	0.016
Nitrobenzene			0.017 U					0.017	0.0015
4-Nitrophenol			0.67 U					0.67	0.027
2-Nitrophenol			0.017 U					0.017	0.0015
N-Nitroso-diphenylamine			0.017 U					0.017	0.0010
N-Nitroso-di-n-propylamine			0.017 U					0.017	0.0022
Pentachlorophenol			0.17 U					0.17	0.015
Phenanthrene			0.017 U			--		0.017	0.00072
Phenol			0.17 U					0.17	0.0013
Pyrene			0.017 U			--		0.017	0.0012
2,4,6-Trichlorophenol			0.017 U					0.017	0.0017
2,4,5-Trichlorophenol			0.017 U					0.017	0.0039
Surrogates:									
2-Fluorophenol				*76*	*33-113*				
Phenol-d6				*72*	*30-115*				
Nitrobenzene-d5				*71*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*66*	*12-124*				
o-Terphenyl				*85*	*20-155*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.334	**0.266**		80	55-113	--	20	0.017	0.00079
Acenaphthylene	0.334	**0.273**		82	56-138	--	20	0.017	0.00082
Acetophenone	0.334	**0.269**		80	26-127	--	20	0.017	0.0099
Anthracene	0.334	**0.261**		78	63-134	--	20	0.017	0.00086
Atrazine	0.334	**0.245**		73	52-125	--	20	0.017	0.0097
Benzaldehyde	0.334	**0.0221 J**		**7**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.334	**0.261**		78	53-142	--	20	0.017	0.0014
Benzo(a)pyrene	0.334	**0.251**		75	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene	0.334	**0.256**		76	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene	0.334	**0.244**		73	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene	0.334	**0.245**		73	47-141	--	20	0.033	0.00082
1,1'-Biphenyl	0.334	**0.256**		77	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.334	**0.244**		73	61-124	--	20	0.017	0.00094
Butyl Benzyl Phthalate	0.334	**0.313**		94	51-145	--	20	0.033	0.0017
Caprolactam	0.334	**0.305**		91	44-130	--	20	0.067	0.011
Carbazole	0.334	**0.265**		79	76-126	--	20	0.17	0.0089
4-Chloro-3-methylphenol	0.334	**0.276**		83	57-124	--	20	0.017	0.0038
4-Chloroaniline	0.334	**0.0495 J**		15	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.334	**0.230**		69	57-121	--	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.334	**0.269**		80	54-112	--	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.334	**0.245**		73	62-116	--	20	0.017	0.0027
2-Chloronaphthalene	0.334	**0.270**		81	67-111	--	20	0.017	0.0026
2-Chlorophenol	0.334	**0.264**		79	62-118	--	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.334	**0.244**		73	62-114	--	20	0.017	0.00072
Chrysene	0.334	**0.250**		75	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene	0.334	**0.250**		75	52-142	--	20	0.033	0.0013
Dibenzofuran	0.334	**0.266**		79	65-119	--	20	0.017	0.00082
Di-n-butyl Phthalate	0.334	**0.322**		96	65-140	--	20	0.067	0.014
3,3´-Dichlorobenzidine	0.669	**0.212 J**		32	10-107	--	20	0.83	0.032
2,4-Dichlorophenol	0.334	**0.253**		76	50-128	--	20	0.033	0.0015
*Diethyl Phthalate	0.334	**0.273 B**		82	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol	0.334	**0.223**		67	40-122	--	20	0.17	0.030
Dimethyl Phthalate	0.334	**0.273**		81	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.334	**0.237**		71	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol	0.334	**0.176**		53	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene	0.334	**0.290**		87	51-128	--	20	0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.334	**0.270**	81	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.334	**0.280**	84	63-132	--	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.334	**0.289 B**	86	50-140	--	20	0.033	0.0041
Fluoranthene		0.334	**0.247**	74	66-140	--	20	0.017	0.00056
Fluorene		0.334	**0.259**	77	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.334	**0.235**	70	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.334	**0.227**	68	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.334	**0.221**	66	34-124	--	20	0.017	0.0027
Hexachloroethane		0.334	**0.277**	83	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.334	**0.247**	74	53-135	--	20	0.033	0.0031
Isophorone		0.334	**0.242**	72	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.334	**0.250**	75	56-124	--	20	0.017	0.0014
2-Methylphenol		0.334	**0.236**	71	58-113	--	20	0.017	0.0034
4-Methylphenol		0.334	**0.324**	97	58-132	--	20	0.017	0.0020
Naphthalene		0.334	**0.266**	79	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.334	**0.300**	90	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.334	**0.122**	36	19-86	--	20	0.033	0.016
4-Nitroaniline		0.334	**0.228**	68	26-125	--	20	0.033	0.016
Nitrobenzene		0.334	**0.247**	74	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.334	**0.236 J**	71	36-131	--	20	0.67	0.027
2-Nitrophenol		0.334	**0.286**	86	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.334	**0.265**	79	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.334	**0.272**	81	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.334	**0.142 J**	43	19-117	--	20	0.17	0.015
Phenanthrene		0.334	**0.263**	79	58-134	--	20	0.017	0.00072
Phenol		0.334	**0.271**	81	53-120	--	20	0.17	0.0013
Pyrene		0.334	**0.289**	86	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.334	**0.224**	67	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.334	**0.240**	72	61-126	--	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*77*	*33-113*				
Phenol-d6				*76*	*30-115*				
Nitrobenzene-d5				*76*	*33-131*				
2-Fluorobiphenyl				*78*	*46-122*				
2,4,6-Tribromophenol				*64*	*12-124*				
o-Terphenyl				*72*	*20-155*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		0.334	**0.267**	80	55-113	--	20	0.017	0.00079
Acenaphthylene		0.334	**0.266**	79	56-138	--	20	0.017	0.00082
Acetophenone		0.334	**0.261**	78	26-127	--	20	0.017	0.0099
Anthracene		0.334	**0.281**	84	63-134	--	20	0.017	0.00086
Atrazine		0.334	**0.302**	90	52-125	--	20	0.017	0.0097
Benzaldehyde		0.334	0.067 U	**0**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene		0.334	**0.261**	78	53-142	--	20	0.017	0.0014
Benzo(a)pyrene		0.334	**0.258**	77	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene		0.334	**0.256**	76	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene		0.334	**0.252**	75	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene		0.334	**0.294**	88	47-141	--	20	0.033	0.00082
1,1'-Biphenyl		0.334	**0.267**	80	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether		0.334	**0.283**	85	61-124	--	20	0.017	0.00094
Butyl Benzyl Phthalate		0.334	**0.292**	87	51-145	--	20	0.033	0.0017
Caprolactam		0.334	**0.309**	92	44-130	--	20	0.067	0.011
Carbazole		0.334	**0.306**	92	76-126	--	20	0.17	0.0089
4-Chloro-3-methylphenol		0.334	**0.268**	80	57-124	--	20	0.017	0.0038
4-Chloroaniline		0.334	**0.0709**	21	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane		0.334	**0.214**	64	57-121	--	20	0.017	0.0011
Bis(2-chloroethyl) Ether		0.334	**0.229**	68	54-112	--	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether		0.334	**0.248**	74	62-116	--	20	0.017	0.0027
2-Chloronaphthalene		0.334	**0.258**	77	67-111	--	20	0.017	0.0026
2-Chlorophenol		0.334	**0.239**	71	62-118	--	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether		0.334	**0.256**	76	62-114	--	20	0.017	0.00072
Chrysene		0.334	**0.283**	85	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene		0.334	**0.306**	91	52-142	--	20	0.033	0.0013
Dibenzofuran		0.334	**0.265**	79	65-119	--	20	0.017	0.00082
Di-n-butyl Phthalate		0.334	**0.348**	104	65-140	--	20	0.067	0.014
3,3´-Dichlorobenzidine		0.669	**0.320 J**	48	10-107	--	20	0.83	0.032
2,4-Dichlorophenol		0.334	**0.242**	72	50-128	--	20	0.033	0.0015
*Diethyl Phthalate		0.334	**0.304 B**	91	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol		0.334	**0.247**	74	40-122	--	20	0.17	0.030
Dimethyl Phthalate		0.334	**0.272**	81	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol		0.334	**0.239**	72	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol		0.334	**0.205**	61	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene		0.334	**0.267**	80	51-128	--	20	0.033	0.0050

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.334	**0.262**	78	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.334	**0.281**	84	63-132	--	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.334	**0.278 B**	83	50-140	--	20	0.033	0.0041
Fluoranthene		0.334	**0.274**	82	66-140	--	20	0.017	0.00056
Fluorene		0.334	**0.257**	77	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.334	**0.276**	82	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.334	**0.270**	81	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.334	**0.220**	66	34-124	--	20	0.017	0.0027
Hexachloroethane		0.334	**0.273**	81	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.334	**0.301**	90	53-135	--	20	0.033	0.0031
Isophorone		0.334	**0.244**	73	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.334	**0.269**	80	56-124	--	20	0.017	0.0014
2-Methylphenol		0.334	**0.233**	70	58-113	--	20	0.017	0.0034
4-Methylphenol		0.334	**0.288**	86	58-132	--	20	0.017	0.0020
Naphthalene		0.334	**0.260**	78	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.334	**0.289**	86	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.334	**0.150**	45	19-86	--	20	0.033	0.016
4-Nitroaniline		0.334	**0.204**	61	26-125	--	20	0.033	0.016
Nitrobenzene		0.334	**0.252**	75	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.334	**0.211 J**	63	36-131	--	20	0.67	0.027
2-Nitrophenol		0.334	**0.247**	74	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.334	**0.293**	87	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.334	**0.261**	78	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.334	**0.209**	62	19-117	--	20	0.17	0.015
Phenanthrene		0.334	**0.263**	79	58-134	--	20	0.017	0.00072
Phenol		0.334	**0.231**	69	53-120	--	20	0.17	0.0013
Pyrene		0.334	**0.268**	80	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.334	**0.244**	73	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.334	**0.303**	91	61-126	--	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*73*	*33-113*				
Phenol-d6				*71*	*30-115*				
Nitrobenzene-d5				*76*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*81*	*12-124*				
o-Terphenyl				*82*	*20-155*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.348		**0.278**	80	55-113	4	20	0.017	0.00079
Acenaphthylene	0.348		**0.285**	82	56-138	4	20	0.017	0.00082
Acetophenone	0.348		**0.283**	81	26-127	5	20	0.017	0.0099
Anthracene	0.348		**0.267**	77	63-134	2	20	0.017	0.00086
Atrazine	0.348		**0.247**	71	52-125	0.9	20	0.017	0.0097
Benzaldehyde	0.348		**0.0226 J**	**6**	10-126	3	20	0.067	0.0096
Benzo(a)anthracene	0.348		**0.275**	79	53-142	5	20	0.017	0.0014
Benzo(a)pyrene	0.348		**0.264**	76	54-136	5	20	0.017	0.00086
Benzo(b)fluoranthene	0.348		**0.264**	76	49-146	3	20	0.017	0.0017
Benzo(k)fluoranthene	0.348		**0.261**	75	56-136	7	20	0.017	0.0022
Benzo(g,h,i)perylene	0.348		**0.258**	74	47-141	5	20	0.033	0.00082
1,1'-Biphenyl	0.348		**0.267**	77	55-105	4	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.348		**0.246**	71	61-124	0.7	20	0.017	0.00094
Butyl Benzyl Phthalate	0.348		**0.330**	95	51-145	5	20	0.033	0.0017
Caprolactam	0.348		**0.324**	93	44-130	6	20	0.067	0.011
Carbazole	0.348		**0.264**	76	76-126	0.3	20	0.17	0.0089
4-Chloro-3-methylphenol	0.348		**0.287**	82	57-124	4	20	0.017	0.0038
4-Chloroaniline	0.348		**0.0557 J**	16	7-75	12	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.348		**0.243**	70	57-121	5	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.348		**0.279**	80	54-112	4	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.348		**0.256**	74	62-116	4	20	0.017	0.0027
2-Chloronaphthalene	0.348		**0.277**	80	67-111	3	20	0.017	0.0026
2-Chlorophenol	0.348		**0.277**	80	62-118	5	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.348		**0.252**	72	62-114	3	20	0.017	0.00072
Chrysene	0.348		**0.263**	76	66-137	5	20	0.017	0.00086
Dibenz(a,h)anthracene	0.348		**0.261**	75	52-142	4	20	0.033	0.0013
Dibenzofuran	0.348		**0.275**	79	65-119	4	20	0.017	0.00082
Di-n-butyl Phthalate	0.348		**0.326**	94	65-140	1	20	0.067	0.014
3,3´-Dichlorobenzidine	0.697		**0.223 J**	32	10-107	5	20	0.83	0.032
2,4-Dichlorophenol	0.348		**0.267**	77	50-128	5	20	0.033	0.0015
*Diethyl Phthalate	0.348		**0.281 B**	81	59-128	3	20	0.017	0.0024
2,4-Dimethylphenol	0.348		**0.239**	69	40-122	7	20	0.17	0.030
Dimethyl Phthalate	0.348		**0.281**	81	66-122	3	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.348		**0.245**	70	26-136	3	20	0.17	0.0055
2,4-Dinitrophenol	0.348		**0.179**	51	25-105	2	20	0.17	0.038
2,4-Dinitrotoluene	0.348		**0.301**	86	51-128	4	20	0.033	0.0050

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.348	**0.277**	79	61-119	2	20	0.017	0.0016
Di-n-octyl Phthalate		0.348	**0.295**	85	63-132	5	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.348	**0.305 B**	88	50-140	6	20	0.033	0.0041
Fluoranthene		0.348	**0.249**	72	66-140	0.8	20	0.017	0.00056
Fluorene		0.348	**0.268**	77	60-131	3	20	0.033	0.00060
Hexachlorobenzene		0.348	**0.235**	67	34-141	0.03	20	0.017	0.0010
Hexachlorobutadiene		0.348	**0.237**	68	56-128	4	20	0.017	0.00072
Hexachlorocyclopentadiene		0.348	**0.235**	67	34-124	6	20	0.017	0.0027
Hexachloroethane		0.348	**0.293**	84	60-111	6	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.348	**0.255**	73	53-135	3	20	0.033	0.0031
Isophorone		0.348	**0.259**	74	55-127	7	20	0.017	0.0010
2-Methylnaphthalene		0.348	**0.264**	76	56-124	6	20	0.017	0.0014
2-Methylphenol		0.348	**0.245**	70	58-113	4	20	0.017	0.0034
4-Methylphenol		0.348	**0.336**	96	58-132	4	20	0.017	0.0020
Naphthalene		0.348	**0.278**	80	52-128	4	20	0.017	0.00051
2-Nitroaniline		0.348	**0.312**	90	63-122	4	20	0.017	0.0059
3-Nitroaniline		0.348	**0.126**	36	19-86	4	20	0.033	0.016
4-Nitroaniline		0.348	**0.232**	67	26-125	2	20	0.033	0.016
Nitrobenzene		0.348	**0.258**	74	56-109	4	20	0.017	0.0015
4-Nitrophenol		0.348	**0.234 J**	67	36-131	0.5	20	0.67	0.027
2-Nitrophenol		0.348	**0.301**	86	55-115	5	20	0.017	0.0015
N-Nitroso-diphenylamine		0.348	**0.270**	78	33-109	2	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.348	**0.285**	82	48-127	5	20	0.017	0.0022
Pentachlorophenol		0.348	**0.144 J**	41	19-117	1	20	0.17	0.015
Phenanthrene		0.348	**0.265**	76	58-134	0.9	20	0.017	0.00072
Phenol		0.348	**0.283**	81	53-120	4	20	0.17	0.0013
Pyrene		0.348	**0.302**	87	60-132	4	20	0.017	0.0012
2,4,6-Trichlorophenol		0.348	**0.237**	68	45-128	6	20	0.017	0.0017
2,4,5-Trichlorophenol		0.348	**0.242**	69	61-126	0.7	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*77*	*33-113*				
Phenol-d6				*76*	*30-115*				
Nitrobenzene-d5				*78*	*33-131*				
2-Fluorobiphenyl				*78*	*46-122*				
2,4,6-Tribromophenol				*63*	*12-124*				
o-Terphenyl				*70*	*20-155*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Acenaphthene	0.348	**0.277**	79	55-113	4	20	0.017	0.00079
Acenaphthylene	0.348	**0.277**	80	56-138	4	20	0.017	0.00082
Acetophenone	0.348	**0.267**	77	26-127	3	20	0.017	0.0099
Anthracene	0.348	**0.296**	85	63-134	5	20	0.017	0.00086
Atrazine	0.348	**0.320**	92	52-125	6	20	0.017	0.0097
Benzaldehyde	0.348	0.067 U	**0**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.348	**0.266**	76	53-142	2	20	0.017	0.0014
Benzo(a)pyrene	0.348	**0.276**	79	54-136	7	20	0.017	0.00086
Benzo(b)fluoranthene	0.348	**0.274**	79	49-146	7	20	0.017	0.0017
Benzo(k)fluoranthene	0.348	**0.263**	76	56-136	4	20	0.017	0.0022
Benzo(g,h,i)perylene	0.348	**0.305**	88	47-141	4	20	0.033	0.00082
1,1'-Biphenyl	0.348	**0.274**	79	55-105	2	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.348	**0.293**	84	61-124	3	20	0.017	0.00094
Butyl Benzyl Phthalate	0.348	**0.303**	87	51-145	4	20	0.033	0.0017
Caprolactam	0.348	**0.333**	96	44-130	7	20	0.067	0.011
Carbazole	0.348	**0.311**	89	76-126	2	20	0.17	0.0089
4-Chloro-3-methylphenol	0.348	**0.299**	86	57-124	11	20	0.017	0.0038
4-Chloroaniline	0.348	**0.0787**	23	7-75	10	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.348	**0.243**	70	57-121	12	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.348	**0.230**	66	54-112	0.7	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.348	**0.257**	74	62-116	4	20	0.017	0.0027
2-Chloronaphthalene	0.348	**0.273**	78	67-111	6	20	0.017	0.0026
2-Chlorophenol	0.348	**0.263**	76	62-118	10	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.348	**0.266**	76	62-114	4	20	0.017	0.00072
Chrysene	0.348	**0.295**	85	66-137	4	20	0.017	0.00086
Dibenz(a,h)anthracene	0.348	**0.322**	92	52-142	5	20	0.033	0.0013
Dibenzofuran	0.348	**0.274**	79	65-119	3	20	0.017	0.00082
Di-n-butyl Phthalate	0.348	**0.357**	102	65-140	3	20	0.067	0.014
3,3´-Dichlorobenzidine	0.697	**0.343 J**	49	10-107	7	20	0.83	0.032
2,4-Dichlorophenol	0.348	**0.254**	73	50-128	5	20	0.033	0.0015
*Diethyl Phthalate	0.348	**0.319 B**	92	59-128	5	20	0.017	0.0024
2,4-Dimethylphenol	0.348	**0.254**	73	40-122	3	20	0.17	0.030
Dimethyl Phthalate	0.348	**0.287**	82	66-122	5	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.348	**0.255**	73	26-136	6	20	0.17	0.0055
2,4-Dinitrophenol	0.348	**0.201**	58	25-105	2	20	0.17	0.038
2,4-Dinitrotoluene	0.348	**0.268**	77	51-128	0.4	20	0.033	0.0050

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.348	**0.273**	78	61-119	4	20	0.017	0.0016
Di-n-octyl Phthalate		0.348	**0.289**	83	63-132	3	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.348	**0.289 B**	83	50-140	4	20	0.033	0.0041
Fluoranthene		0.348	**0.287**	82	66-140	5	20	0.017	0.00056
Fluorene		0.348	**0.266**	76	60-131	3	20	0.033	0.00060
Hexachlorobenzene		0.348	**0.284**	82	34-141	3	20	0.017	0.0010
Hexachlorobutadiene		0.348	**0.281**	81	56-128	4	20	0.017	0.00072
Hexachlorocyclopentadiene		0.348	**0.229**	66	34-124	4	20	0.017	0.0027
Hexachloroethane		0.348	**0.279**	80	60-111	2	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.348	**0.311**	89	53-135	3	20	0.033	0.0031
Isophorone		0.348	**0.258**	74	55-127	6	20	0.017	0.0010
2-Methylnaphthalene		0.348	**0.280**	81	56-124	4	20	0.017	0.0014
2-Methylphenol		0.348	**0.237**	68	58-113	1	20	0.017	0.0034
4-Methylphenol		0.348	**0.295**	85	58-132	2	20	0.017	0.0020
Naphthalene		0.348	**0.271**	78	52-128	4	20	0.017	0.00051
2-Nitroaniline		0.348	**0.298**	85	63-122	3	20	0.017	0.0059
3-Nitroaniline		0.348	**0.162**	47	19-86	8	20	0.033	0.016
4-Nitroaniline		0.348	**0.246**	71	26-125	19	20	0.033	0.016
Nitrobenzene		0.348	**0.262**	75	56-109	4	20	0.017	0.0015
4-Nitrophenol		0.348	**0.237 J**	68	36-131	11	20	0.67	0.027
2-Nitrophenol		0.348	**0.259**	74	55-115	5	20	0.017	0.0015
N-Nitroso-diphenylamine		0.348	**0.306**	88	33-109	4	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.348	**0.266**	76	48-127	2	20	0.017	0.0022
Pentachlorophenol		0.348	**0.210**	60	19-117	0.7	20	0.17	0.015
Phenanthrene		0.348	**0.275**	79	58-134	4	20	0.017	0.00072
Phenol		0.348	**0.237**	68	53-120	2	20	0.17	0.0013
Pyrene		0.348	**0.278**	80	60-132	4	20	0.017	0.0012
2,4,6-Trichlorophenol		0.348	**0.253**	73	45-128	4	20	0.017	0.0017
2,4,5-Trichlorophenol		0.348	**0.291**	83	61-126	4	20	0.017	0.0039
Surrogates:									
**2-Fluorophenol*				*68*	*33-113*				
Phenol-d6				*69*	*30-115*				
Nitrobenzene-d5				*77*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*84*	*12-124*				
o-Terphenyl				*81*	*20-155*				

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample	50.0		**49.8**	ug/L	100	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**49.3**	ug/L			1	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample	50.0		**51.3**	ug/L	103	80-120		20	1.0	0.18
Laboratory Control Sample Duplicate			**50.4**	ug/L			2	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample	50.0		**51.5**	ug/L	103	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**50.7**	ug/L			2	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample	50.0		**49.4**	ug/L	99	80-120		20	1.0	0.11
Laboratory Control Sample Duplicate			**48.8**	ug/L			1	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.038
Laboratory Control Sample	50.0		**51.0**	ug/L	102	80-120		20	0.20	0.038
Laboratory Control Sample Duplicate			**49.9**	ug/L			2	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.20

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Chromium/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**49.7**	ug/L	99	80-120		20	1.0	0.20
Laboratory Control Sample Duplicate			**49.6**	ug/L			0.3	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**51.1**	ug/L	102	80-120		20	1.0	0.050
Laboratory Control Sample Duplicate			**51.4**	ug/L			0.5	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**51.2**	ug/L	102	80-120		20	1.0	0.13
Laboratory Control Sample Duplicate			**50.3**	ug/L			2	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213630 (3010A Digestion)							Analyzed: 11/12/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5
Laboratory Control Sample		400	**382**	ug/L	96	80-120		20	20	6.5
Laboratory Control Sample Duplicate			**392**	ug/L			3	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**52.2**	ug/L	104	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**51.4**	ug/L			2	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Manganese/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**49.9**	ug/L			0.6	20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213552 (7470A Digestion - Dissolved)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**1.95**	ug/L	98	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.075
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	1.0	0.075
Laboratory Control Sample Duplicate			**49.7**	ug/L			0.6	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**50.4**	ug/L	101	80-120		20	1.0	0.17
Laboratory Control Sample Duplicate			**50.5**	ug/L			0.2	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120		20	1.0	0.31
Laboratory Control Sample Duplicate			**50.0**	ug/L			1	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	0.20	0.037

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Silver/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample Duplicate			**49.2**	ug/L			1	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.027
Laboratory Control Sample	50.0		**51.6**	ug/L	103	80-120		20	1.0	0.027
Laboratory Control Sample Duplicate			**50.4**	ug/L			2	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample	50.0		**49.9**	ug/L	100	80-120		20	1.0	0.066
Laboratory Control Sample Duplicate			**50.2**	ug/L			0.6	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			10 U	ug/L					10	1.5
Laboratory Control Sample	50.0		**52.3**	ug/L	105	80-120		20	10	1.5
Laboratory Control Sample Duplicate			**51.1**	ug/L			2	20	10	1.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213548 (3050B Digestion)								Analyzed: 11/06/2012	By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample		4.00	**3.55**	mg/kg dry wt.	89	80-120		20	0.10	0.024
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.0322	3.87	**3.48**	mg/kg dry wt.	89	75-125		20	0.10	0.024
Matrix Spike Duplicate	0.0322	3.91	**3.31**	mg/kg dry wt.	84	75-125	5	20	0.10	0.024
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			**0.021 J**	mg/kg dry wt.					0.10	0.016
Laboratory Control Sample		4.00	**4.36**	mg/kg dry wt.	109	80-120		20	0.10	0.016
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	1.09	3.88	**5.24**	mg/kg dry wt.	107	75-125		20	0.10	0.016
Matrix Spike Duplicate	1.09	3.98	**5.43**	mg/kg dry wt.	109	75-125	3	20	0.10	0.016
Analyte: Barium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.012
Laboratory Control Sample		4.00	**4.25**	mg/kg dry wt.	106	80-120		20	1.0	0.012
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	7.41	3.88	**7.80**	mg/kg dry wt.	**10**	75-125		20	1.0	0.012
Matrix Spike Duplicate	7.41	3.98	**8.46**	mg/kg dry wt.	**26**	75-125	8	20	1.0	0.012
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			0.50 U	mg/kg dry wt.					0.50	0.020
Laboratory Control Sample		4.00	**4.23**	mg/kg dry wt.	106	80-120		20	0.50	0.020
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.0752	3.88	**4.44**	mg/kg dry wt.	113	75-125		20	0.50	0.020
Matrix Spike Duplicate	0.0752	3.98	**4.48**	mg/kg dry wt.	111	75-125	1	20	0.50	0.020
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)								Analyzed: 11/09/2012	By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0033

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cadmium/USEPA-6020A (Continued)										
QC Batch: 1213574 (Continued) (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Laboratory Control Sample		4.00	**4.19**	mg/kg dry wt.	105	80-120		20	0.050	0.0033
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.0178	3.88	**4.27**	mg/kg dry wt.	110	75-125		20	0.050	0.0033
Matrix Spike Duplicate	0.0178	3.98	**4.39**	mg/kg dry wt.	110	75-125	3	20	0.050	0.0033
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.014
Laboratory Control Sample		4.00	**4.69**	mg/kg dry wt.	117	80-120		20	1.0	0.014
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	4.31	3.88	**9.06**	mg/kg dry wt.	123	75-125		20	1.0	0.014
Matrix Spike Duplicate	4.31	3.98	**9.26**	mg/kg dry wt.	125	75-125	2	20	1.0	0.014
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0064
Laboratory Control Sample		4.00	**4.49**	mg/kg dry wt.	112	80-120		20	1.0	0.0064
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	1.39	3.88	**5.50**	mg/kg dry wt.	106	75-125		20	1.0	0.0064
Matrix Spike Duplicate	1.39	3.98	**5.44**	mg/kg dry wt.	102	75-125	1	20	1.0	0.0064
Analyte: Copper/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.025
Laboratory Control Sample		4.00	**4.45**	mg/kg dry wt.	111	80-120		20	1.0	0.025
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	3.29	3.88	**7.51**	mg/kg dry wt.	109	75-125		20	1.0	0.025
Matrix Spike Duplicate	3.29	3.98	**7.73**	mg/kg dry wt.	112	75-125	3	20	1.0	0.025
Analyte: Iron/USEPA-6010C										
QC Batch: 1213573 (3050B Digestion)							Analyzed: 11/07/2012		By: CKD	
Method Blank			5.0 U	mg/kg dry wt.					5.0	0.62

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Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Iron/USEPA-6010C (Continued)										
QC Batch: 1213573 (Continued) (3050B Digestion)							Analyzed: 11/07/2012		By: CKD	
Laboratory Control Sample		25.0	**23.8**	mg/kg dry wt.	95	80-120		20	5.0	0.62
Analyte: Lead/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0066
Laboratory Control Sample		4.00	**4.35**	mg/kg dry wt.	109	80-120		20	1.0	0.0066
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	1.46	3.88	**5.69**	mg/kg dry wt.	109	75-125		20	1.0	0.0066
Matrix Spike Duplicate	1.46	3.98	**5.81**	mg/kg dry wt.	109	75-125	2	20	1.0	0.0066
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.023
Laboratory Control Sample		4.00	**4.62**	mg/kg dry wt.	116	80-120		20	1.0	0.023
Analyte: Mercury/USEPA-7471A										
QC Batch: 1213516 (7471A Mercury Digestion)							Analyzed: 11/06/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0061
Laboratory Control Sample		0.333	**0.335**	mg/kg dry wt.	100	80-120		20	0.050	0.0061
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	<RL	0.325	**0.376**	mg/kg dry wt.	116	80-120		20	0.050	0.0061
Matrix Spike Duplicate	<RL	0.326	**0.357**	mg/kg dry wt.	109	80-120	5	20	0.050	0.0061
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0081
Laboratory Control Sample		4.00	**4.16**	mg/kg dry wt.	104	80-120		20	1.0	0.0081
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.185	3.88	**3.94**	mg/kg dry wt.	97	75-125		20	1.0	0.0081

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213574 (Continued) (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike Duplicate	0.185	3.98	**4.21**	mg/kg dry wt.	101	75-125	7	20	1.0	0.0081
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.016
Laboratory Control Sample		4.00	**4.41**	mg/kg dry wt.	110	80-120		20	1.0	0.016
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	3.76	3.88	**7.90**	mg/kg dry wt.	107	75-125		20	1.0	0.016
Matrix Spike Duplicate	3.76	3.98	**8.05**	mg/kg dry wt.	108	75-125	2	20	1.0	0.016
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.033
Laboratory Control Sample		4.00	**4.60**	mg/kg dry wt.	115	80-120		20	0.10	0.033
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.191	3.88	**3.73**	mg/kg dry wt.	91	75-125		20	0.10	0.033
Matrix Spike Duplicate	0.191	3.98	**3.74**	mg/kg dry wt.	89	75-125	0.1	20	0.10	0.033
Analyte: Silver/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0039
Laboratory Control Sample		4.00	**4.24**	mg/kg dry wt.	106	80-120		20	0.050	0.0039
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.0174	3.88	**4.11**	mg/kg dry wt.	106	75-125		20	0.050	0.0039
Matrix Spike Duplicate	0.0174	3.98	**4.22**	mg/kg dry wt.	106	75-125	2	20	0.050	0.0039
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0026

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Thallium/USEPA-6020A (Continued)										
QC Batch: 1213574 (Continued) (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Laboratory Control Sample		4.00	**4.30**	mg/kg dry wt.	107	80-120		20	0.050	0.0026
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	0.0246	3.88	**4.23**	mg/kg dry wt.	109	75-125		20	0.050	0.0026
Matrix Spike Duplicate	0.0246	3.98	**4.30**	mg/kg dry wt.	107	75-125	2	20	0.050	0.0026
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.0097
Laboratory Control Sample		4.00	**4.75**	mg/kg dry wt.	119	80-120		20	0.10	0.0097
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	6.03	3.88	**10.1**	mg/kg dry wt.	105	75-125		20	1.0	0.097
Matrix Spike Duplicate	6.03	3.98	**10.9**	mg/kg dry wt.	124	75-125	8	20	1.0	0.097
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/09/2012		By: DSC	
Method Blank			**0.44 J**	mg/kg dry wt.					1.0	0.28
Laboratory Control Sample		4.00	**4.54**	mg/kg dry wt.	113	80-120		20	1.0	0.28
QC Batch: 1213574 (3050B Digestion)							Analyzed: 11/12/2012		By: DSC	
1211014-05 [S-17360-103112-DD-172]										
Matrix Spike	7.42	3.88	**12.5**	mg/kg dry wt.	**130**	75-125		20	10	2.8
Matrix Spike Duplicate	7.42	3.98	**13.9**	mg/kg dry wt.	**164**	75-125	11	20	10	2.8

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213506 (General Inorganic Prep)							Analyzed: 11/05/2012		By: SKA	
Method Blank			0.1 U	%					0.1	

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CHAIN OF CUSTODY RECORD #740-W

COC NO. PL- 09730

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CONESTOGA-ROVERS & ASSOCIATES

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 #495-W

Phone: (734) 453-5123 Fax: (734) 453-5201

1211014

DRT 2 (39-20)

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 17360-T05121-013	Laboratory Name: TRI MATRIX	Lab Location: Grand Rapids MI	SSOW ID: 11980-T05121-013
Project Name: Grand Rapids Metal Stage III	Lab Contact: Jenifer Rice	Lab Quote No:	Cooler No: TM2776
Project Location: Grand Rapids MI			Carrier: Drop off At Lab
Chemistry Contact: Paul Wiseman			Airbill No: —
Sampler(s): DAN DEITNER			Date Shipped: 10-31-12

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)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: TCL VOC	TCL SVOC	PCBs	TAL Metals	MS/MSD Request	Comments/ Special Instructions:
01	trip blank	10-31-12	—	SOIL	—		1							1	X				02	
02	S-17360-103112-DD-169	10-31-12	1435	SO	G	1					1			2	X	X	X	X	03	
03	S-17360-103112-DD-170	10-31-12	1445	SO	G	1					1			2	X	X	X	X	03	
04	GW-17360-103112-DD-171	10-31-12	1545	WG	G	3	3	1						7	X	X	X	X	06	metals sample field filtered
05	S-17360-103112-DD-172	10-31-12	1545 1570	SO	G	1					1			2	X	X	X	X	03	
06																				
07																				
08																				
09																				
10																				
11																				
12																				
13																				
14																				
15																				

Dan Deitner 10-31-12

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:

All Samples in Cooler must be on COC

Notes/ Special Requirements: GW metals sample field filtered

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitner	CRA	10-31-12	1655	1. Lyle Romeyn	TriMatrix	10/31/12	1655
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-104 (20110804)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: New / Add To 1211014
Receipt Record Page/Line #: 39-20 | Project Chemist: JLR | Sample #s:

Recorded by (initials/date): DN 10/31/12

Cooler / Box / Other | Qty Received: 1

IR Gun (#202) | Thermometer Used: Digital Thermometer (#54) / Other (#____) | See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
TM2776	1820	None	Dispersed / Top / Middle / Bottom	Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers	Temperature Blank (TB)
		Present / Intact		Blue Ice / Avg 2-3 containers	1 Container
		Present / Not Intact		None / Avg 2-3 containers	

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:	0		2.4
TB location: Representative / Not Representative			
1	3.9	0	3.9
2	4.4	0	4.4
3	4.5	0	4.5
Average °C			4.3

Cooler ID on COC? | VOC Trip Blank received? (MEOH)

Cooler # / Time — Custody Seals: None / Present / Intact / Present / Not Intact; Coolant Location: Dispersed / Top / Middle / Bottom; Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers; Alternate Temperature Taken Via: Temperature Blank (TB); 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

Cooler ID on COC? | VOC Trip Blank received?

Cooler # / Time — Custody Seals: None / Present / Intact / Present / Not Intact; Coolant Location: Dispersed / Top / Middle / Bottom; Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers; Alternate Temperature Taken Via: Temperature Blank (TB); 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

Cooler ID on COC? | VOC Trip Blank received?

Cooler # / Time — Custody Seals: None / Present / Intact / Present / Not Intact; Coolant Location: Dispersed / Top / Middle / Bottom; Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers; Bagged Ice / Avg 2-3 containers; Blue Ice / Avg 2-3 containers; None / Avg 2-3 containers; Alternate Temperature Taken Via: Temperature Blank (TB); 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

Cooler ID on COC? | VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: JL-09730

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☐	☑	Sample Date and Time matches COC?
☑	☐	Container type completed on COC?
☐	☑	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐		Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
☑	☐		Received pre-preserved VOC soils?

☑ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☑ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☑ Trip Blank received (MEOH) ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
DN 10/31/12	10/31/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211034

Date:
November 20, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on November 01, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/20/12

Date

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Sample Receipt and Login -- Work Order: 1211034

TriMatrix Laboratories received the cooler(s) for this work order on November 01, 2012, at 16:20. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
Trip Blank	1211034-01	Soil	11/1/2012
S-17360-110112-DD-196	1211034-02	Soil	11/1/2012
S-17360-110112-DD-197	1211034-03	Soil	11/1/2012
GW-17360-110112-DD-198	1211034-04	Water	11/1/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8082A

Sample: 1211034-04 GW-17360-110112-DD-198

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-04	GW-17360-110112-DD-198	Carbon Disulfide

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-04	GW-17360-110112-DD-198	Carbon Disulfide

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-04	GW-17360-110112-DD-198	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-01	Trip Blank	Methyl Acetate
	1211034-02	S-17360-110112-DD-196	Methyl Acetate
	1211034-03	S-17360-110112-DD-197	Methyl Acetate

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-01	Trip Blank	Chloroethane
	1211034-01	Trip Blank	Trichlorofluoromethane
	1211034-02	S-17360-110112-DD-196	Chloroethane
	1211034-02	S-17360-110112-DD-196	Trichlorofluoromethane
	1211034-03	S-17360-110112-DD-197	Chloroethane
	1211034-03	S-17360-110112-DD-197	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-01	Trip Blank	Bromomethane
	1211034-01	Trip Blank	Chloroethane
	1211034-01	Trip Blank	Trichlorofluoromethane
	1211034-02	S-17360-110112-DD-196	Bromomethane
	1211034-02	S-17360-110112-DD-196	Chloroethane
	1211034-02	S-17360-110112-DD-196	Trichlorofluoromethane
	1211034-03	S-17360-110112-DD-197	Bromomethane
	1211034-03	S-17360-110112-DD-197	Chloroethane
	1211034-03	S-17360-110112-DD-197	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery below the lower control limit of the method. Positive results for this analyte in any associated samples are considered estimated; non-detectable results are considered approximate.

Analysis: USEPA-8260B

Sample/Analyte:	1211034-01	Trip Blank	Methyl Acetate
	1211034-02	S-17360-110112-DD-196	Methyl Acetate
	1211034-03	S-17360-110112-DD-197	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP because client specific matrix QC was not requested. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8270C

Sample:		
	1211034-02	S-17360-110112-DD-196
	1211034-03	S-17360-110112-DD-197

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211034-04	GW-17360-110112-DD-198	Caprolactam

Qualification: The LCS recovery was less than 10%. All results, including non-detectable concentrations for this analyte in any sample from the associated QC Batch are considered unusable.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211034-02	S-17360-110112-DD-196	Benzaldehyde
	1211034-03	S-17360-110112-DD-197	Benzaldehyde

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211034-02	S-17360-110112-DD-196	Benzo(a)pyrene
	1211034-02	S-17360-110112-DD-196	Benzo(b)fluoranthene
	1211034-02	S-17360-110112-DD-196	Benzo(k)fluoranthene
	1211034-02	S-17360-110112-DD-196	Chrysene-d12
	1211034-03	S-17360-110112-DD-197	Benzo(b)fluoranthene
	1211034-03	S-17360-110112-DD-197	Benzo(k)fluoranthene
	1211034-03	S-17360-110112-DD-197	Dibenz(a,h)anthracene
	1213587-BS3		4-Nitrophenol

Qualification: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:			
	1211034-02	S-17360-110112-DD-196	Bis(2-ethylhexyl) Phthalate
	1211034-03	S-17360-110112-DD-197	Bis(2-ethylhexyl) Phthalate

Continued on next page

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The analyte concentration in the associated MB was greater than or equal to the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:		
1211034-02	S-17360-110112-DD-196	Diethyl Phthalate
1211034-03	S-17360-110112-DD-197	Diethyl Phthalate
1211034-04	GW-17360-110112-DD-198	Diethyl Phthalate

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Attachment 2
Statement of Data Qualifications

Dissolved Metals by EPA 6000/7000 Series Methods

Qualification: The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.

Analysis: USEPA-6020A

Sample/Analyte:	1211034-04	GW-17360-110112-DD-198	Copper
	1211034-04	GW-17360-110112-DD-198	Nickel

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:	
2K14002-CRL2	Selenium
2K14002-CRL2	Zinc

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	11/01/12 00:00
Lab Sample ID:	**1211034-01**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
*74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
*75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.012
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.010
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
*79-20-9	Methyl Acetate	0.25U	0.25	0.032

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**Trip Blank**	Sampled:	11/01/12 00:00
Lab Sample ID:	**1211034-01**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	0.10U	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
*75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K15011
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.34U	0.34	0.0018
11104-28-2	PCB-1221	0.34U	0.34	0.0022
11141-16-5	PCB-1232	0.34U	0.34	0.0022
53469-21-9	PCB-1242	0.34U	0.34	0.0072
12672-29-6	PCB-1248	0.34U	0.34	0.0026
11097-69-1	PCB-1254	0.34U	0.34	0.0036
11096-82-5	PCB-1260	**0.0085J**	0.34	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*87*	*45-135*
Tetrachloro-m-xylene	*90*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.78U	0.78	0.057
71-43-2	Benzene	0.052U	0.052	0.0074
75-27-4	Bromodichloromethane	0.052U	0.052	0.0070
75-25-2	Bromoform	0.052U	0.052	0.013
*74-83-9	Bromomethane	0.052U	0.052	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.052U	0.052	0.018
108-90-7	Chlorobenzene	0.052U	0.052	0.0088
*75-00-3	Chloroethane	0.052U	0.052	0.018
67-66-3	Chloroform	0.052U	0.052	0.0088
74-87-3	Chloromethane	0.052U	0.052	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.052U	0.052	0.0079
106-93-4	1,2-Dibromoethane	0.052U	0.052	0.017
95-50-1	1,2-Dichlorobenzene	0.052U	0.052	0.012
541-73-1	1,3-Dichlorobenzene	0.052U	0.052	0.012
106-46-7	1,4-Dichlorobenzene	0.052U	0.052	0.013
75-71-8	Dichlorodifluoromethane	0.052U	0.052	0.011
75-34-3	1,1-Dichloroethane	0.052U	0.052	0.011
107-06-2	1,2-Dichloroethane	0.052U	0.052	0.011
75-35-4	1,1-Dichloroethene	0.052U	0.052	0.011
156-59-2	cis-1,2-Dichloroethene	0.052U	0.052	0.012
156-60-5	trans-1,2-Dichloroethene	0.052U	0.052	0.012
78-87-5	1,2-Dichloropropane	0.052U	0.052	0.014
10061-01-5	cis-1,3-Dichloropropene	0.052U	0.052	0.0099
10061-02-6	trans-1,3-Dichloropropene	0.052U	0.052	0.0098
100-41-4	Ethylbenzene	0.052U	0.052	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.052U	0.052	0.011
*79-20-9	Methyl Acetate	0.26U	0.26	0.034
1634-04-4	Methyl tert-Butyl Ether	0.052U	0.052	0.0099
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	0.10U	0.10	0.028
78-93-3	2-Butanone (MEK)	0.78U	0.78	0.066
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.052U	0.052	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.052U	0.052	0.013
127-18-4	Tetrachloroethene	0.052U	0.052	0.014
108-88-3	Toluene	0.052U	0.052	0.011
120-82-1	1,2,4-Trichlorobenzene	0.052U	0.052	0.0073
71-55-6	1,1,1-Trichloroethane	0.052U	0.052	0.0072
79-00-5	1,1,2-Trichloroethane	0.052U	0.052	0.017
79-01-6	Trichloroethene	0.052U	0.052	0.011
*75-69-4	Trichlorofluoromethane	0.052U	0.052	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.052U	0.052	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0088
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*100*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.010J**	0.017	0.00083
208-96-8	Acenaphthylene	**0.0040J**	0.017	0.00086
98-86-2	Acetophenone	0.017U	0.017	0.010
120-12-7	Anthracene	**0.028**	0.017	0.00089
1912-24-9	Atrazine	0.017U	0.017	0.010
*100-52-7	Benzaldehyde	0.070U	0.070	0.010
56-55-3	Benzo(a)anthracene	**0.15**	0.017	0.0015
*50-32-8	Benzo(a)pyrene	**0.17**	0.017	0.00089
*205-99-2	Benzo(b)fluoranthene	**0.23**	0.017	0.0018
*207-08-9	Benzo(k)fluoranthene	**0.12**	0.017	0.0023
191-24-2	Benzo(g,h,i)perylene	**0.080**	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.017U	0.017	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.017U	0.017	0.00099
85-68-7	Butyl Benzyl Phthalate	0.035U	0.035	0.0018
105-60-2	Caprolactam	0.070U	0.070	0.011
86-74-8	Carbazole	0.17U	0.17	0.0093
59-50-7	4-Chloro-3-methylphenol	0.017U	0.017	0.0039
106-47-8	4-Chloroaniline	0.070U	0.070	0.0092
111-91-1	Bis(2-chloroethoxy)methane	0.017U	0.017	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.017U	0.017	0.00083
108-60-1	Bis(2-chloroisopropyl) Ether	0.017U	0.017	0.0028
91-58-7	2-Chloronaphthalene	0.017U	0.017	0.0027
95-57-8	2-Chlorophenol	0.017U	0.017	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.017U	0.017	0.00076
218-01-9	Chrysene	**0.17**	0.017	0.00089
53-70-3	Dibenz(a,h)anthracene	**0.029J**	0.035	0.0013
132-64-9	Dibenzofuran	**0.0047J**	0.017	0.00086
84-74-2	Di-n-butyl Phthalate	0.070U	0.070	0.015
91-94-1	3,3´-Dichlorobenzidine	0.87U	0.87	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.0076JB**	0.017	0.0025
105-67-9	2,4-Dimethylphenol	0.17U	0.17	0.031
131-11-3	Dimethyl Phthalate	0.017U	0.017	0.0019
534-52-1	4,6-Dinitro-2-methylphenol	0.17U	0.17	0.0057
51-28-5	2,4-Dinitrophenol	0.17U	0.17	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.017U	0.017	0.0016
117-84-0	Di-n-octyl Phthalate	0.017U	0.017	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.016JB**	0.035	0.0043
206-44-0	Fluoranthene	**0.19**	0.017	0.00059
86-73-7	Fluorene	**0.011J**	0.035	0.00063
118-74-1	Hexachlorobenzene	0.017U	0.017	0.0010
87-68-3	Hexachlorobutadiene	0.017U	0.017	0.00076
77-47-4	Hexachlorocyclopentadiene	0.017U	0.017	0.0028
67-72-1	Hexachloroethane	0.017U	0.017	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	**0.076**	0.035	0.0032
78-59-1	Isophorone	0.017U	0.017	0.0011
91-57-6	2-Methylnaphthalene	**0.0066J**	0.017	0.0014
95-48-7	2-Methylphenol	0.017U	0.017	0.0035
106-44-5	4-Methylphenol	0.017U	0.017	0.0021
91-20-3	Naphthalene	**0.0066J**	0.017	0.00053
88-74-4	2-Nitroaniline	0.017U	0.017	0.0062
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.017U	0.017	0.0015
100-02-7	4-Nitrophenol	0.70U	0.70	0.028
88-75-5	2-Nitrophenol	0.017U	0.017	0.0016
86-30-6	N-Nitroso-diphenylamine	0.017U	0.017	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.017U	0.017	0.0023
87-86-5	Pentachlorophenol	0.17U	0.17	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.13**	0.017	0.00076
108-95-2	Phenol	0.17U	0.17	0.0014
129-00-0	Pyrene	**0.29**	0.017	0.0013
88-06-2	2,4,6-Trichlorophenol	0.017U	0.017	0.0018
95-95-4	2,4,5-Trichlorophenol	0.017U	0.017	0.0041

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*69*	*33-113*
Phenol-d6	*66*	*30-115*
Nitrobenzene-d5	*68*	*33-131*
2-Fluorobiphenyl	*70*	*46-122*
2,4,6-Tribromophenol	*42*	*12-124*
o-Terphenyl	*62*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	96		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.28**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 14:26	CKD	1213760
Arsenic	**1.8**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Barium	**19**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/13/12 14:33	CKD	1213610
Beryllium	**0.14**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Cadmium	**0.12**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Chromium	**6.8**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Cobalt	**1.7**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Copper	**20**		5.0	0.13	mg/kg dry wt.	5	USEPA-6020A	11/13/12 14:33	CKD	1213610
Iron	**5300**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/08/12 10:32	KLV	1213615
Lead	**17**		5.0	0.033	mg/kg dry wt.	5	USEPA-6020A	11/13/12 14:33	CKD	1213610
Manganese	**140**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/13/12 14:37	CKD	1213610
Molybdenum	**1.0**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Mercury	**0.0083**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 13:46	CKD	1213638
Nickel	**5.8**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Selenium	**0.13**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Silver	**0.036**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Thallium	**0.040**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Vanadium	**7.6**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:24	CKD	1213610
Zinc	**25**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/13/12 14:33	CKD	1213610

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-196**	Sampled:	11/01/12 13:50
Lab Sample ID:	**1211034-02**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550C	11/07/12 15:30	CLB	1213620

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	96		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0072
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0029

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*102*	*45-135*
Tetrachloro-m-xylene	*88*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.78U	0.78	0.057
71-43-2	Benzene	0.052U	0.052	0.0074
75-27-4	Bromodichloromethane	0.052U	0.052	0.0070
75-25-2	Bromoform	0.052U	0.052	0.013
*74-83-9	Bromomethane	0.052U	0.052	0.022
75-15-0	Carbon Disulfide	0.26U	0.26	0.012
56-23-5	Carbon Tetrachloride	0.052U	0.052	0.018
108-90-7	Chlorobenzene	0.052U	0.052	0.0088
*75-00-3	Chloroethane	0.052U	0.052	0.019
67-66-3	Chloroform	0.052U	0.052	0.0088
74-87-3	Chloromethane	0.052U	0.052	0.020
110-82-7	Cyclohexane	0.26U	0.26	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.26U	0.26	0.027
124-48-1	Dibromochloromethane	0.052U	0.052	0.0080
106-93-4	1,2-Dibromoethane	0.052U	0.052	0.017
95-50-1	1,2-Dichlorobenzene	0.052U	0.052	0.012
541-73-1	1,3-Dichlorobenzene	0.052U	0.052	0.012
106-46-7	1,4-Dichlorobenzene	0.052U	0.052	0.013
75-71-8	Dichlorodifluoromethane	0.052U	0.052	0.011
75-34-3	1,1-Dichloroethane	0.052U	0.052	0.011
107-06-2	1,2-Dichloroethane	0.052U	0.052	0.011
75-35-4	1,1-Dichloroethene	0.052U	0.052	0.011
156-59-2	cis-1,2-Dichloroethene	0.052U	0.052	0.012
156-60-5	trans-1,2-Dichloroethene	0.052U	0.052	0.012
78-87-5	1,2-Dichloropropane	0.052U	0.052	0.014
10061-01-5	cis-1,3-Dichloropropene	0.052U	0.052	0.0099
10061-02-6	trans-1,3-Dichloropropene	0.052U	0.052	0.0098
100-41-4	Ethylbenzene	0.052U	0.052	0.011
591-78-6	2-Hexanone	2.6U	2.6	0.026

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	96		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.052U	0.052	0.012
*79-20-9	Methyl Acetate	0.26U	0.26	0.034
1634-04-4	Methyl tert-Butyl Ether	0.052U	0.052	0.0099
108-87-2	Methylcyclohexane	0.26U	0.26	0.019
75-09-2	Methylene Chloride	**0.13**	0.10	0.028
78-93-3	2-Butanone (MEK)	0.78U	0.78	0.066
108-10-1	4-Methyl-2-pentanone (MIBK)	2.6U	2.6	0.021
100-42-5	Styrene	0.052U	0.052	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.052U	0.052	0.013
127-18-4	Tetrachloroethene	0.052U	0.052	0.014
108-88-3	Toluene	0.052U	0.052	0.012
120-82-1	1,2,4-Trichlorobenzene	0.052U	0.052	0.0073
71-55-6	1,1,1-Trichloroethane	0.052U	0.052	0.0072
79-00-5	1,1,2-Trichloroethane	0.052U	0.052	0.017
79-01-6	Trichloroethene	0.052U	0.052	0.011
*75-69-4	Trichlorofluoromethane	**0.022J**	0.052	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.052U	0.052	0.019
75-01-4	Vinyl Chloride	0.042U	0.042	0.0088
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.017U	0.017	0.00083
208-96-8	Acenaphthylene	0.017U	0.017	0.00086
98-86-2	Acetophenone	0.017U	0.017	0.010
120-12-7	Anthracene	**0.0029J**	0.017	0.00089
1912-24-9	Atrazine	0.017U	0.017	0.010
*100-52-7	Benzaldehyde	0.070U	0.070	0.010
56-55-3	Benzo(a)anthracene	**0.019**	0.017	0.0015
50-32-8	Benzo(a)pyrene	**0.020**	0.017	0.00089
*205-99-2	Benzo(b)fluoranthene	**0.027**	0.017	0.0018
*207-08-9	Benzo(k)fluoranthene	**0.012J**	0.017	0.0023
191-24-2	Benzo(g,h,i)perylene	**0.017J**	0.035	0.00086
92-52-4	1,1'-Biphenyl	0.017U	0.017	0.011
101-55-3	4-Bromophenyl Phenyl Ether	0.017U	0.017	0.00099
85-68-7	Butyl Benzyl Phthalate	0.035U	0.035	0.0018
105-60-2	Caprolactam	0.070U	0.070	0.012
86-74-8	Carbazole	0.17U	0.17	0.0093
59-50-7	4-Chloro-3-methylphenol	0.017U	0.017	0.0039
106-47-8	4-Chloroaniline	0.070U	0.070	0.0093
111-91-1	Bis(2-chloroethoxy)methane	0.017U	0.017	0.0012
111-44-4	Bis(2-chloroethyl) Ether	0.017U	0.017	0.00083
108-60-1	Bis(2-chloroisopropyl) Ether	0.017U	0.017	0.0028
91-58-7	2-Chloronaphthalene	0.017U	0.017	0.0027
95-57-8	2-Chlorophenol	0.017U	0.017	0.00083
7005-72-3	4-Chlorophenyl Phenyl Ether	0.017U	0.017	0.00076
218-01-9	Chrysene	**0.022**	0.017	0.00089
*53-70-3	Dibenz(a,h)anthracene	**0.0040J**	0.035	0.0013
132-64-9	Dibenzofuran	0.017U	0.017	0.00086
84-74-2	Di-n-butyl Phthalate	0.070U	0.070	0.015
91-94-1	3,3´-Dichlorobenzidine	0.87U	0.87	0.034

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.035U	0.035	0.0016
*84-66-2	Diethyl Phthalate	**0.0095JB**	0.017	0.0025
105-67-9	2,4-Dimethylphenol	0.17U	0.17	0.031
131-11-3	Dimethyl Phthalate	0.017U	0.017	0.0019
534-52-1	4,6-Dinitro-2-methylphenol	0.17U	0.17	0.0057
51-28-5	2,4-Dinitrophenol	0.17U	0.17	0.040
121-14-2	2,4-Dinitrotoluene	0.035U	0.035	0.0052
606-20-2	2,6-Dinitrotoluene	0.017U	0.017	0.0016
117-84-0	Di-n-octyl Phthalate	0.017U	0.017	0.0012
*117-81-7	Bis(2-ethylhexyl) Phthalate	**0.0088JB**	0.035	0.0043
206-44-0	Fluoranthene	**0.026**	0.017	0.00059
86-73-7	Fluorene	0.035U	0.035	0.00063
118-74-1	Hexachlorobenzene	0.017U	0.017	0.0010
87-68-3	Hexachlorobutadiene	0.017U	0.017	0.00076
77-47-4	Hexachlorocyclopentadiene	0.017U	0.017	0.0028
67-72-1	Hexachloroethane	0.017U	0.017	0.0014
193-39-5	Indeno(1,2,3-cd)pyrene	**0.013J**	0.035	0.0032
78-59-1	Isophorone	0.017U	0.017	0.0011
91-57-6	2-Methylnaphthalene	0.017U	0.017	0.0014
95-48-7	2-Methylphenol	0.017U	0.017	0.0035
106-44-5	4-Methylphenol	0.017U	0.017	0.0021
91-20-3	Naphthalene	**0.0011J**	0.017	0.00053
88-74-4	2-Nitroaniline	0.017U	0.017	0.0062
99-09-2	3-Nitroaniline	0.035U	0.035	0.017
100-01-6	4-Nitroaniline	0.035U	0.035	0.016
98-95-3	Nitrobenzene	0.017U	0.017	0.0015
100-02-7	4-Nitrophenol	0.70U	0.70	0.028
88-75-5	2-Nitrophenol	0.017U	0.017	0.0016
86-30-6	N-Nitroso-diphenylamine	0.017U	0.017	0.0011
621-64-7	N-Nitroso-di-n-propylamine	0.017U	0.017	0.0023
87-86-5	Pentachlorophenol	0.17U	0.17	0.016

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: JTS
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213648	Analytical Batch:	2K16029
Percent Solids:	96		

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	**0.011J**	0.017	0.00076
108-95-2	Phenol	0.17U	0.17	0.0014
129-00-0	Pyrene	**0.028**	0.017	0.0013
88-06-2	2,4,6-Trichlorophenol	0.017U	0.017	0.0018
95-95-4	2,4,5-Trichlorophenol	0.017U	0.017	0.0041

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*64*	*33-113*
Phenol-d6	*74*	*30-115*
Nitrobenzene-d5	*73*	*33-131*
2-Fluorobiphenyl	*74*	*46-122*
2,4,6-Tribromophenol	*14*	*12-124*
o-Terphenyl	*67*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	96		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.083**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 14:28	CKD	1213760
Arsenic	**1.4**		0.093	0.015	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Barium	**6.4**		0.93	0.011	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Beryllium	**0.078**	**J**	0.46	0.018	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Cadmium	**0.039**	**J**	0.046	0.0031	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Chromium	**7.4**		0.93	0.013	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Cobalt	**1.8**		0.93	0.0059	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Copper	**5.2**		0.93	0.024	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Iron	**4400**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/08/12 10:38	KLV	1213615
Lead	**3.1**		0.93	0.0061	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Manganese	**120**		23	0.54	mg/kg dry wt.	25	USEPA-6020A	11/13/12 14:41	CKD	1213610
Molybdenum	**0.60**	**J**	0.93	0.0075	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 13:51	CKD	1213638
Nickel	**5.7**		0.93	0.015	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Selenium	**0.084**	**J**	0.093	0.030	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Silver	**0.021**	**J**	0.046	0.0036	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Thallium	**0.039**	**J**	0.046	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Vanadium	**7.3**		0.093	0.0090	mg/kg dry wt.	1	USEPA-6020A	11/13/12 14:28	CKD	1213610
Zinc	**11**		4.6	1.3	mg/kg dry wt.	5	USEPA-6020A	11/14/12 15:22	CKD	1213610

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-197**	Sampled:	11/01/12 13:55
Lab Sample ID:	**1211034-03**	Sampled By:	CRA
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**96**	0.1	0.1	%	1	USEPA-3550C	11/07/12 15:30	CLB	1213620

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20
Unit:	ug/L	Prepared:	11/5/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/10/12 By: ASC
QC Batch:	1213428	Analytical Batch:	2K12005

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*99*	*52-139*
Tetrachloro-m-xylene	*79*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
*75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
67-66-3	Chloroform	1.0U	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20
Unit:	ug/L	Prepared:	11/8/2012 By: LEW
Dilution Factor:	1	Analyzed:	11/09/12 By: LEW
QC Batch:	1213779	Analytical Batch:	2K09045

Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.90J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**12**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.57J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
*105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
*84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*43*	*20-70*
Phenol-d6	*26*	*18-45*
Nitrobenzene-d5	*77*	*31-123*
2-Fluorobiphenyl	*70*	*25-113*
2,4,6-Tribromophenol	*59*	*30-121*
o-Terphenyl	*70*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211034**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110112-DD-198**	Sampled:	11/01/12 14:25
Lab Sample ID:	**1211034-04**	Sampled By:	CRA
Matrix:	Water	Received:	11/01/12 16:20

Dissolved Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.32**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Arsenic	**0.49**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Barium	**53**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Chromium	**4.6**		1.0	0.20	ug/L	1	USEPA-6020A	11/10/12 12:25	DSC	1213631
Cobalt	**1.1**		1.0	0.050	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
***Copper**	**1.3**		1.0	0.13	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Iron	**10**	**J**	20	6.5	ug/L	1	USEPA-6010C	11/12/12 14:37	KLV	1213630
Lead	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Manganese	**66**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Molybdenum	**6.7**		1.0	0.075	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 12:17	CKD	1213552
***Nickel**	**1.6**		1.0	0.17	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Selenium	**1.5**		1.0	0.31	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631
Vanadium	1.0	U	1.0	0.066	ug/L	1	USEPA-6020A	11/10/12 12:25	DSC	1213631
Zinc	**6.3**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/10/12 09:38	DSC	1213631

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213428 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*74*	*26-118*				
Laboratory Control Sample					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.939**	94	44-146	--	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*106*	*52-139*				
Tetrachloro-m-xylene				*76*	*26-118*				
Laboratory Control Sample Duplicate					Analyzed:	11/09/2012	By: ZZZ		
Unit: ug/L					Analytical Batch:	2K12028			
PCB-1248		1.00	**0.887**	89	44-146	6	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*98*	*52-139*				
Tetrachloro-m-xylene				*72*	*26-118*				
QC Batch: 1213733 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213733 (Continued) 3550C Sonication Extraction/USEPA-8082A									
Method Blank (Continued)					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
Surrogates (Continued):									
Tetrachloro-m-xylene				*88*	*56-123*				
Method Blank					Analyzed:	11/15/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K15011			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*88*	*45-135*				
Tetrachloro-m-xylene				*93*	*56-123*				
Laboratory Control Sample					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1248		0.159	**0.142 J**	90	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				
Tetrachloro-m-xylene				*88*	*56-123*				
Laboratory Control Sample					Analyzed:	11/15/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K15011			
PCB-1248		0.174	**0.172 J**	99	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*87*	*45-135*				
Tetrachloro-m-xylene				*94*	*56-123*				

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: LEW
Unit: ug/L Analytical Batch: 2K09045

Acetone	**2.5 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	1.0 U		1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U		1.0	0.24
1,3-Dichlorobenzene	1.0 U		1.0	0.24
1,4-Dichlorobenzene	1.0 U	--	1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	**0.97 J**	--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*105*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*95*	*82-110*			

Laboratory Control Sample Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Acetone	40.0	**52.8**	132	53-138	--	20	5.0	1.1
Benzene	40.0	**42.6**	106	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**44.8**	112	82-124	--	20	1.0	0.13
Bromoform	40.0	**41.8**	105	65-123	--	20	1.0	0.26
Bromomethane	40.0	**47.7**	119	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**72.1**	**180**	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**45.4**	114	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**44.0**	110	84-118	--	20	1.0	0.17
Chloroethane	40.0	**39.2**	98	76-124	--	20	1.0	0.14
Chloroform	40.0	**43.3**	108	82-119	--	20	1.0	0.098
Chloromethane	40.0	**41.2**	103	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**37.1**	93	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**43.7**	109	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**42.9**	107	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**46.3**	116	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**45.5**	114	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene	40.0	**44.9**	112	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene	40.0	**43.2**	108	79-122	--	20	1.0	0.25
Dichlorodifluoromethane	40.0	**38.6**	97	68-130	--	20	1.0	0.21
1,1-Dichloroethane	40.0	**42.6**	107	80-118	--	20	1.0	0.18
1,2-Dichloroethane	40.0	**44.3**	111	81-122	--	20	1.0	0.21
1,1-Dichloroethene	40.0	**41.9**	105	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene	40.0	**43.7**	109	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene	40.0	**43.3**	108	76-126	--	20	1.0	0.20
1,2-Dichloropropane	40.0	**43.0**	107	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene	40.0	**40.0**	100	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene	40.0	**39.7**	99	73-116	--	20	1.0	0.19
Ethylbenzene	40.0	**46.0**	115	87-119	--	20	1.0	0.21
2-Hexanone	40.0	**39.3**	98	55-141	--	20	5.0	0.49
Isopropylbenzene	40.0	**40.7**	102	76-126	--	20	1.0	0.22
Methyl Acetate	40.0	**38.3**	96	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether	40.0	**42.3**	106	72-128	--	20	1.0	0.19
Methylcyclohexane	40.0	**37.2**	93	78-126	--	20	5.0	0.37
Methylene Chloride	40.0	**40.7**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)	40.0	**46.6**	117	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0	**41.1**	103	60-142	--	20	5.0	0.40
Styrene	40.0	**42.2**	105	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0	**43.3**	108	70-137	--	20	1.0	0.26
Tetrachloroethene	40.0	**44.0**	110	81-117	--	20	1.0	0.23
Toluene	40.0	**42.9**	107	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene	40.0	**40.4**	101	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane	40.0	**44.5**	111	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane	40.0	**43.6**	109	83-121	--	20	1.0	0.20
Trichloroethene	40.0	**43.6**	109	82-119	--	20	1.0	0.21
Trichlorofluoromethane	40.0	**42.6**	107	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0	**39.7**	99	76-126	--	20	1.0	0.24
Vinyl Chloride	40.0	**39.7**	99	77-123	--	20	1.0	0.21
Xylene (Total)	120	**135**	113	86-119	--	20	3.0	0.39
Surrogates:								
Dibromofluoromethane			*100*	*85-118*				
1,2-Dichloroethane-d4			*105*	*87-122*				
Toluene-d8			*100*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/08/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K09045			
Surrogates (Continued):									
4-Bromofluorobenzene				*102*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/08/2012	By: LEW		
Unit: ug/L					Analytical Batch:	2K09045			
Acetone		40.0	**50.0**	125	53-138	5	20	5.0	1.1
Benzene		40.0	**39.7**	99	84-119	7	20	1.0	0.11
Bromodichloromethane		40.0	**42.5**	106	82-124	5	20	1.0	0.13
Bromoform		40.0	**39.8**	100	65-123	5	20	1.0	0.26
Bromomethane		40.0	**45.2**	113	55-142	5	20	1.0	0.21
Carbon Disulfide		40.0	**68.2**	**170**	70-131	6	20	5.0	0.23
Carbon Tetrachloride		40.0	**41.7**	104	79-127	9	20	1.0	0.26
Chlorobenzene		40.0	**41.8**	105	84-118	5	20	1.0	0.17
Chloroethane		40.0	**36.3**	91	76-124	8	20	1.0	0.14
Chloroform		40.0	**40.6**	102	82-119	6	20	1.0	0.098
Chloromethane		40.0	**38.2**	96	73-125	8	20	1.0	0.29
Cyclohexane		40.0	**35.2**	88	77-130	5	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**43.4**	109	58-130	0.5	20	1.0	0.13
Dibromochloromethane		40.0	**40.4**	101	74-121	6	20	1.0	0.15
1,2-Dibromoethane		40.0	**44.4**	111	84-125	4	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**44.4**	111	81-124	2	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**43.7**	109	81-124	3	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**41.8**	104	79-122	3	20	1.0	0.25
Dichlorodifluoromethane		40.0	**35.2**	88	68-130	9	20	1.0	0.21
1,1-Dichloroethane		40.0	**40.1**	100	80-118	6	20	1.0	0.18
1,2-Dichloroethane		40.0	**41.6**	104	81-122	6	20	1.0	0.21
1,1-Dichloroethene		40.0	**38.9**	97	77-123	7	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**41.2**	103	84-119	6	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**40.5**	101	76-126	7	20	1.0	0.20
1,2-Dichloropropane		40.0	**41.4**	104	82-122	4	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**38.6**	97	77-120	4	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**38.6**	97	73-116	3	20	1.0	0.19
Ethylbenzene		40.0	**43.2**	108	87-119	6	20	1.0	0.21
2-Hexanone		40.0	**41.8**	104	55-141	6	20	5.0	0.49
Isopropylbenzene		40.0	**40.0**	100	76-126	2	20	1.0	0.22
Methyl Acetate		40.0	**37.9**	95	67-129	1	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213779 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/08/2012 By: LEW

Unit: ug/L Analytical Batch: 2K09045

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**41.0**	102	72-128	3	20	1.0	0.19
Methylcyclohexane		40.0	**35.1**	88	78-126	6	20	5.0	0.37
Methylene Chloride		40.0	**38.5**	96	75-129	6	20	1.0	0.24
2-Butanone (MEK)		40.0	**47.4**	119	52-142	2	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**40.6**	102	60-142	1	20	5.0	0.40
Styrene		40.0	**39.8**	100	84-120	6	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**43.2**	108	70-137	0.4	20	1.0	0.26
Tetrachloroethene		40.0	**41.0**	103	81-117	7	20	1.0	0.23
Toluene		40.0	**40.0**	100	85-118	7	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**40.5**	101	75-125	0.3	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**41.1**	103	81-122	8	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**41.8**	105	83-121	4	20	1.0	0.20
Trichloroethene		40.0	**41.3**	103	82-119	5	20	1.0	0.21
Trichlorofluoromethane		40.0	**38.5**	96	76-128	10	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**36.1**	90	76-126	9	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	9	20	1.0	0.21
Xylene (Total)		120	**127**	106	86-119	6	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*102*	*87-122*				
Toluene-d8				*99*	*85-113*				
4-Bromofluorobenzene				*100*	*82-110*				

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

QC Batch: 1213739 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K09008

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acetone			0.75 U					0.75	0.054
Benzene			0.050 U					0.050	0.0071
Bromodichloromethane			0.050 U					0.050	0.0067
Bromoform			0.050 U					0.050	0.013
Bromomethane			0.050 U					0.050	0.021
Carbon Disulfide			0.25 U			--		0.25	0.012
Carbon Tetrachloride			0.050 U					0.050	0.017
Chlorobenzene			0.050 U					0.050	0.0084
Chloroethane			0.050 U					0.050	0.018
Chloroform			0.050 U					0.050	0.0084
Chloromethane			0.050 U					0.050	0.020
Cyclohexane			0.25 U					0.25	0.024
1,2-Dibromo-3-chloropropane			0.25 U					0.25	0.026
Dibromochloromethane			0.050 U					0.050	0.0076
1,2-Dibromoethane			0.050 U					0.050	0.016
1,2-Dichlorobenzene			0.050 U					0.050	0.012
1,3-Dichlorobenzene			0.050 U					0.050	0.012
1,4-Dichlorobenzene			0.050 U					0.050	0.012
Dichlorodifluoromethane			0.050 U					0.050	0.011
1,1-Dichloroethane			0.050 U					0.050	0.011
1,2-Dichloroethane			0.050 U					0.050	0.011
1,1-Dichloroethene			0.050 U					0.050	0.010
cis-1,2-Dichloroethene			0.050 U					0.050	0.011
trans-1,2-Dichloroethene			0.050 U					0.050	0.012
1,2-Dichloropropane			0.050 U					0.050	0.014
cis-1,3-Dichloropropene			0.050 U					0.050	0.0095
trans-1,3-Dichloropropene			0.050 U					0.050	0.0094
Ethylbenzene			0.050 U					0.050	0.010
2-Hexanone			2.5 U					2.5	0.025
Isopropylbenzene			0.050 U					0.050	0.011
Methyl Acetate			0.25 U					0.25	0.032
Methyl tert-Butyl Ether			0.050 U					0.050	0.0095
Methylcyclohexane			0.25 U					0.25	0.018
Methylene Chloride			0.10 U					0.10	0.027
2-Butanone (MEK)			0.75 U					0.75	0.063
4-Methyl-2-pentanone (MIBK)			2.5 U					2.5	0.020

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Styrene		0.050 U				0.050	0.010
1,1,2,2-Tetrachloroethane		0.050 U				0.050	0.013
Tetrachloroethene		0.050 U				0.050	0.014
Toluene		0.050 U				0.050	0.011
1,2,4-Trichlorobenzene		**0.012 J**			--	0.050	0.0070
1,1,1-Trichloroethane		0.050 U				0.050	0.0069
1,1,2-Trichloroethane		0.050 U				0.050	0.016
Trichloroethene		0.050 U				0.050	0.011
Trichlorofluoromethane		0.050 U				0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		0.050 U				0.050	0.018
Vinyl Chloride		0.040 U				0.040	0.0084
Xylene (Total)		0.15 U				0.15	0.020

Method Blank Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09008

Surrogates:		
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Acetone	2.00	**1.46**	73	64-130	--	20	0.75	0.054
Benzene	2.00	**2.05**	102	85-118	--	20	0.050	0.0071
Bromodichloromethane	2.00	**1.98**	99	80-123	--	20	0.050	0.0067
Bromoform	2.00	**1.95**	97	58-128	--	20	0.050	0.013
Bromomethane	2.00	**2.43**	122	57-139	--	20	0.050	0.021
Carbon Disulfide	2.00	**2.19**	110	65-138	--	20	0.25	0.012
Carbon Tetrachloride	2.00	**2.04**	102	76-125	--	20	0.050	0.017
Chlorobenzene	2.00	**2.03**	102	86-114	--	20	0.050	0.0084
Chloroethane	2.00	**2.63**	**132**	76-123	--	20	0.050	0.018
Chloroform	2.00	**1.98**	99	86-118	--	20	0.050	0.0084
Chloromethane	2.00	**1.99**	100	73-123	--	20	0.050	0.020
Cyclohexane	2.00	**2.07**	103	79-122	--	20	0.25	0.024
1,2-Dibromo-3-chloropropane	2.00	**1.70**	85	51-132	--	20	0.25	0.026
Dibromochloromethane	2.00	**1.98**	99	72-119	--	20	0.050	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,2-Dibromoethane		2.00	**1.99**	99	81-118	--	20	0.050	0.016
1,2-Dichlorobenzene		2.00	**2.03**	102	82-124	--	20	0.050	0.012
1,3-Dichlorobenzene		2.00	**2.08**	104	85-119	--	20	0.050	0.012
1,4-Dichlorobenzene		2.00	**1.97**	99	85-119	--	20	0.050	0.012
Dichlorodifluoromethane		2.00	**1.74**	87	68-135	--	20	0.050	0.011
1,1-Dichloroethane		2.00	**1.97**	99	81-121	--	20	0.050	0.011
1,2-Dichloroethane		2.00	**1.92**	96	82-119	--	20	0.050	0.011
1,1-Dichloroethene		2.00	**1.96**	98	80-121	--	20	0.050	0.010
cis-1,2-Dichloroethene		2.00	**2.02**	101	85-118	--	20	0.050	0.011
trans-1,2-Dichloroethene		2.00	**2.05**	102	85-117	--	20	0.050	0.012
1,2-Dichloropropane		2.00	**2.03**	102	80-122	--	20	0.050	0.014
cis-1,3-Dichloropropene		2.00	**2.04**	102	79-121	--	20	0.050	0.0095
trans-1,3-Dichloropropene		2.00	**1.97**	99	73-125	--	20	0.050	0.0094
Ethylbenzene		2.00	**2.12**	106	84-116	--	20	0.050	0.010
2-Hexanone		2.00	**2.08 J**	104	63-131	--	20	2.5	0.025
Isopropylbenzene		2.00	**2.18**	109	82-125	--	20	0.050	0.011
Methyl Acetate		2.00	**1.38**	**69**	75-123	--	20	0.25	0.032
Methyl tert-Butyl Ether		2.00	**1.71**	85	81-119	--	20	0.050	0.0095
Methylcyclohexane		2.00	**2.08**	104	77-125	--	20	0.25	0.018
Methylene Chloride		2.00	**2.02**	101	78-123	--	20	0.10	0.027
2-Butanone (MEK)		2.00	**1.65**	83	68-130	--	20	0.75	0.063
4-Methyl-2-pentanone (MIBK)		2.00	**2.08 J**	104	68-133	--	20	2.5	0.020
Naphthalene		2.00	**1.62**	81	53-133	--	20	0.25	0.014
Styrene		2.00	**2.18**	109	79-115	--	20	0.050	0.010
1,1,2,2-Tetrachloroethane		2.00	**1.85**	92	75-125	--	20	0.050	0.013
Tetrachloroethene		2.00	**2.02**	101	85-116	--	20	0.050	0.014
Toluene		2.00	**2.08**	104	86-120	--	20	0.050	0.011
1,2,4-Trichlorobenzene		2.00	**1.93**	96	66-133	--	20	0.050	0.0070
1,1,1-Trichloroethane		2.00	**2.01**	100	84-121	--	20	0.050	0.0069
1,1,2-Trichloroethane		2.00	**1.95**	97	85-120	--	20	0.050	0.016
Trichloroethene		2.00	**2.04**	102	83-125	--	20	0.050	0.011
Trichlorofluoromethane		2.00	**3.73**	**186**	82-123	--	20	0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		2.00	**1.92**	96	81-122	--	20	0.050	0.018
Vinyl Chloride		2.00	**1.96**	98	77-124	--	20	0.040	0.0084
Xylene (Total)		6.00	**6.42**	107	84-117	--	20	0.15	0.020

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09008

Surrogates:

Dibromofluoromethane	*99*	*75-123*

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV

Unit: ug/L Analytical Batch: 2K09008

Surrogates (Continued):

1,2-Dichloroethane-d4	*96*	*83-116*
Toluene-d8	*101*	*85-113*
4-Bromofluorobenzene	*100*	*81-117*

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213587 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Acenaphthene	0.50 U			0.50	
Acenaphthylene	0.50 U			0.50	
Acetophenone	0.50 U		--	0.50	
Anthracene	0.50 U			0.50	
Atrazine	0.50 U			0.50	
Benzaldehyde	0.50 U			0.50	
Benzo(a)anthracene	0.50 U		--	0.50	
Benzo(a)pyrene	0.50 U			0.50	
Benzo(b)fluoranthene	0.50 U			0.50	
Benzo(k)fluoranthene	0.50 U			0.50	
Benzo(g,h,i)perylene	0.50 U			0.50	
1,1'-Biphenyl	0.50 U		--	0.50	
4-Bromophenyl Phenyl Ether	0.50 U			0.50	
Butyl Benzyl Phthalate	1.0 U		--	1.0	
Caprolactam	1.0 U		--	1.0	
Carbazole	0.50 U		--	0.50	
4-Chloro-3-methylphenol	0.50 U			0.50	
4-Chloroaniline	1.0 U			1.0	
Bis(2-chloroethoxy)methane	0.50 U			0.50	
Bis(2-chloroethyl) Ether	0.50 U			0.50	
Bis(2-chloroisopropyl) Ether	0.50 U			0.50	
2-Chloronaphthalene	0.50 U			0.50	
2-Chlorophenol	0.50 U			0.50	
4-Chlorophenyl Phenyl Ether	0.50 U		--	0.50	
Chrysene	0.50 U		--	0.50	
Dibenz(a,h)anthracene	0.50 U			0.50	
Dibenzofuran	0.50 U			0.50	
Di-n-butyl Phthalate	1.0 U		--	1.0	
3,3´-Dichlorobenzidine	1.0 U			1.0	
2,4-Dichlorophenol	0.50 U			0.50	
Diethyl Phthalate	0.50 U		--	0.50	
2,4-Dimethylphenol	1.0 U			1.0	
Dimethyl Phthalate	0.50 U		--	0.50	
4,6-Dinitro-2-methylphenol	5.0 U			5.0	
2,4-Dinitrophenol	5.0 U			5.0	
2,4-Dinitrotoluene	0.50 U			0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

2,6-Dinitrotoluene	0.50 U			--	0.50
Di-n-octyl Phthalate	0.50 U			--	0.50
Bis(2-ethylhexyl) Phthalate	0.50 U			--	0.50
Fluoranthene	0.50 U				0.50
Fluorene	0.50 U				0.50
Hexachlorobenzene	0.50 U				0.50
Hexachlorobutadiene	0.50 U				0.50
Hexachlorocyclopentadiene	0.50 U				0.50
Hexachloroethane	0.50 U				0.50
Indeno(1,2,3-cd)pyrene	0.50 U				0.50
Isophorone	0.50 U				0.50
2-Methylnaphthalene	0.50 U				0.50
2-Methylphenol	0.50 U			--	0.50
4-Methylphenol	0.50 U			--	0.50
Naphthalene	0.50 U				0.50
2-Nitroaniline	0.50 U				0.50
3-Nitroaniline	1.0 U			--	1.0
4-Nitroaniline	1.0 U			--	1.0
Nitrobenzene	0.50 U			--	0.50
4-Nitrophenol	5.0 U			--	5.0
2-Nitrophenol	0.50 U				0.50
N-Nitroso-diphenylamine	0.50 U				0.50
N-Nitroso-di-n-propylamine	0.50 U				0.50
Pentachlorophenol	0.50 U				0.50
Phenanthrene	0.50 U			--	0.50
Phenol	0.50 U				0.50
Pyrene	0.50 U				0.50
2,4,6-Trichlorophenol	0.50 U				0.50
2,4,5-Trichlorophenol	0.50 U				0.50
Surrogates:					
2-Fluorophenol			*46*	*20-70*	
Phenol-d6			*30*	*18-45*	
Nitrobenzene-d5			*78*	*31-123*	
2-Fluorobiphenyl			*80*	*25-113*	
2,4,6-Tribromophenol			*55*	*30-121*	
o-Terphenyl			*73*	*42-125*	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**7.82**	78	53-126	--	20	0.50	
Acenaphthylene		10.0	**8.10**	81	62-133	--	20	0.50	
Acetophenone		10.0	**7.46**	75	58-115	--	20	0.50	
Anthracene		10.0	**7.74**	77	64-130	--	20	0.50	
Atrazine		10.0	**7.27**	73	60-140	--	20	0.50	
Benzaldehyde		10.0	**7.16**	72	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.80**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.66**	77	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.74**	77	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**7.08**	71	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**7.39**	74	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**7.52**	75	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**6.89**	69	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**9.07**	91	58-141	--	20	1.0	
Caprolactam		10.0	**1.68**	**17**	23-76	--	20	1.0	
Carbazole		10.0	**7.80**	78	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**8.10**	81	53-120	--	20	0.50	
4-Chloroaniline		10.0	**7.37**	74	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**6.64**	66	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**7.80**	78	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**6.88**	69	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.58**	76	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.75**	68	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**7.32**	73	57-122	--	20	0.50	
Chrysene		10.0	**7.54**	75	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**7.38**	74	57-130	--	20	0.50	
Dibenzofuran		10.0	**7.82**	78	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.09**	81	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**15.0**	75	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**7.13**	71	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.94**	79	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.15**	52	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.84**	78	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**6.93**	69	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**5.89**	59	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**8.77**	88	55-131	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**8.17**	82	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.09**	81	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**8.22**	82	60-136	--	20	0.50	
Fluoranthene		10.0	**7.28**	73	64-138	--	20	0.50	
Fluorene		10.0	**7.70**	77	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**6.63**	66	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**6.32**	63	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**4.40**	44	21-138	--	20	0.50	
Hexachloroethane		10.0	**7.67**	77	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**7.32**	73	57-129	--	20	0.50	
Isophorone		10.0	**7.07**	71	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**7.09**	71	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.50**	55	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.98**	60	33-122	--	20	0.50	
Naphthalene		10.0	**7.50**	75	50-127	--	20	0.50	
2-Nitroaniline		10.0	**8.88**	89	57-130	--	20	0.50	
3-Nitroaniline		10.0	**8.13**	81	49-144	--	20	1.0	
4-Nitroaniline		10.0	**8.19**	82	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.89**	69	53-121	--	20	0.50	
*4-Nitrophenol		10.0	**3.39 J**	34	17-70	--	20	5.0	
2-Nitrophenol		10.0	**7.93**	79	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.87**	79	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**7.40**	74	49-125	--	20	0.50	
Pentachlorophenol		10.0	**4.60**	46	21-124	--	20	0.50	
Phenanthrene		10.0	**7.46**	75	63-126	--	20	0.50	
Phenol		10.0	**3.58**	36	22-60	--	20	0.50	
Pyrene		10.0	**8.20**	82	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.61**	66	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.11**	71	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*41*	*20-70*				
Phenol-d6				*29*	*18-45*				
Nitrobenzene-d5				*74*	*31-123*				
2-Fluorobiphenyl				*74*	*25-113*				
2,4,6-Tribromophenol				*61*	*30-121*				
o-Terphenyl				*69*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 3550C Sonication Extraction/USEPA-8270C

Method Blank — Analyzed: 11/15/2012 By: JLB
Unit: mg/kg wet — Analytical Batch: 2K16029

Acenaphthene			0.017 U				0.017	0.00079
Acenaphthylene			0.017 U				0.017	0.00082
Acetophenone			0.017 U				0.017	0.0099
Anthracene			0.017 U				0.017	0.00086
Atrazine			0.017 U				0.017	0.0097
Benzaldehyde			0.067 U				0.067	0.0096
Benzo(a)anthracene			0.017 U			--	0.017	0.0014
Benzo(a)pyrene			0.017 U				0.017	0.00086
Benzo(b)fluoranthene			0.017 U				0.017	0.0017
Benzo(k)fluoranthene			0.017 U				0.017	0.0022
Benzo(g,h,i)perylene			0.033 U				0.033	0.00082
1,1'-Biphenyl			0.017 U			--	0.017	0.011
4-Bromophenyl Phenyl Ether			0.017 U				0.017	0.00094
Butyl Benzyl Phthalate			**0.0056 J**			--	0.033	0.0017
Caprolactam			0.067 U			--	0.067	0.011
Carbazole			0.17 U			--	0.17	0.0089
4-Chloro-3-methylphenol			0.017 U			--	0.017	0.0038
4-Chloroaniline			0.067 U				0.067	0.0088
Bis(2-chloroethoxy)methane			0.017 U				0.017	0.0011
Bis(2-chloroethyl) Ether			0.017 U				0.017	0.00079
Bis(2-chloroisopropyl) Ether			0.017 U				0.017	0.0027
2-Chloronaphthalene			0.017 U				0.017	0.0026
2-Chlorophenol			0.017 U				0.017	0.00079
4-Chlorophenyl Phenyl Ether			0.017 U			--	0.017	0.00072
Chrysene			0.017 U			--	0.017	0.00086
Dibenz(a,h)anthracene			0.033 U				0.033	0.0013
Dibenzofuran			0.017 U				0.017	0.00082
Di-n-butyl Phthalate			**0.050 J**			--	0.067	0.014
3,3´-Dichlorobenzidine			0.83 U			--	0.83	0.032
2,4-Dichlorophenol			0.033 U				0.033	0.0015
Diethyl Phthalate			**0.0040 J**			--	0.017	0.0024
2,4-Dimethylphenol			0.17 U				0.17	0.030
Dimethyl Phthalate			0.017 U				0.017	0.0019
4,6-Dinitro-2-methylphenol			0.17 U				0.17	0.0055
2,4-Dinitrophenol			0.17 U				0.17	0.038
2,4-Dinitrotoluene			0.033 U				0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

2,6-Dinitrotoluene	0.017 U				--	0.017	0.0016
Di-n-octyl Phthalate	0.017 U					0.017	0.0011
Bis(2-ethylhexyl) Phthalate	**0.13**				--	0.033	0.0041
Fluoranthene	0.017 U					0.017	0.00056
Fluorene	0.033 U					0.033	0.00060
Hexachlorobenzene	0.017 U					0.017	0.0010
Hexachlorobutadiene	0.017 U					0.017	0.00072
Hexachlorocyclopentadiene	0.017 U				--	0.017	0.0027
Hexachloroethane	0.017 U					0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.033 U					0.033	0.0031
Isophorone	0.017 U					0.017	0.0010
2-Methylnaphthalene	0.017 U					0.017	0.0014
2-Methylphenol	0.017 U					0.017	0.0034
4-Methylphenol	0.017 U					0.017	0.0020
Naphthalene	0.017 U				--	0.017	0.00051
2-Nitroaniline	0.017 U					0.017	0.0059
3-Nitroaniline	0.033 U					0.033	0.016
4-Nitroaniline	0.033 U					0.033	0.016
Nitrobenzene	0.017 U					0.017	0.0015
4-Nitrophenol	0.67 U				--	0.67	0.027
2-Nitrophenol	0.017 U					0.017	0.0015
N-Nitroso-diphenylamine	0.017 U					0.017	0.0010
N-Nitroso-di-n-propylamine	0.017 U					0.017	0.0022
Pentachlorophenol	0.17 U				--	0.17	0.015
Phenanthrene	0.017 U				--	0.017	0.00072
Phenol	0.17 U				--	0.17	0.0013
Pyrene	0.017 U				--	0.017	0.0012
2,4,6-Trichlorophenol	0.017 U					0.017	0.0017
2,4,5-Trichlorophenol	0.017 U					0.017	0.0039
Surrogates:							
2-Fluorophenol			*72*	*33-113*			
Phenol-d6			*78*	*30-115*			
Nitrobenzene-d5			*76*	*33-131*			
2-Fluorobiphenyl			*82*	*46-122*			
2,4,6-Tribromophenol			*42*	*12-124*			
o-Terphenyl			*74*	*20-155*			

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Acenaphthene	0.017 U			0.017	0.00079
Acenaphthylene	0.017 U			0.017	0.00082
Acetophenone	0.017 U			0.017	0.0099
Anthracene	0.017 U		--	0.017	0.00086
Atrazine	0.017 U			0.017	0.0097
Benzaldehyde	0.067 U			0.067	0.0096
Benzo(a)anthracene	0.017 U		--	0.017	0.0014
Benzo(a)pyrene	0.017 U		--	0.017	0.00086
Benzo(b)fluoranthene	0.017 U		--	0.017	0.0017
Benzo(k)fluoranthene	0.017 U		--	0.017	0.0022
Benzo(g,h,i)perylene	0.033 U			0.033	0.00082
1,1'-Biphenyl	0.017 U			0.017	0.011
4-Bromophenyl Phenyl Ether	0.017 U			0.017	0.00094
Butyl Benzyl Phthalate	**0.0066 J**		--	0.033	0.0017
Caprolactam	0.067 U			0.067	0.011
Carbazole	0.17 U		--	0.17	0.0089
4-Chloro-3-methylphenol	0.017 U			0.017	0.0038
4-Chloroaniline	0.067 U			0.067	0.0088
Bis(2-chloroethoxy)methane	0.017 U			0.017	0.0011
Bis(2-chloroethyl) Ether	0.017 U			0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.017 U		--	0.017	0.0027
2-Chloronaphthalene	0.017 U			0.017	0.0026
2-Chlorophenol	0.017 U			0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.017 U			0.017	0.00072
Chrysene	0.017 U		--	0.017	0.00086
Dibenz(a,h)anthracene	0.033 U			0.033	0.0013
Dibenzofuran	0.017 U			0.017	0.00082
Di-n-butyl Phthalate	**0.056 J**		--	0.067	0.014
3,3´-Dichlorobenzidine	0.83 U			0.83	0.032
2,4-Dichlorophenol	0.033 U			0.033	0.0015
Diethyl Phthalate	**0.025**		--	0.017	0.0024
2,4-Dimethylphenol	0.17 U			0.17	0.030
Dimethyl Phthalate	0.017 U			0.017	0.0019
4,6-Dinitro-2-methylphenol	0.17 U			0.17	0.0055
2,4-Dinitrophenol	0.17 U			0.17	0.038
2,4-Dinitrotoluene	0.033 U			0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

2,6-Dinitrotoluene			0.017 U					0.017	0.0016
Di-n-octyl Phthalate			0.017 U			--		0.017	0.0011
Bis(2-ethylhexyl) Phthalate			**0.11**			--		0.033	0.0041
Fluoranthene			0.017 U					0.017	0.00056
Fluorene			0.033 U					0.033	0.00060
Hexachlorobenzene			0.017 U					0.017	0.0010
Hexachlorobutadiene			0.017 U					0.017	0.00072
Hexachlorocyclopentadiene			0.017 U					0.017	0.0027
Hexachloroethane			0.017 U					0.017	0.0013
Indeno(1,2,3-cd)pyrene			0.033 U					0.033	0.0031
Isophorone			0.017 U			--		0.017	0.0010
2-Methylnaphthalene			0.017 U					0.017	0.0014
2-Methylphenol			0.017 U					0.017	0.0034
4-Methylphenol			0.017 U					0.017	0.0020
Naphthalene			0.017 U			--		0.017	0.00051
2-Nitroaniline			0.017 U					0.017	0.0059
3-Nitroaniline			0.033 U					0.033	0.016
4-Nitroaniline			0.033 U					0.033	0.016
Nitrobenzene			0.017 U					0.017	0.0015
4-Nitrophenol			0.67 U					0.67	0.027
2-Nitrophenol			0.017 U					0.017	0.0015
N-Nitroso-diphenylamine			0.017 U					0.017	0.0010
N-Nitroso-di-n-propylamine			0.017 U					0.017	0.0022
Pentachlorophenol			0.17 U					0.17	0.015
Phenanthrene			0.017 U			--		0.017	0.00072
Phenol			0.17 U					0.17	0.0013
Pyrene			0.017 U			--		0.017	0.0012
2,4,6-Trichlorophenol			0.017 U					0.017	0.0017
2,4,5-Trichlorophenol			0.017 U					0.017	0.0039
Surrogates:									
2-Fluorophenol				*76*	*33-113*				
Phenol-d6				*72*	*30-115*				
Nitrobenzene-d5				*71*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*66*	*12-124*				
o-Terphenyl				*85*	*20-155*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.334	**0.266**		80	55-113	--	20	0.017	0.00079
Acenaphthylene	0.334	**0.273**		82	56-138	--	20	0.017	0.00082
Acetophenone	0.334	**0.269**		80	26-127	--	20	0.017	0.0099
Anthracene	0.334	**0.261**		78	63-134	--	20	0.017	0.00086
Atrazine	0.334	**0.245**		73	52-125	--	20	0.017	0.0097
Benzaldehyde	0.334	**0.0221 J**		**7**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.334	**0.261**		78	53-142	--	20	0.017	0.0014
Benzo(a)pyrene	0.334	**0.251**		75	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene	0.334	**0.256**		76	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene	0.334	**0.244**		73	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene	0.334	**0.245**		73	47-141	--	20	0.033	0.00082
1,1'-Biphenyl	0.334	**0.256**		77	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.334	**0.244**		73	61-124	--	20	0.017	0.00094
Butyl Benzyl Phthalate	0.334	**0.313**		94	51-145	--	20	0.033	0.0017
Caprolactam	0.334	**0.305**		91	44-130	--	20	0.067	0.011
Carbazole	0.334	**0.265**		79	76-126	--	20	0.17	0.0089
4-Chloro-3-methylphenol	0.334	**0.276**		83	57-124	--	20	0.017	0.0038
4-Chloroaniline	0.334	**0.0495 J**		15	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.334	**0.230**		69	57-121	--	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.334	**0.269**		80	54-112	--	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.334	**0.245**		73	62-116	--	20	0.017	0.0027
2-Chloronaphthalene	0.334	**0.270**		81	67-111	--	20	0.017	0.0026
2-Chlorophenol	0.334	**0.264**		79	62-118	--	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.334	**0.244**		73	62-114	--	20	0.017	0.00072
Chrysene	0.334	**0.250**		75	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene	0.334	**0.250**		75	52-142	--	20	0.033	0.0013
Dibenzofuran	0.334	**0.266**		79	65-119	--	20	0.017	0.00082
Di-n-butyl Phthalate	0.334	**0.322**		96	65-140	--	20	0.067	0.014
3,3´-Dichlorobenzidine	0.669	**0.212 J**		32	10-107	--	20	0.83	0.032
2,4-Dichlorophenol	0.334	**0.253**		76	50-128	--	20	0.033	0.0015
*Diethyl Phthalate	0.334	**0.273 B**		82	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol	0.334	**0.223**		67	40-122	--	20	0.17	0.030
Dimethyl Phthalate	0.334	**0.273**		81	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.334	**0.237**		71	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol	0.334	**0.176**		53	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene	0.334	**0.290**		87	51-128	--	20	0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.334	**0.270**	81	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.334	**0.280**	84	63-132	--	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.334	**0.289 B**	86	50-140	--	20	0.033	0.0041
Fluoranthene		0.334	**0.247**	74	66-140	--	20	0.017	0.00056
Fluorene		0.334	**0.259**	77	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.334	**0.235**	70	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.334	**0.227**	68	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.334	**0.221**	66	34-124	--	20	0.017	0.0027
Hexachloroethane		0.334	**0.277**	83	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.334	**0.247**	74	53-135	--	20	0.033	0.0031
Isophorone		0.334	**0.242**	72	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.334	**0.250**	75	56-124	--	20	0.017	0.0014
2-Methylphenol		0.334	**0.236**	71	58-113	--	20	0.017	0.0034
4-Methylphenol		0.334	**0.324**	97	58-132	--	20	0.017	0.0020
Naphthalene		0.334	**0.266**	79	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.334	**0.300**	90	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.334	**0.122**	36	19-86	--	20	0.033	0.016
4-Nitroaniline		0.334	**0.228**	68	26-125	--	20	0.033	0.016
Nitrobenzene		0.334	**0.247**	74	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.334	**0.236 J**	71	36-131	--	20	0.67	0.027
2-Nitrophenol		0.334	**0.286**	86	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.334	**0.265**	79	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.334	**0.272**	81	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.334	**0.142 J**	43	19-117	--	20	0.17	0.015
Phenanthrene		0.334	**0.263**	79	58-134	--	20	0.017	0.00072
Phenol		0.334	**0.271**	81	53-120	--	20	0.17	0.0013
Pyrene		0.334	**0.289**	86	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.334	**0.224**	67	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.334	**0.240**	72	61-126	--	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*77*	*33-113*				
Phenol-d6				*76*	*30-115*				
Nitrobenzene-d5				*76*	*33-131*				
2-Fluorobiphenyl				*78*	*46-122*				
2,4,6-Tribromophenol				*64*	*12-124*				
o-Terphenyl				*72*	*20-155*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.334	**0.267**		80	55-113	--	20	0.017	0.00079
Acenaphthylene	0.334	**0.266**		79	56-138	--	20	0.017	0.00082
Acetophenone	0.334	**0.261**		78	26-127	--	20	0.017	0.0099
Anthracene	0.334	**0.281**		84	63-134	--	20	0.017	0.00086
Atrazine	0.334	**0.302**		90	52-125	--	20	0.017	0.0097
Benzaldehyde	0.334	0.067 U		**0**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.334	**0.261**		78	53-142	--	20	0.017	0.0014
Benzo(a)pyrene	0.334	**0.258**		77	54-136	--	20	0.017	0.00086
Benzo(b)fluoranthene	0.334	**0.256**		76	49-146	--	20	0.017	0.0017
Benzo(k)fluoranthene	0.334	**0.252**		75	56-136	--	20	0.017	0.0022
Benzo(g,h,i)perylene	0.334	**0.294**		88	47-141	--	20	0.033	0.00082
1,1'-Biphenyl	0.334	**0.267**		80	55-105	--	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.334	**0.283**		85	61-124	--	20	0.017	0.00094
Butyl Benzyl Phthalate	0.334	**0.292**		87	51-145	--	20	0.033	0.0017
Caprolactam	0.334	**0.309**		92	44-130	--	20	0.067	0.011
Carbazole	0.334	**0.306**		92	76-126	--	20	0.17	0.0089
4-Chloro-3-methylphenol	0.334	**0.268**		80	57-124	--	20	0.017	0.0038
4-Chloroaniline	0.334	**0.0709**		21	7-75	--	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.334	**0.214**		64	57-121	--	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.334	**0.229**		68	54-112	--	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.334	**0.248**		74	62-116	--	20	0.017	0.0027
2-Chloronaphthalene	0.334	**0.258**		77	67-111	--	20	0.017	0.0026
2-Chlorophenol	0.334	**0.239**		71	62-118	--	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.334	**0.256**		76	62-114	--	20	0.017	0.00072
Chrysene	0.334	**0.283**		85	66-137	--	20	0.017	0.00086
Dibenz(a,h)anthracene	0.334	**0.306**		91	52-142	--	20	0.033	0.0013
Dibenzofuran	0.334	**0.265**		79	65-119	--	20	0.017	0.00082
Di-n-butyl Phthalate	0.334	**0.348**		104	65-140	--	20	0.067	0.014
3,3´-Dichlorobenzidine	0.669	**0.320 J**		48	10-107	--	20	0.83	0.032
2,4-Dichlorophenol	0.334	**0.242**		72	50-128	--	20	0.033	0.0015
*Diethyl Phthalate	0.334	**0.304 B**		91	59-128	--	20	0.017	0.0024
2,4-Dimethylphenol	0.334	**0.247**		74	40-122	--	20	0.17	0.030
Dimethyl Phthalate	0.334	**0.272**		81	66-122	--	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.334	**0.239**		72	26-136	--	20	0.17	0.0055
2,4-Dinitrophenol	0.334	**0.205**		61	25-105	--	20	0.17	0.038
2,4-Dinitrotoluene	0.334	**0.267**		80	51-128	--	20	0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		0.334	**0.262**	78	61-119	--	20	0.017	0.0016
Di-n-octyl Phthalate		0.334	**0.281**	84	63-132	--	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate		0.334	**0.278 B**	83	50-140	--	20	0.033	0.0041
Fluoranthene		0.334	**0.274**	82	66-140	--	20	0.017	0.00056
Fluorene		0.334	**0.257**	77	60-131	--	20	0.033	0.00060
Hexachlorobenzene		0.334	**0.276**	82	34-141	--	20	0.017	0.0010
Hexachlorobutadiene		0.334	**0.270**	81	56-128	--	20	0.017	0.00072
Hexachlorocyclopentadiene		0.334	**0.220**	66	34-124	--	20	0.017	0.0027
Hexachloroethane		0.334	**0.273**	81	60-111	--	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene		0.334	**0.301**	90	53-135	--	20	0.033	0.0031
Isophorone		0.334	**0.244**	73	55-127	--	20	0.017	0.0010
2-Methylnaphthalene		0.334	**0.269**	80	56-124	--	20	0.017	0.0014
2-Methylphenol		0.334	**0.233**	70	58-113	--	20	0.017	0.0034
4-Methylphenol		0.334	**0.288**	86	58-132	--	20	0.017	0.0020
Naphthalene		0.334	**0.260**	78	52-128	--	20	0.017	0.00051
2-Nitroaniline		0.334	**0.289**	86	63-122	--	20	0.017	0.0059
3-Nitroaniline		0.334	**0.150**	45	19-86	--	20	0.033	0.016
4-Nitroaniline		0.334	**0.204**	61	26-125	--	20	0.033	0.016
Nitrobenzene		0.334	**0.252**	75	56-109	--	20	0.017	0.0015
4-Nitrophenol		0.334	**0.211 J**	63	36-131	--	20	0.67	0.027
2-Nitrophenol		0.334	**0.247**	74	55-115	--	20	0.017	0.0015
N-Nitroso-diphenylamine		0.334	**0.293**	87	33-109	--	20	0.017	0.0010
N-Nitroso-di-n-propylamine		0.334	**0.261**	78	48-127	--	20	0.017	0.0022
Pentachlorophenol		0.334	**0.209**	62	19-117	--	20	0.17	0.015
Phenanthrene		0.334	**0.263**	79	58-134	--	20	0.017	0.00072
Phenol		0.334	**0.231**	69	53-120	--	20	0.17	0.0013
Pyrene		0.334	**0.268**	80	60-132	--	20	0.017	0.0012
2,4,6-Trichlorophenol		0.334	**0.244**	73	45-128	--	20	0.017	0.0017
2,4,5-Trichlorophenol		0.334	**0.303**	91	61-126	--	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*73*	*33-113*				
Phenol-d6				*71*	*30-115*				
Nitrobenzene-d5				*76*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*81*	*12-124*				
o-Terphenyl				*82*	*20-155*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.348		**0.278**	80	55-113	4	20	0.017	0.00079
Acenaphthylene	0.348		**0.285**	82	56-138	4	20	0.017	0.00082
Acetophenone	0.348		**0.283**	81	26-127	5	20	0.017	0.0099
Anthracene	0.348		**0.267**	77	63-134	2	20	0.017	0.00086
Atrazine	0.348		**0.247**	71	52-125	0.9	20	0.017	0.0097
Benzaldehyde	0.348		**0.0226 J**	**6**	10-126	3	20	0.067	0.0096
Benzo(a)anthracene	0.348		**0.275**	79	53-142	5	20	0.017	0.0014
Benzo(a)pyrene	0.348		**0.264**	76	54-136	5	20	0.017	0.00086
Benzo(b)fluoranthene	0.348		**0.264**	76	49-146	3	20	0.017	0.0017
Benzo(k)fluoranthene	0.348		**0.261**	75	56-136	7	20	0.017	0.0022
Benzo(g,h,i)perylene	0.348		**0.258**	74	47-141	5	20	0.033	0.00082
1,1'-Biphenyl	0.348		**0.267**	77	55-105	4	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.348		**0.246**	71	61-124	0.7	20	0.017	0.00094
Butyl Benzyl Phthalate	0.348		**0.330**	95	51-145	5	20	0.033	0.0017
Caprolactam	0.348		**0.324**	93	44-130	6	20	0.067	0.011
Carbazole	0.348		**0.264**	76	76-126	0.3	20	0.17	0.0089
4-Chloro-3-methylphenol	0.348		**0.287**	82	57-124	4	20	0.017	0.0038
4-Chloroaniline	0.348		**0.0557 J**	16	7-75	12	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.348		**0.243**	70	57-121	5	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.348		**0.279**	80	54-112	4	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.348		**0.256**	74	62-116	4	20	0.017	0.0027
2-Chloronaphthalene	0.348		**0.277**	80	67-111	3	20	0.017	0.0026
2-Chlorophenol	0.348		**0.277**	80	62-118	5	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.348		**0.252**	72	62-114	3	20	0.017	0.00072
Chrysene	0.348		**0.263**	76	66-137	5	20	0.017	0.00086
Dibenz(a,h)anthracene	0.348		**0.261**	75	52-142	4	20	0.033	0.0013
Dibenzofuran	0.348		**0.275**	79	65-119	4	20	0.017	0.00082
Di-n-butyl Phthalate	0.348		**0.326**	94	65-140	1	20	0.067	0.014
3,3´-Dichlorobenzidine	0.697		**0.223 J**	32	10-107	5	20	0.83	0.032
2,4-Dichlorophenol	0.348		**0.267**	77	50-128	5	20	0.033	0.0015
*Diethyl Phthalate	0.348		**0.281 B**	81	59-128	3	20	0.017	0.0024
2,4-Dimethylphenol	0.348		**0.239**	69	40-122	7	20	0.17	0.030
Dimethyl Phthalate	0.348		**0.281**	81	66-122	3	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.348		**0.245**	70	26-136	3	20	0.17	0.0055
2,4-Dinitrophenol	0.348		**0.179**	51	25-105	2	20	0.17	0.038
2,4-Dinitrotoluene	0.348		**0.301**	86	51-128	4	20	0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/15/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K16029

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	0.348	**0.277**		79	61-119	2	20	0.017	0.0016
Di-n-octyl Phthalate	0.348	**0.295**		85	63-132	5	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate	0.348	**0.305 B**		88	50-140	6	20	0.033	0.0041
Fluoranthene	0.348	**0.249**		72	66-140	0.8	20	0.017	0.00056
Fluorene	0.348	**0.268**		77	60-131	3	20	0.033	0.00060
Hexachlorobenzene	0.348	**0.235**		67	34-141	0.03	20	0.017	0.0010
Hexachlorobutadiene	0.348	**0.237**		68	56-128	4	20	0.017	0.00072
Hexachlorocyclopentadiene	0.348	**0.235**		67	34-124	6	20	0.017	0.0027
Hexachloroethane	0.348	**0.293**		84	60-111	6	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.348	**0.255**		73	53-135	3	20	0.033	0.0031
Isophorone	0.348	**0.259**		74	55-127	7	20	0.017	0.0010
2-Methylnaphthalene	0.348	**0.264**		76	56-124	6	20	0.017	0.0014
2-Methylphenol	0.348	**0.245**		70	58-113	4	20	0.017	0.0034
4-Methylphenol	0.348	**0.336**		96	58-132	4	20	0.017	0.0020
Naphthalene	0.348	**0.278**		80	52-128	4	20	0.017	0.00051
2-Nitroaniline	0.348	**0.312**		90	63-122	4	20	0.017	0.0059
3-Nitroaniline	0.348	**0.126**		36	19-86	4	20	0.033	0.016
4-Nitroaniline	0.348	**0.232**		67	26-125	2	20	0.033	0.016
Nitrobenzene	0.348	**0.258**		74	56-109	4	20	0.017	0.0015
4-Nitrophenol	0.348	**0.234 J**		67	36-131	0.5	20	0.67	0.027
2-Nitrophenol	0.348	**0.301**		86	55-115	5	20	0.017	0.0015
N-Nitroso-diphenylamine	0.348	**0.270**		78	33-109	2	20	0.017	0.0010
N-Nitroso-di-n-propylamine	0.348	**0.285**		82	48-127	5	20	0.017	0.0022
Pentachlorophenol	0.348	**0.144 J**		41	19-117	1	20	0.17	0.015
Phenanthrene	0.348	**0.265**		76	58-134	0.9	20	0.017	0.00072
Phenol	0.348	**0.283**		81	53-120	4	20	0.17	0.0013
Pyrene	0.348	**0.302**		87	60-132	4	20	0.017	0.0012
2,4,6-Trichlorophenol	0.348	**0.237**		68	45-128	6	20	0.017	0.0017
2,4,5-Trichlorophenol	0.348	**0.242**		69	61-126	0.7	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				*77*	*33-113*				
Phenol-d6				*76*	*30-115*				
Nitrobenzene-d5				*78*	*33-131*				
2-Fluorobiphenyl				*78*	*46-122*				
2,4,6-Tribromophenol				*63*	*12-124*				
o-Terphenyl				*70*	*20-155*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene	0.348		**0.277**	79	55-113	4	20	0.017	0.00079
Acenaphthylene	0.348		**0.277**	80	56-138	4	20	0.017	0.00082
Acetophenone	0.348		**0.267**	77	26-127	3	20	0.017	0.0099
Anthracene	0.348		**0.296**	85	63-134	5	20	0.017	0.00086
Atrazine	0.348		**0.320**	92	52-125	6	20	0.017	0.0097
Benzaldehyde	0.348		0.067 U	**0**	10-126	--	20	0.067	0.0096
Benzo(a)anthracene	0.348		**0.266**	76	53-142	2	20	0.017	0.0014
Benzo(a)pyrene	0.348		**0.276**	79	54-136	7	20	0.017	0.00086
Benzo(b)fluoranthene	0.348		**0.274**	79	49-146	7	20	0.017	0.0017
Benzo(k)fluoranthene	0.348		**0.263**	76	56-136	4	20	0.017	0.0022
Benzo(g,h,i)perylene	0.348		**0.305**	88	47-141	4	20	0.033	0.00082
1,1'-Biphenyl	0.348		**0.274**	79	55-105	2	20	0.017	0.011
4-Bromophenyl Phenyl Ether	0.348		**0.293**	84	61-124	3	20	0.017	0.00094
Butyl Benzyl Phthalate	0.348		**0.303**	87	51-145	4	20	0.033	0.0017
Caprolactam	0.348		**0.333**	96	44-130	7	20	0.067	0.011
Carbazole	0.348		**0.311**	89	76-126	2	20	0.17	0.0089
4-Chloro-3-methylphenol	0.348		**0.299**	86	57-124	11	20	0.017	0.0038
4-Chloroaniline	0.348		**0.0787**	23	7-75	10	20	0.067	0.0088
Bis(2-chloroethoxy)methane	0.348		**0.243**	70	57-121	12	20	0.017	0.0011
Bis(2-chloroethyl) Ether	0.348		**0.230**	66	54-112	0.7	20	0.017	0.00079
Bis(2-chloroisopropyl) Ether	0.348		**0.257**	74	62-116	4	20	0.017	0.0027
2-Chloronaphthalene	0.348		**0.273**	78	67-111	6	20	0.017	0.0026
2-Chlorophenol	0.348		**0.263**	76	62-118	10	20	0.017	0.00079
4-Chlorophenyl Phenyl Ether	0.348		**0.266**	76	62-114	4	20	0.017	0.00072
Chrysene	0.348		**0.295**	85	66-137	4	20	0.017	0.00086
Dibenz(a,h)anthracene	0.348		**0.322**	92	52-142	5	20	0.033	0.0013
Dibenzofuran	0.348		**0.274**	79	65-119	3	20	0.017	0.00082
Di-n-butyl Phthalate	0.348		**0.357**	102	65-140	3	20	0.067	0.014
3,3´-Dichlorobenzidine	0.697		**0.343 J**	49	10-107	7	20	0.83	0.032
2,4-Dichlorophenol	0.348		**0.254**	73	50-128	5	20	0.033	0.0015
*Diethyl Phthalate	0.348		**0.319 B**	92	59-128	5	20	0.017	0.0024
2,4-Dimethylphenol	0.348		**0.254**	73	40-122	3	20	0.17	0.030
Dimethyl Phthalate	0.348		**0.287**	82	66-122	5	20	0.017	0.0019
4,6-Dinitro-2-methylphenol	0.348		**0.255**	73	26-136	6	20	0.17	0.0055
2,4-Dinitrophenol	0.348		**0.201**	58	25-105	2	20	0.17	0.038
2,4-Dinitrotoluene	0.348		**0.268**	77	51-128	0.4	20	0.033	0.0050

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213648 (Continued) 3550C Sonication Extraction/USEPA-8270C

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/13/2012 By: JLB

Unit: mg/kg wet Analytical Batch: 2K19059

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene	0.348	**0.273**		78	61-119	4	20	0.017	0.0016
Di-n-octyl Phthalate	0.348	**0.289**		83	63-132	3	20	0.017	0.0011
*Bis(2-ethylhexyl) Phthalate	0.348	**0.289 B**		83	50-140	4	20	0.033	0.0041
Fluoranthene	0.348	**0.287**		82	66-140	5	20	0.017	0.00056
Fluorene	0.348	**0.266**		76	60-131	3	20	0.033	0.00060
Hexachlorobenzene	0.348	**0.284**		82	34-141	3	20	0.017	0.0010
Hexachlorobutadiene	0.348	**0.281**		81	56-128	4	20	0.017	0.00072
Hexachlorocyclopentadiene	0.348	**0.229**		66	34-124	4	20	0.017	0.0027
Hexachloroethane	0.348	**0.279**		80	60-111	2	20	0.017	0.0013
Indeno(1,2,3-cd)pyrene	0.348	**0.311**		89	53-135	3	20	0.033	0.0031
Isophorone	0.348	**0.258**		74	55-127	6	20	0.017	0.0010
2-Methylnaphthalene	0.348	**0.280**		81	56-124	4	20	0.017	0.0014
2-Methylphenol	0.348	**0.237**		68	58-113	1	20	0.017	0.0034
4-Methylphenol	0.348	**0.295**		85	58-132	2	20	0.017	0.0020
Naphthalene	0.348	**0.271**		78	52-128	4	20	0.017	0.00051
2-Nitroaniline	0.348	**0.298**		85	63-122	3	20	0.017	0.0059
3-Nitroaniline	0.348	**0.162**		47	19-86	8	20	0.033	0.016
4-Nitroaniline	0.348	**0.246**		71	26-125	19	20	0.033	0.016
Nitrobenzene	0.348	**0.262**		75	56-109	4	20	0.017	0.0015
4-Nitrophenol	0.348	**0.237 J**		68	36-131	11	20	0.67	0.027
2-Nitrophenol	0.348	**0.259**		74	55-115	5	20	0.017	0.0015
N-Nitroso-diphenylamine	0.348	**0.306**		88	33-109	4	20	0.017	0.0010
N-Nitroso-di-n-propylamine	0.348	**0.266**		76	48-127	2	20	0.017	0.0022
Pentachlorophenol	0.348	**0.210**		60	19-117	0.7	20	0.17	0.015
Phenanthrene	0.348	**0.275**		79	58-134	4	20	0.017	0.00072
Phenol	0.348	**0.237**		68	53-120	2	20	0.17	0.0013
Pyrene	0.348	**0.278**		80	60-132	4	20	0.017	0.0012
2,4,6-Trichlorophenol	0.348	**0.253**		73	45-128	4	20	0.017	0.0017
2,4,5-Trichlorophenol	0.348	**0.291**		83	61-126	4	20	0.017	0.0039
Surrogates:									
2-Fluorophenol				***0.2***	*33-113*				
Phenol-d6				*69*	*30-115*				
Nitrobenzene-d5				*77*	*33-131*				
2-Fluorobiphenyl				*79*	*46-122*				
2,4,6-Tribromophenol				*84*	*12-124*				
o-Terphenyl				*81*	*20-155*				

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample	50.0		**49.8**	ug/L	100	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**49.3**	ug/L			1	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample	50.0		**51.3**	ug/L	103	80-120		20	1.0	0.18
Laboratory Control Sample Duplicate			**50.4**	ug/L			2	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample	50.0		**51.5**	ug/L	103	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**50.7**	ug/L			2	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample	50.0		**49.4**	ug/L	99	80-120		20	1.0	0.11
Laboratory Control Sample Duplicate			**48.8**	ug/L			1	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.038
Laboratory Control Sample	50.0		**51.0**	ug/L	102	80-120		20	0.20	0.038
Laboratory Control Sample Duplicate			**49.9**	ug/L			2	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.20

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Chromium/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**49.7**	ug/L	99	80-120		20	1.0	0.20
Laboratory Control Sample Duplicate			**49.6**	ug/L			0.3	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**51.1**	ug/L	102	80-120		20	1.0	0.050
Laboratory Control Sample Duplicate			**51.4**	ug/L			0.5	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**51.2**	ug/L	102	80-120		20	1.0	0.13
Laboratory Control Sample Duplicate			**50.3**	ug/L			2	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213630 (3010A Digestion)							Analyzed: 11/12/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5
Laboratory Control Sample		400	**382**	ug/L	96	80-120		20	20	6.5
Laboratory Control Sample Duplicate			**392**	ug/L			3	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**52.2**	ug/L	104	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**51.4**	ug/L			2	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Manganese/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**50.2**	ug/L	100	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**49.9**	ug/L			0.6	20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213552 (7470A Digestion - Dissolved)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**1.95**	ug/L	98	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.075
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	1.0	0.075
Laboratory Control Sample Duplicate			**49.7**	ug/L			0.6	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**50.4**	ug/L	101	80-120		20	1.0	0.17
Laboratory Control Sample Duplicate			**50.5**	ug/L			0.2	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**49.4**	ug/L	99	80-120		20	1.0	0.31
Laboratory Control Sample Duplicate			**50.0**	ug/L			1	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**49.9**	ug/L	100	80-120		20	0.20	0.037

Continued on next page

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QUALITY CONTROL REPORT

Dissolved Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Silver/USEPA-6020A (Continued)										
QC Batch: 1213631 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample Duplicate			**49.2**	ug/L			1	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.027
Laboratory Control Sample	50.0		**51.6**	ug/L	103	80-120		20	1.0	0.027
Laboratory Control Sample Duplicate			**50.4**	ug/L			2	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample	50.0		**49.9**	ug/L	100	80-120		20	1.0	0.066
Laboratory Control Sample Duplicate			**50.2**	ug/L			0.6	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213631 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			10 U	ug/L					10	1.5
Laboratory Control Sample	50.0		**52.3**	ug/L	105	80-120		20	10	1.5
Laboratory Control Sample Duplicate			**51.1**	ug/L			2	20	10	1.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213760 (3050B Digestion)							Analyzed: 11/12/2012		By: CKD	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample	4.00		**3.68**	mg/kg dry wt.	92	80-120		20	0.10	0.024
Laboratory Control Sample Duplicate			**3.74**	mg/kg dry wt.			2	20	0.10	0.024
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.016
Laboratory Control Sample	4.00		**4.18**	mg/kg dry wt.	105	80-120		20	0.10	0.016
Analyte: Barium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.012
Laboratory Control Sample	4.00		**4.17**	mg/kg dry wt.	104	80-120		20	1.0	0.012
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			0.50 U	mg/kg dry wt.					0.50	0.020
Laboratory Control Sample	4.00		**4.13**	mg/kg dry wt.	103	80-120		20	0.50	0.020
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0033
Laboratory Control Sample	4.00		**4.24**	mg/kg dry wt.	106	80-120		20	0.050	0.0033
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.014
Laboratory Control Sample	4.00		**3.91**	mg/kg dry wt.	98	80-120		20	1.0	0.014
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0064

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Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cobalt/USEPA-6020A (Continued)										
QC Batch: 1213610 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Laboratory Control Sample		4.00	**3.87**	mg/kg dry wt.	97	80-120		20	1.0	0.0064
Analyte: Copper/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.025
Laboratory Control Sample		4.00	**3.96**	mg/kg dry wt.	99	80-120		20	1.0	0.025
Analyte: Iron/USEPA-6010C										
QC Batch: 1213615 (3050B Digestion)							Analyzed: 11/08/2012		By: KLV	
Method Blank			5.0 U	mg/kg dry wt.					5.0	0.62
Laboratory Control Sample		25.0	**24.4**	mg/kg dry wt.	98	80-120		20	5.0	0.62
Laboratory Control Sample Duplicate			**25.2**	mg/kg dry wt.			3	20	5.0	0.62
Analyte: Lead/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			**0.037 J**	mg/kg dry wt.					1.0	0.0066
Laboratory Control Sample		4.00	**4.32**	mg/kg dry wt.	108	80-120		20	1.0	0.0066
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.023
Laboratory Control Sample		4.00	**3.87**	mg/kg dry wt.	97	80-120		20	1.0	0.023
Analyte: Mercury/USEPA-7471A										
QC Batch: 1213638 (7471A Mercury Digestion)							Analyzed: 11/08/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0061
Laboratory Control Sample		0.333	**0.322**	mg/kg dry wt.	97	80-120		20	0.050	0.0061
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0081

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213610 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Laboratory Control Sample		4.00	**4.08**	mg/kg dry wt.	102	80-120		20	1.0	0.0081
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.016
Laboratory Control Sample		4.00	**3.82**	mg/kg dry wt.	96	80-120		20	1.0	0.016
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.033
Laboratory Control Sample		4.00	**3.92**	mg/kg dry wt.	98	80-120		20	0.10	0.033
Analyte: Silver/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0039
Laboratory Control Sample		4.00	**4.26**	mg/kg dry wt.	106	80-120		20	0.050	0.0039
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			**0.0053 J**	mg/kg dry wt.					0.050	0.0026
Laboratory Control Sample		4.00	**4.27**	mg/kg dry wt.	107	80-120		20	0.050	0.0026
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.0097
Laboratory Control Sample		4.00	**3.88**	mg/kg dry wt.	97	80-120		20	0.10	0.0097
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213610 (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Method Blank			**0.38 J**	mg/kg dry wt.					1.0	0.28

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: **Zinc**/USEPA-6020A (Continued)										
QC Batch: 1213610 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: CKD	
Laboratory Control Sample		4.00	**4.47**	mg/kg dry wt.	112	80-120		20	1.0	0.28

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical / Chemical Parameters by EPA / APHA / ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213620 (Method Specific Preparation)							Analyzed: 11/07/2012		By: CLB	
Method Blank			0.1 U	%					0.1	

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CHAIN OF CUSTODY RECORD #646-G

COC NO. PL- 09732

PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 #661-G
Phone: (734) 453-5123 Fax: (734) 453-5201

1211034

ORTL (41-20)

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 17360-T05121-013	Laboratory Name: TRI-MATRIX
Project Name: Grand Rapids Metal - Stage III	Lab Contact: JENNIFER RICE
Project Location: Grand RAPIDS, MI	Lab Location: GRAND RAPIDS, MI
Chemistry Contact: PAUL WISEMAN	Lab Quote No:
Sampler(s): DAN DEITNER	SSOW ID: 11980-T05121-01
	Cooler No: TM0046
	Carrier: DROP off at Lab
	Airbill No: -
	Date Shipped: 11-01-12

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 (2)	HCl (1)	HNO3 (6)	H2SO4	NaOH	Methanol/Water (Soil VOC) (22)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	TCL VOC	TCL SVOC	PCBs	TAL Metals		MS/MSD Request	Comments/ Special Instructions:
01	trip blank	11-01-12	-	SOIL	-						1			1	X				02		trip blank
02	S-17360-110112-DD-196	11-01-12	1350	SO	G	1					1			2	X	X	X	X	03		
03	S-17360-110112-DD-197	11-01-12	1355	SO	G	1					1			2	X	X	X	X	04		
04	GW-17360-110112-DD-198	11-01-12	1425	WG	G	3	3	1			[illegible]			7	X	X	X	X	06		
05																					
06																					
07																					
08																					
09																					
10																					
11																					
12																					
13																					
14																					
15																					

Dan Deitner 11-01-12

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: 12

All Samples in Cooler must be on COC

Notes/ Special Requirements: GW TAL metals sample was FIELD FILTERED

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitner	CRA	11-01-12	1620	1. Lyn Jonuza	TriMatrix	11/1/12	1620
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

TRIMATRIX LABORATORIES

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 1211034
Receipt Record Page/Line #: 41-20 | New / Add To | Project Chemist: JLR | Sample #s

Recorded by (initials/date): JN 11/1/12

Cooler ☑ | Box ☐ | Other ☐ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
TM0046	1744	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
		☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container

Cooler #	Recorded °C	Correction Factor °C	Actual °C
TM0046	Temp Blank: 2		2.3
	TB location: Representative / Not Representative		
	1 9.4	8	9.4
	2 10.4	8	10.7
	3 10.7	8	9.7
	Average °C		9.7
	☐ Cooler ID on COC?		
	☑ VOC Trip Blank received? (MEOH)		
	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		
	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		
	Temp Blank:		
	TB location: Representative / Not Representative		
	1		
	2		
	3		
	Average °C		
	☐ Cooler ID on COC?		
	☐ VOC Trip Blank received?		

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☐ Other CRA

COC ID Numbers: JL-09732

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☐	☐	☑	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☑	☐	Received pre-preserved VOC soils?

☑ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☑ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Notes

(MEOH)

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
11/1/12	11/1/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA		Work Order #: 121.1034	
Receipt Log #: 41-20	Completed By (initials/date): DN 11/1/12	Project Chemist: JLR	

COC ID #: PL-09732 | Adjusted by: _____ Date: _____

Container Type	5 / 23	4	13		DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4						✓		
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

COC ID #: _____ | Adjusted by: _____ Date: _____

Container Type	5	4	13		DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Ph Strip Lot #: ☑ HC137671 ☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T02121-014

Work Orders:
1211039

Date:
November 26, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T02121-014

SDG Executive Summary

This case narrative applies to samples received on November 01, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/26/12

Date

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Sample Receipt and Login -- Work Order: 1211039

TriMatrix Laboratories received the cooler(s) for this work order on November 01, 2012, at 16:20. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
S-17360-110112-DD-173	1211039-01	Soil	11/1/2012
S-17360-110112-DD-174	1211039-02	Soil	11/1/2012
S-17360-110112-DD-178	1211039-03	Soil	11/1/2012
Methanol Blank	1211039-04	Soil	11/1/2012
S-17360-110112-DD-179	1211039-05	Soil	11/1/2012
S-17360-110112-DD-180	1211039-06	Soil	11/1/2012
S-17360-110112-DD-181	1211039-07	Soil	11/1/2012
S-17360-110112-DD-182	1211039-08	Soil	11/1/2012
S-17360-110112-DD-183	1211039-09	Soil	11/1/2012
S-17360-110112-DD-184	1211039-10	Soil	11/1/2012
S-17360-110112-DD-185	1211039-11	Soil	11/1/2012
S-17360-110112-DD-186	1211039-12	Soil	11/1/2012
S-17360-110112-DD-187	1211039-13	Soil	11/1/2012
S-17360-110112-DD-188	1211039-14	Soil	11/1/2012
S-17360-110112-DD-189	1211039-15	Soil	11/1/2012
S-17360-110112-DD-190	1211039-16	Soil	11/1/2012
S-17360-110112-DD-191	1211039-17	Soil	11/1/2012
S-17360-110112-DD-192	1211039-18	Soil	11/1/2012
S-17360-110112-DD-193	1211039-19	Soil	11/1/2012
S-17360-110112-DD-194	1211039-20	Soil	11/1/2012
S-17360-110112-DD-195	1211039-21	Soil	11/1/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Qualification: The final method detection limit was raised due to sample matrix interference.

Analysis: USEPA-8082A

Sample/Analyte:		
1211039-11	S-17360-110112-DD-185	PCB-1016
1211039-11	S-17360-110112-DD-185	PCB-1221
1211039-11	S-17360-110112-DD-185	PCB-1232
1211039-11	S-17360-110112-DD-185	PCB-1242
1211039-11	S-17360-110112-DD-185	PCB-1248
1211039-11	S-17360-110112-DD-185	PCB-1254

Qualification: Surrogate results are unavailable due to positive results in the sample, resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8082A

Sample:	
1211039-12	S-17360-110112-DD-186
1211039-13	S-17360-110112-DD-187
1211039-14	S-17360-110112-DD-188

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8260B

Sample/Analyte:		
1211039-01	S-17360-110112-DD-173	Methyl Acetate
1211039-02	S-17360-110112-DD-174	Methyl Acetate
1211039-03	S-17360-110112-DD-178	Methyl Acetate
1211039-04	Methanol Blank	Methyl Acetate
1211039-05	S-17360-110112-DD-179	Methyl Acetate
1211039-06	S-17360-110112-DD-180	Methyl Acetate
1211039-07	S-17360-110112-DD-181	Methyl Acetate
1211039-08	S-17360-110112-DD-182	Methyl Acetate
1211039-09	S-17360-110112-DD-183	Methyl Acetate
1211039-10	S-17360-110112-DD-184	Methyl Acetate

Qualification: The LCS and/or LCSD recovery exceeded the upper control limit. A positive result for this analyte in any sample from the associated QC batch is considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1211039-01	S-17360-110112-DD-173	Chloroethane
1211039-01	S-17360-110112-DD-173	Trichlorofluoromethane
1211039-02	S-17360-110112-DD-174	Chloroethane
1211039-02	S-17360-110112-DD-174	Trichlorofluoromethane
1211039-03	S-17360-110112-DD-178	Chloroethane
1211039-03	S-17360-110112-DD-178	Trichlorofluoromethane
1211039-04	Methanol Blank	Chloroethane
1211039-04	Methanol Blank	Trichlorofluoromethane
1211039-05	S-17360-110112-DD-179	Chloroethane
1211039-05	S-17360-110112-DD-179	Trichlorofluoromethane
1211039-06	S-17360-110112-DD-180	Chloroethane
1211039-06	S-17360-110112-DD-180	Trichlorofluoromethane
1211039-07	S-17360-110112-DD-181	Chloroethane
1211039-07	S-17360-110112-DD-181	Trichlorofluoromethane
1211039-08	S-17360-110112-DD-182	Chloroethane
1211039-08	S-17360-110112-DD-182	Trichlorofluoromethane
1211039-09	S-17360-110112-DD-183	Chloroethane
1211039-09	S-17360-110112-DD-183	Trichlorofluoromethane
1211039-10	S-17360-110112-DD-184	Chloroethane
1211039-10	S-17360-110112-DD-184	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1211039-01	S-17360-110112-DD-173	Bromomethane
1211039-01	S-17360-110112-DD-173	Chloroethane
1211039-01	S-17360-110112-DD-173	Trichlorofluoromethane
1211039-02	S-17360-110112-DD-174	Bromomethane

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Qualification: The corresponding CCV for this analytical batch had a recovery exceeding the upper control limit of the method. A positive result for this analyte in any associated samples are considered estimated. Non-detectable results are not qualified.

Analysis: USEPA-8260B

1211039-02	S-17360-110112-DD-174	Chloroethane
1211039-02	S-17360-110112-DD-174	Trichlorofluoromethane
1211039-03	S-17360-110112-DD-178	Bromomethane
1211039-03	S-17360-110112-DD-178	Chloroethane
1211039-03	S-17360-110112-DD-178	Trichlorofluoromethane
1211039-04	Methanol Blank	Bromomethane
1211039-04	Methanol Blank	Chloroethane
1211039-04	Methanol Blank	Trichlorofluoromethane
1211039-05	S-17360-110112-DD-179	Bromomethane
1211039-05	S-17360-110112-DD-179	Chloroethane
1211039-05	S-17360-110112-DD-179	Trichlorofluoromethane
1211039-06	S-17360-110112-DD-180	Bromomethane
1211039-06	S-17360-110112-DD-180	Chloroethane
1211039-06	S-17360-110112-DD-180	Trichlorofluoromethane
1211039-07	S-17360-110112-DD-181	Bromomethane
1211039-07	S-17360-110112-DD-181	Chloroethane
1211039-07	S-17360-110112-DD-181	Trichlorofluoromethane
1211039-08	S-17360-110112-DD-182	Bromomethane
1211039-08	S-17360-110112-DD-182	Chloroethane
1211039-08	S-17360-110112-DD-182	Trichlorofluoromethane
1211039-09	S-17360-110112-DD-183	Bromomethane
1211039-09	S-17360-110112-DD-183	Chloroethane
1211039-09	S-17360-110112-DD-183	Trichlorofluoromethane
1211039-10	S-17360-110112-DD-184	Bromomethane
1211039-10	S-17360-110112-DD-184	Chloroethane
1211039-10	S-17360-110112-DD-184	Trichlorofluoromethane

Qualification: The corresponding CCV for this analytical batch had a recovery below the lower control limit of the method. Positive results for this analyte in any associated samples are considered estimated; non-detectable results are considered approximate.

Analysis: USEPA-8260B

Sample/Analyte: 1211039-01	S-17360-110112-DD-173	Methyl Acetate
1211039-02	S-17360-110112-DD-174	Methyl Acetate
1211039-03	S-17360-110112-DD-178	Methyl Acetate
1211039-04	Methanol Blank	Methyl Acetate
1211039-05	S-17360-110112-DD-179	Methyl Acetate
1211039-06	S-17360-110112-DD-180	Methyl Acetate
1211039-07	S-17360-110112-DD-181	Methyl Acetate
1211039-08	S-17360-110112-DD-182	Methyl Acetate
1211039-09	S-17360-110112-DD-183	Methyl Acetate
1211039-10	S-17360-110112-DD-184	Methyl Acetate

Qualification: The MS and/or MSD recovery exceeded the upper control limit. The non-spiked sample result for the same analyte was non-detect and is not qualified.

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Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Qualification: The MS and/or MSD recovery exceeded the upper control limit. The non-spiked sample result for the same analyte was non-detect and is not qualified.

Analysis: USEPA-8260B

Sample/Analyte:		
1211039-03	S-17360-110112-DD-178	1,2-Dichlorobenzene
1211039-03	S-17360-110112-DD-178	Carbon Disulfide
1211039-03	S-17360-110112-DD-178	Chlorobenzene
1211039-03	S-17360-110112-DD-178	Isopropylbenzene
1211039-03	S-17360-110112-DD-178	Styrene
1211039-03	S-17360-110112-DD-178	Trichlorofluoromethane

Qualification: The RLs have been elevated due to the low amount of sample collected (<10g).

Analysis: USEPA-8260B

Sample: 1211039-01 S-17360-110112-DD-173

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:		
1211039-01	S-17360-110112-DD-173	Benzo(b)fluoranthene
1211039-01	S-17360-110112-DD-173	Benzo(k)fluoranthene
1211039-02	S-17360-110112-DD-174	Benzo(b)fluoranthene
1211039-02	S-17360-110112-DD-174	Benzo(k)fluoranthene
1211039-02	S-17360-110112-DD-174	Indeno(1,2,3-cd)pyrene
1211039-03	S-17360-110112-DD-178	Benzo(b)fluoranthene
1211039-03	S-17360-110112-DD-178	Benzo(k)fluoranthene
1211039-05	S-17360-110112-DD-179	Benzo(b)fluoranthene
1211039-05	S-17360-110112-DD-179	Benzo(k)fluoranthene
1211039-06	S-17360-110112-DD-180	Benzo(b)fluoranthene
1211039-06	S-17360-110112-DD-180	Benzo(k)fluoranthene
1211039-07	S-17360-110112-DD-181	Benzo(b)fluoranthene
1211039-07	S-17360-110112-DD-181	Benzo(k)fluoranthene
1211039-09	S-17360-110112-DD-183	Benzo(b)fluoranthene
1211039-09	S-17360-110112-DD-183	Benzo(k)fluoranthene
1211039-10	S-17360-110112-DD-184	Benzo(b)fluoranthene
1211039-10	S-17360-110112-DD-184	Benzo(k)fluoranthene
1211039-10	S-17360-110112-DD-184	Indeno(1,2,3-cd)pyrene
1211039-11	S-17360-110112-DD-185	Benzo(b)fluoranthene
1211039-11	S-17360-110112-DD-185	Benzo(k)fluoranthene
1211039-12	S-17360-110112-DD-186	Benzo(b)fluoranthene
1211039-12	S-17360-110112-DD-186	Benzo(k)fluoranthene
1211039-12	S-17360-110112-DD-186	Dibenz(a,h)anthracene
1211039-12	S-17360-110112-DD-186	Indeno(1,2,3-cd)pyrene
1211039-13	S-17360-110112-DD-187	Benzo(b)fluoranthene
1211039-13	S-17360-110112-DD-187	Benzo(k)fluoranthene
1211039-13	S-17360-110112-DD-187	Indeno(1,2,3-cd)pyrene
1211039-14	S-17360-110112-DD-188	Benzo(b)fluoranthene
1211039-14	S-17360-110112-DD-188	Benzo(k)fluoranthene
1211039-14	S-17360-110112-DD-188	Dibenz(a,h)anthracene
1211039-15	S-17360-110112-DD-189	Benzo(b)fluoranthene
1211039-15	S-17360-110112-DD-189	Benzo(k)fluoranthene
1211039-16	S-17360-110112-DD-190	Benzo(b)fluoranthene
1211039-16	S-17360-110112-DD-190	Benzo(k)fluoranthene
1211039-17	S-17360-110112-DD-191	Benzo(b)fluoranthene
1211039-17	S-17360-110112-DD-191	Benzo(k)fluoranthene
1211039-18	S-17360-110112-DD-192	Benzo(b)fluoranthene
1211039-18	S-17360-110112-DD-192	Benzo(k)fluoranthene
1211039-19	S-17360-110112-DD-193	Benzo(b)fluoranthene
1211039-19	S-17360-110112-DD-193	Benzo(k)fluoranthene
1211039-20	S-17360-110112-DD-194	Benzo(b)fluoranthene
1211039-20	S-17360-110112-DD-194	Benzo(k)fluoranthene
1211039-21	S-17360-110112-DD-195	Benzo(b)fluoranthene
1211039-21	S-17360-110112-DD-195	Benzo(k)fluoranthene

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-8270C

Sample/Analyte:	1211039-03	S-17360-110112-DD-178	Dibenz(a,h)anthracene

Qualification: Matrix QC results are not available due to sample dilution.

Analysis: USEPA-8270C

Sample:	1211039-11	S-17360-110112-DD-185

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8270C

Sample:	1211039-01	S-17360-110112-DD-173
	1211039-02	S-17360-110112-DD-174
	1211039-11	S-17360-110112-DD-185
	1211039-13	S-17360-110112-DD-187
	1211039-14	S-17360-110112-DD-188
	1211039-15	S-17360-110112-DD-189
	1211039-17	S-17360-110112-DD-191
	1211039-19	S-17360-110112-DD-193
	1211039-20	S-17360-110112-DD-194

Qualification: Surrogate results are unavailable due to sample matrix interference(s), resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8270C

Sample:	1211039-11	S-17360-110112-DD-185
	1211039-17	S-17360-110112-DD-191

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:		
	2K13052-CRL2	Chromium
	2K14002-CRL2	Selenium
	2K14002-CRL2	Zinc

Qualification: The % difference in results between the sample and a serial dilution of the sample exceeded the control limit. Sample matrix interference is suspected and the reported result is considered estimated.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Chromium

Qualification: This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Arsenic
	1211039-03	S-17360-110112-DD-178	Molybdenum
	1211039-03	S-17360-110112-DD-178	Thallium
	1211039-11	S-17360-110112-DD-185	Antimony
	1211039-11	S-17360-110112-DD-185	Beryllium
	1211039-11	S-17360-110112-DD-185	Selenium
	1211039-11	S-17360-110112-DD-185	Thallium

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Chromium
	1211039-03	S-17360-110112-DD-178	Lead
	1211039-03	S-17360-110112-DD-178	Zinc

Qualification: The RPD between the MS and MSD results exceeded the control limit. The non-spiked sample result is considered estimated.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Chromium
	1211039-03	S-17360-110112-DD-178	Lead

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods (Continued)

Qualification: The MS or MSD recovery, but not both, was outside the control limit. The RPD is within the control limit. The unspiked sample result is not qualified.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Barium

Qualification: Matrix QC results are not available due to sample dilution.

Analysis: USEPA-6010C

Sample/Analyte:			
	1211039-11	S-17360-110112-DD-185	Iron

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-11	S-17360-110112-DD-185	Lead
	1211039-11	S-17360-110112-DD-185	Manganese
	1211039-11	S-17360-110112-DD-185	Zinc

Qualification: The MS and/or MSD recovery was outside the control limit. The non-spiked sample concentration for the same analyte was greater than or equal to 4 times the spiked amount; matrix QC results are not available.

Analysis: USEPA-6010C

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Iron

Analysis: USEPA-6020A

Sample/Analyte:			
	1211039-03	S-17360-110112-DD-178	Manganese
	1211039-11	S-17360-110112-DD-185	Barium
	1211039-11	S-17360-110112-DD-185	Chromium
	1211039-11	S-17360-110112-DD-185	Copper
	1211039-11	S-17360-110112-DD-185	Nickel
	1211039-11	S-17360-110112-DD-185	Vanadium

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-173**	Sampled:	11/01/12 08:40
Lab Sample ID:	**1211039-01**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	91		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0076
12672-29-6	PCB-1248	0.36U	0.36	0.0028
11097-69-1	PCB-1254	**0.035J**	0.36	0.0037
11096-82-5	PCB-1260	**0.023J**	0.36	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*72*	*45-135*
Tetrachloro-m-xylene	*89*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-173**	Sampled:	11/01/12 08:40
Lab Sample ID:	**1211039-01**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	91		

*Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	1.4U	1.4	0.10
71-43-2	Benzene	0.095U	0.095	0.013
75-27-4	Bromodichloromethane	0.095U	0.095	0.013
75-25-2	Bromoform	0.095U	0.095	0.025
*74-83-9	Bromomethane	0.095U	0.095	0.041
75-15-0	Carbon Disulfide	0.47U	0.47	0.022
56-23-5	Carbon Tetrachloride	0.095U	0.095	0.032
108-90-7	Chlorobenzene	0.095U	0.095	0.016
*75-00-3	Chloroethane	0.095U	0.095	0.034
67-66-3	Chloroform	0.095U	0.095	0.016
74-87-3	Chloromethane	0.095U	0.095	0.037
110-82-7	Cyclohexane	0.47U	0.47	0.045
96-12-8	1,2-Dibromo-3-chloropropane	0.47U	0.47	0.049
124-48-1	Dibromochloromethane	0.095U	0.095	0.014
106-93-4	1,2-Dibromoethane	0.095U	0.095	0.031
95-50-1	1,2-Dichlorobenzene	0.095U	0.095	0.022
541-73-1	1,3-Dichlorobenzene	0.095U	0.095	0.023
106-46-7	1,4-Dichlorobenzene	0.095U	0.095	0.024
75-71-8	Dichlorodifluoromethane	0.095U	0.095	0.020
75-34-3	1,1-Dichloroethane	0.095U	0.095	0.021
107-06-2	1,2-Dichloroethane	0.095U	0.095	0.020
75-35-4	1,1-Dichloroethene	0.095U	0.095	0.020
156-59-2	cis-1,2-Dichloroethene	0.095U	0.095	0.021
156-60-5	trans-1,2-Dichloroethene	0.095U	0.095	0.022
78-87-5	1,2-Dichloropropane	0.095U	0.095	0.026
10061-01-5	cis-1,3-Dichloropropene	0.095U	0.095	0.018
10061-02-6	trans-1,3-Dichloropropene	0.095U	0.095	0.018
100-41-4	Ethylbenzene	0.095U	0.095	0.020
591-78-6	2-Hexanone	4.7U	4.7	0.047

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-173**	Sampled:	11/01/12 08:40
Lab Sample ID:	**1211039-01**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	91		

*Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.095U	0.095	0.021
*79-20-9	Methyl Acetate	0.47U	0.47	0.061
1634-04-4	Methyl tert-Butyl Ether	0.095U	0.095	0.018
108-87-2	Methylcyclohexane	0.47U	0.47	0.035
75-09-2	Methylene Chloride	**0.35**	0.19	0.051
78-93-3	2-Butanone (MEK)	1.4U	1.4	0.12
108-10-1	4-Methyl-2-pentanone (MIBK)	4.7U	4.7	0.038
100-42-5	Styrene	0.095U	0.095	0.020
79-34-5	1,1,2,2-Tetrachloroethane	0.095U	0.095	0.024
127-18-4	Tetrachloroethene	0.095U	0.095	0.026
108-88-3	Toluene	0.095U	0.095	0.021
120-82-1	1,2,4-Trichlorobenzene	0.095U	0.095	0.013
71-55-6	1,1,1-Trichloroethane	0.095U	0.095	0.013
79-00-5	1,1,2-Trichloroethane	0.095U	0.095	0.030
79-01-6	Trichloroethene	**0.49**	0.095	0.020
*75-69-4	Trichlorofluoromethane	**0.065J**	0.095	0.025
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.095U	0.095	0.034
75-01-4	Vinyl Chloride	0.076U	0.076	0.016
1330-20-7	Xylene (Total)	0.28U	0.28	0.038

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*96*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-173**	Sampled:	11/01/12 08:40
Lab Sample ID:	**1211039-01**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.084J**	1.8	0.0087
208-96-8	Acenaphthylene	1.8U	1.8	0.0091
120-12-7	Anthracene	**0.16J**	1.8	0.0094
56-55-3	Benzo(a)anthracene	**0.57J**	1.8	0.016
50-32-8	Benzo(a)pyrene	**0.44J**	1.8	0.0094
*205-99-2	Benzo(b)fluoranthene	**0.59J**	1.8	0.019
191-24-2	Benzo(g,h,i)perylene	**0.044J**	1.8	0.0091
*207-08-9	Benzo(k)fluoranthene	**0.33J**	1.8	0.024
218-01-9	Chrysene	**0.64J**	1.8	0.0094
53-70-3	Dibenz(a,h)anthracene	**0.051J**	1.8	0.014
206-44-0	Fluoranthene	**1.5J**	1.8	0.0062
86-73-7	Fluorene	**0.051J**	1.8	0.0067
193-39-5	Indeno(1,2,3-cd)pyrene	**0.14J**	1.8	0.034
91-57-6	2-Methylnaphthalene	**0.033J**	1.8	0.015
91-20-3	Naphthalene	**0.018J**	1.8	0.0056
85-01-8	Phenanthrene	**0.95J**	1.8	0.0080
129-00-0	Pyrene	**1.1J**	1.8	0.013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*67*	*33-131*
2-Fluorobiphenyl	*84*	*46-122*
o-Terphenyl	*92*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-173**	Sampled:	11/01/12 08:40
Lab Sample ID:	**1211039-01**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	91		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.78**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 14:36	CKD	1213761
Arsenic	**12**		0.47	0.076	mg/kg dry wt.	5	USEPA-6020A	11/14/12 20:08	CKD	1213614
Barium	**51**		9.4	0.11	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:13	CKD	1213614
Beryllium	**0.46**	J	0.47	0.018	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Cadmium	**0.13**		0.047	0.0031	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Chromium	**8.9**		0.94	0.13	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:13	CKD	1213614
Cobalt	**3.1**		0.94	0.0060	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Copper	**15**		9.4	0.24	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:13	CKD	1213614
Iron	**5300**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/09/12 08:14	KLV	1213704
Lead	**48**		9.4	0.062	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:13	CKD	1213614
Manganese	**90**		23	0.55	mg/kg dry wt.	25	USEPA-6020A	11/14/12 09:09	CKD	1213614
Molybdenum	**1.8**		0.94	0.0076	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Mercury	**0.030**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 14:21	CKD	1213639
Nickel	**8.9**		0.94	0.015	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Selenium	**0.45**		0.094	0.031	mg/kg dry wt.	1	USEPA-6020A	11/14/12 17:43	CKD	1213614
Silver	**0.075**		0.047	0.0036	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Thallium	**0.25**		0.047	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:31	DSC	1213614
Vanadium	**9.9**		0.94	0.091	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:13	CKD	1213614
Zinc	**25**		9.4	2.6	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:13	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-173**	Sampled:	11/01/12 08:40
Lab Sample ID:	**1211039-01**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**91**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-174**	Sampled:	11/01/12 08:45
Lab Sample ID:	**1211039-02**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	91		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0076
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.030J**	0.36	0.0037
11096-82-5	PCB-1260	**0.019J**	0.36	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*71*	*45-135*
Tetrachloro-m-xylene	*86*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-174**	Sampled:	11/01/12 08:45
Lab Sample ID:	**1211039-02**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.87U	0.87	0.063
71-43-2	Benzene	0.058U	0.058	0.0083
75-27-4	Bromodichloromethane	0.058U	0.058	0.0078
75-25-2	Bromoform	0.058U	0.058	0.015
*74-83-9	Bromomethane	0.058U	0.058	0.025
75-15-0	Carbon Disulfide	0.29U	0.29	0.013
56-23-5	Carbon Tetrachloride	0.058U	0.058	0.020
108-90-7	Chlorobenzene	0.058U	0.058	0.0098
*75-00-3	Chloroethane	0.058U	0.058	0.021
67-66-3	Chloroform	0.058U	0.058	0.0098
74-87-3	Chloromethane	0.058U	0.058	0.023
110-82-7	Cyclohexane	0.29U	0.29	0.028
96-12-8	1,2-Dibromo-3-chloropropane	0.29U	0.29	0.030
124-48-1	Dibromochloromethane	0.058U	0.058	0.0089
106-93-4	1,2-Dibromoethane	0.058U	0.058	0.019
95-50-1	1,2-Dichlorobenzene	0.058U	0.058	0.014
541-73-1	1,3-Dichlorobenzene	0.058U	0.058	0.014
106-46-7	1,4-Dichlorobenzene	0.058U	0.058	0.015
75-71-8	Dichlorodifluoromethane	0.058U	0.058	0.012
75-34-3	1,1-Dichloroethane	0.058U	0.058	0.013
107-06-2	1,2-Dichloroethane	0.058U	0.058	0.012
75-35-4	1,1-Dichloroethene	0.058U	0.058	0.012
156-59-2	cis-1,2-Dichloroethene	0.058U	0.058	0.013
156-60-5	trans-1,2-Dichloroethene	0.058U	0.058	0.014
78-87-5	1,2-Dichloropropane	0.058U	0.058	0.016
10061-01-5	cis-1,3-Dichloropropene	0.058U	0.058	0.011
10061-02-6	trans-1,3-Dichloropropene	0.058U	0.058	0.011
100-41-4	Ethylbenzene	0.058U	0.058	0.012
591-78-6	2-Hexanone	2.9U	2.9	0.029

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-174**	Sampled:	11/01/12 08:45
Lab Sample ID:	**1211039-02**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	91		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.058U	0.058	0.013
*79-20-9	Methyl Acetate	0.29U	0.29	0.037
1634-04-4	Methyl tert-Butyl Ether	0.058U	0.058	0.011
108-87-2	Methylcyclohexane	0.29U	0.29	0.021
75-09-2	Methylene Chloride	0.12U	0.12	0.031
78-93-3	2-Butanone (MEK)	0.87U	0.87	0.074
108-10-1	4-Methyl-2-pentanone (MIBK)	2.9U	2.9	0.023
100-42-5	Styrene	0.058U	0.058	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.058U	0.058	0.015
127-18-4	Tetrachloroethene	0.058U	0.058	0.016
108-88-3	Toluene	0.058U	0.058	0.013
120-82-1	1,2,4-Trichlorobenzene	0.058U	0.058	0.0082
71-55-6	1,1,1-Trichloroethane	0.058U	0.058	0.0080
79-00-5	1,1,2-Trichloroethane	0.058U	0.058	0.019
79-01-6	Trichloroethene	**0.026J**	0.058	0.012
*75-69-4	Trichlorofluoromethane	0.058U	0.058	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.058U	0.058	0.021
75-01-4	Vinyl Chloride	0.047U	0.047	0.0098
1330-20-7	Xylene (Total)	0.17U	0.17	0.023

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-174**	Sampled:	11/01/12 08:45
Lab Sample ID:	**1211039-02**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	91		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.083J**	1.8	0.0087
208-96-8	Acenaphthylene	1.8U	1.8	0.0090
120-12-7	Anthracene	**0.16J**	1.8	0.0094
56-55-3	Benzo(a)anthracene	**0.52J**	1.8	0.016
50-32-8	Benzo(a)pyrene	**0.41J**	1.8	0.0094
*205-99-2	Benzo(b)fluoranthene	**0.58J**	1.8	0.019
191-24-2	Benzo(g,h,i)perylene	**0.019J**	1.8	0.0090
*207-08-9	Benzo(k)fluoranthene	**0.25J**	1.8	0.024
218-01-9	Chrysene	**0.61J**	1.8	0.0094
53-70-3	Dibenz(a,h)anthracene	**0.030J**	1.8	0.014
206-44-0	Fluoranthene	**1.4J**	1.8	0.0061
86-73-7	Fluorene	**0.053J**	1.8	0.0066
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.13J**	1.8	0.034
91-57-6	2-Methylnaphthalene	**0.030J**	1.8	0.015
91-20-3	Naphthalene	**0.015J**	1.8	0.0056
85-01-8	Phenanthrene	**0.98J**	1.8	0.0079
129-00-0	Pyrene	**1.0J**	1.8	0.013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*69*	*33-131*
2-Fluorobiphenyl	*83*	*46-122*
o-Terphenyl	*87*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-174**	Sampled:	11/01/12 08:45
Lab Sample ID:	**1211039-02**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	91		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.96**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 14:38	CKD	1213761
Arsenic	**14**		0.50	0.082	mg/kg dry wt.	5	USEPA-6020A	11/14/12 19:33	CKD	1213614
Barium	**57**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:37	CKD	1213614
Beryllium	**0.50**		0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Cadmium	**0.13**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Chromium	**8.0**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Cobalt	**3.2**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Copper	**13**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:37	CKD	1213614
Iron	**5600**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 08:20	KLV	1213704
Lead	**46**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:37	CKD	1213614
Manganese	**92**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 09:32	CKD	1213614
Molybdenum	**1.4**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Mercury	**0.029**	**J**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 14:36	CKD	1213639
Nickel	**8.9**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Selenium	**0.49**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 17:46	CKD	1213614
Silver	**0.070**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Thallium	**0.27**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Vanadium	**9.3**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:36	DSC	1213614
Zinc	**29**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/14/12 09:37	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-174**	Sampled:	11/01/12 08:45
Lab Sample ID:	**1211039-02**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**91**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-178**	Sampled:	11/01/12 08:50
Lab Sample ID:	**1211039-03**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/11/12 By: ASC
QC Batch:	1213733	Analytical Batch:	2K12034
Percent Solids:	92		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0075
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	0.36U	0.36	0.0037
11096-82-5	PCB-1260	0.36U	0.36	0.0030

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*106*	*45-135*
Tetrachloro-m-xylene	*96*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-178**	Sampled:	11/01/12 08:50
Lab Sample ID:	**1211039-03**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.059
71-43-2	Benzene	0.054U	0.054	0.0077
75-27-4	Bromodichloromethane	0.054U	0.054	0.0073
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
*75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
*108-90-7	Chlorobenzene	0.054U	0.054	0.0091
*75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0091
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.018
*95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.014
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.012
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.013
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	0.054U	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-178**	Sampled:	11/01/12 08:50
Lab Sample ID:	**1211039-03**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
*98-82-8	Isopropylbenzene	0.054U	0.054	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.069
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
*100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0076
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0075
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	0.054U	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.020
75-01-4	Vinyl Chloride	0.043U	0.043	0.0091
1330-20-7	Xylene (Total)	0.16U	0.16	0.022

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*96*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-178**	Sampled:	11/01/12 08:50
Lab Sample ID:	**1211039-03**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	92		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.0011J**	0.36	0.00086
208-96-8	Acenaphthylene	0.36U	0.36	0.00089
120-12-7	Anthracene	**0.0022J**	0.36	0.00093
56-55-3	Benzo(a)anthracene	**0.0062J**	0.36	0.0016
50-32-8	Benzo(a)pyrene	**0.0040J**	0.36	0.00093
*205-99-2	Benzo(b)fluoranthene	**0.0058J**	0.36	0.0019
191-24-2	Benzo(g,h,i)perylene	0.36U	0.36	0.00089
*207-08-9	Benzo(k)fluoranthene	0.36U	0.36	0.0024
218-01-9	Chrysene	**0.0069J**	0.36	0.00093
*53-70-3	Dibenz(a,h)anthracene	0.36U	0.36	0.0014
206-44-0	Fluoranthene	**0.012J**	0.36	0.00061
86-73-7	Fluorene	**0.0015J**	0.36	0.00066
193-39-5	Indeno(1,2,3-cd)pyrene	0.36U	0.36	0.0033
91-57-6	2-Methylnaphthalene	0.36U	0.36	0.0015
91-20-3	Naphthalene	0.36U	0.36	0.00055
85-01-8	Phenanthrene	**0.014J**	0.36	0.00078
129-00-0	Pyrene	**0.010J**	0.36	0.0013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*68*	*33-131*
2-Fluorobiphenyl	*83*	*46-122*
o-Terphenyl	*96*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-178**	Sampled:	11/01/12 08:50
Lab Sample ID:	**1211039-03**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	92		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.039**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 14:41	CKD	1213761
***Arsenic**	**0.19**		0.092	0.015	mg/kg dry wt.	1	USEPA-6020A	11/14/12 17:49	CKD	1213614
***Barium**	**4.3**		0.92	0.011	mg/kg dry wt.	1	USEPA-6020A	11/14/12 15:57	CKD	1213614
Beryllium	**0.048**	**J**	0.46	0.018	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
Cadmium	**0.0097**	**J**	0.046	0.0030	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
***Chromium**	**3.7**		0.92	0.013	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
Cobalt	**1.0**		0.92	0.0059	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
Copper	**1.3**		0.92	0.023	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
***Iron**	**1600**		120	15	mg/kg dry wt.	25	USEPA-6010C	11/09/12 11:11	KLV	1213704
***Lead**	**1.2**		0.92	0.0061	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
***Manganese**	**21**		4.6	0.11	mg/kg dry wt.	5	USEPA-6020A	11/14/12 09:41	CKD	1213614
***Molybdenum**	**0.076**	**J**	0.92	0.0074	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 14:41	CKD	1213639
Nickel	**2.7**		0.92	0.015	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
Selenium	0.092	U	0.092	0.030	mg/kg dry wt.	1	USEPA-6020A	11/14/12 17:49	CKD	1213614
Silver	**0.011**	**J**	0.046	0.0036	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
***Thallium**	**0.020**	**J**	0.046	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
Vanadium	**4.2**		0.092	0.0089	mg/kg dry wt.	1	USEPA-6020A	11/13/12 15:40	DSC	1213614
***Zinc**	**7.1**		4.6	1.3	mg/kg dry wt.	5	USEPA-6020A	11/14/12 09:41	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-178**	Sampled:	11/01/12 08:50
Lab Sample ID:	**1211039-03**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**92**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**Methanol Blank**	Sampled:	11/01/12 00:00
Lab Sample ID:	**1211039-04**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.75U	0.75	0.054
71-43-2	Benzene	0.050U	0.050	0.0071
75-27-4	Bromodichloromethane	0.050U	0.050	0.0067
75-25-2	Bromoform	0.050U	0.050	0.013
*74-83-9	Bromomethane	0.050U	0.050	0.021
75-15-0	Carbon Disulfide	0.25U	0.25	0.012
56-23-5	Carbon Tetrachloride	0.050U	0.050	0.017
108-90-7	Chlorobenzene	0.050U	0.050	0.0084
*75-00-3	Chloroethane	0.050U	0.050	0.018
67-66-3	Chloroform	0.050U	0.050	0.0084
74-87-3	Chloromethane	0.050U	0.050	0.020
110-82-7	Cyclohexane	0.25U	0.25	0.024
96-12-8	1,2-Dibromo-3-chloropropane	0.25U	0.25	0.026
124-48-1	Dibromochloromethane	0.050U	0.050	0.0076
106-93-4	1,2-Dibromoethane	0.050U	0.050	0.016
95-50-1	1,2-Dichlorobenzene	0.050U	0.050	0.012
541-73-1	1,3-Dichlorobenzene	0.050U	0.050	0.012
106-46-7	1,4-Dichlorobenzene	0.050U	0.050	0.012
75-71-8	Dichlorodifluoromethane	0.050U	0.050	0.011
75-34-3	1,1-Dichloroethane	0.050U	0.050	0.011
107-06-2	1,2-Dichloroethane	0.050U	0.050	0.011
75-35-4	1,1-Dichloroethene	0.050U	0.050	0.010
156-59-2	cis-1,2-Dichloroethene	0.050U	0.050	0.011
156-60-5	trans-1,2-Dichloroethene	0.050U	0.050	0.012
78-87-5	1,2-Dichloropropane	0.050U	0.050	0.014
10061-01-5	cis-1,3-Dichloropropene	0.050U	0.050	0.0095
10061-02-6	trans-1,3-Dichloropropene	0.050U	0.050	0.0094
100-41-4	Ethylbenzene	0.050U	0.050	0.010
591-78-6	2-Hexanone	2.5U	2.5	0.025
98-82-8	Isopropylbenzene	0.050U	0.050	0.011
*79-20-9	Methyl Acetate	0.25U	0.25	0.032

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**Methanol Blank**	Sampled:	11/01/12 00:00
Lab Sample ID:	**1211039-04**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg wet	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	n/a		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	0.050U	0.050	0.0095
108-87-2	Methylcyclohexane	0.25U	0.25	0.018
75-09-2	Methylene Chloride	**0.14**	0.10	0.027
78-93-3	2-Butanone (MEK)	0.75U	0.75	0.063
108-10-1	4-Methyl-2-pentanone (MIBK)	2.5U	2.5	0.020
100-42-5	Styrene	0.050U	0.050	0.010
79-34-5	1,1,2,2-Tetrachloroethane	0.050U	0.050	0.013
127-18-4	Tetrachloroethene	0.050U	0.050	0.014
108-88-3	Toluene	0.050U	0.050	0.011
120-82-1	1,2,4-Trichlorobenzene	0.050U	0.050	0.0070
71-55-6	1,1,1-Trichloroethane	0.050U	0.050	0.0069
79-00-5	1,1,2-Trichloroethane	0.050U	0.050	0.016
79-01-6	Trichloroethene	0.050U	0.050	0.011
*75-69-4	Trichlorofluoromethane	0.050U	0.050	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.050U	0.050	0.018
75-01-4	Vinyl Chloride	0.040U	0.040	0.0084
1330-20-7	Xylene (Total)	0.15U	0.15	0.020

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*101*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-179**	Sampled:	11/01/12 09:30
Lab Sample ID:	**1211039-05**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	89		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.37U	0.37	0.0019
11104-28-2	PCB-1221	0.37U	0.37	0.0024
11141-16-5	PCB-1232	0.37U	0.37	0.0024
53469-21-9	PCB-1242	0.37U	0.37	0.0078
12672-29-6	PCB-1248	0.37U	0.37	0.0028
11097-69-1	PCB-1254	**0.021J**	0.37	0.0038
11096-82-5	PCB-1260	**0.022J**	0.37	0.0032

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*81*	*45-135*
Tetrachloro-m-xylene	*68*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-179**	Sampled:	11/01/12 09:30
Lab Sample ID:	**1211039-05**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	89		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.85U	0.85	0.061
71-43-2	Benzene	**0.015J**	0.056	0.0080
75-27-4	Bromodichloromethane	0.056U	0.056	0.0076
75-25-2	Bromoform	0.056U	0.056	0.015
*74-83-9	Bromomethane	0.056U	0.056	0.024
75-15-0	Carbon Disulfide	0.28U	0.28	0.013
56-23-5	Carbon Tetrachloride	0.056U	0.056	0.019
108-90-7	Chlorobenzene	0.056U	0.056	0.0095
*75-00-3	Chloroethane	0.056U	0.056	0.020
67-66-3	Chloroform	0.056U	0.056	0.0095
74-87-3	Chloromethane	0.056U	0.056	0.022
110-82-7	Cyclohexane	0.28U	0.28	0.027
96-12-8	1,2-Dibromo-3-chloropropane	0.28U	0.28	0.029
124-48-1	Dibromochloromethane	0.056U	0.056	0.0086
106-93-4	1,2-Dibromoethane	0.056U	0.056	0.018
95-50-1	1,2-Dichlorobenzene	0.056U	0.056	0.013
541-73-1	1,3-Dichlorobenzene	0.056U	0.056	0.013
106-46-7	1,4-Dichlorobenzene	0.056U	0.056	0.014
75-71-8	Dichlorodifluoromethane	0.056U	0.056	0.012
75-34-3	1,1-Dichloroethane	0.056U	0.056	0.012
107-06-2	1,2-Dichloroethane	0.056U	0.056	0.012
75-35-4	1,1-Dichloroethene	0.056U	0.056	0.012
156-59-2	cis-1,2-Dichloroethene	0.056U	0.056	0.013
156-60-5	trans-1,2-Dichloroethene	0.056U	0.056	0.013
78-87-5	1,2-Dichloropropane	0.056U	0.056	0.016
10061-01-5	cis-1,3-Dichloropropene	0.056U	0.056	0.011
10061-02-6	trans-1,3-Dichloropropene	0.056U	0.056	0.011
100-41-4	Ethylbenzene	0.056U	0.056	0.012
591-78-6	2-Hexanone	2.8U	2.8	0.028

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-179**	Sampled:	11/01/12 09:30
Lab Sample ID:	**1211039-05**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	89		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.056U	0.056	0.012
*79-20-9	Methyl Acetate	0.28U	0.28	0.036
1634-04-4	Methyl tert-Butyl Ether	0.056U	0.056	0.011
108-87-2	Methylcyclohexane	0.28U	0.28	0.021
75-09-2	Methylene Chloride	**0.12**	0.11	0.030
78-93-3	2-Butanone (MEK)	0.85U	0.85	0.071
108-10-1	4-Methyl-2-pentanone (MIBK)	2.8U	2.8	0.022
100-42-5	Styrene	0.056U	0.056	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.056U	0.056	0.014
127-18-4	Tetrachloroethene	0.056U	0.056	0.016
108-88-3	Toluene	0.056U	0.056	0.012
120-82-1	1,2,4-Trichlorobenzene	0.056U	0.056	0.0079
71-55-6	1,1,1-Trichloroethane	0.056U	0.056	0.0078
79-00-5	1,1,2-Trichloroethane	0.056U	0.056	0.018
79-01-6	Trichloroethene	**7.4**	0.056	0.012
*75-69-4	Trichlorofluoromethane	**0.024J**	0.056	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.056U	0.056	0.020
75-01-4	Vinyl Chloride	0.045U	0.045	0.0095
1330-20-7	Xylene (Total)	0.17U	0.17	0.023

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-179**	Sampled:	11/01/12 09:30
Lab Sample ID:	**1211039-05**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	89		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.33J**	1.9	0.0089
208-96-8	Acenaphthylene	1.9U	1.9	0.0093
120-12-7	Anthracene	**0.42J**	1.9	0.0096
56-55-3	Benzo(a)anthracene	**1.2J**	1.9	0.016
50-32-8	Benzo(a)pyrene	**1.4J**	1.9	0.0096
*205-99-2	Benzo(b)fluoranthene	**4.4**	1.9	0.019
191-24-2	Benzo(g,h,i)perylene	**1.1J**	1.9	0.0093
*207-08-9	Benzo(k)fluoranthene	**1.6J**	1.9	0.025
218-01-9	Chrysene	**2.3**	1.9	0.0096
53-70-3	Dibenz(a,h)anthracene	**0.39J**	1.9	0.014
206-44-0	Fluoranthene	**3.4**	1.9	0.0063
86-73-7	Fluorene	**0.18J**	1.9	0.0068
193-39-5	Indeno(1,2,3-cd)pyrene	**0.95J**	1.9	0.035
91-57-6	2-Methylnaphthalene	**0.24J**	1.9	0.015
91-20-3	Naphthalene	**0.18J**	1.9	0.0058
85-01-8	Phenanthrene	**2.8**	1.9	0.0082
129-00-0	Pyrene	**4.3**	1.9	0.014

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*72*	*33-131*
2-Fluorobiphenyl	*87*	*46-122*
o-Terphenyl	*87*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-179**	Sampled:	11/01/12 09:30
Lab Sample ID:	**1211039-05**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	89		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**48**		1.0	0.24	mg/kg dry wt.	10	USEPA-6020A	11/12/12 16:16	CKD	1213761
Arsenic	**8.8**		0.093	0.015	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:05	CKD	1213614
Barium	**830**		93	1.1	mg/kg dry wt.	100	USEPA-6020A	11/14/12 10:08	CKD	1213614
Beryllium	**0.28**	J	0.47	0.018	mg/kg dry wt.	1	USEPA-6020A	11/13/12 16:03	DSC	1213614
Cadmium	**19**		0.47	0.031	mg/kg dry wt.	10	USEPA-6020A	11/14/12 10:12	CKD	1213614
Chromium	**920**		93	1.3	mg/kg dry wt.	100	USEPA-6020A	11/14/12 10:08	CKD	1213614
Cobalt	**75**		9.3	0.060	mg/kg dry wt.	10	USEPA-6020A	11/14/12 10:12	CKD	1213614
Copper	**1300**		470	12	mg/kg dry wt.	500	USEPA-6020A	11/14/12 10:03	CKD	1213614
Iron	**150000**		120	14	mg/kg dry wt.	25	USEPA-6010C	11/09/12 08:55	KLV	1213704
Lead	**11000**		1900	12	mg/kg dry wt.	2000	USEPA-6020A	11/14/12 13:35	CKD	1213614
Manganese	**3300**		470	11	mg/kg dry wt.	500	USEPA-6020A	11/14/12 10:03	CKD	1213614
Molybdenum	**340**		93	0.75	mg/kg dry wt.	100	USEPA-6020A	11/14/12 10:08	CKD	1213614
Mercury	**0.024**	J	0.047	0.0057	mg/kg dry wt.	1	USEPA-7471A	11/08/12 14:57	CKD	1213639
Nickel	**750**		93	1.5	mg/kg dry wt.	100	USEPA-6020A	11/14/12 10:08	CKD	1213614
Selenium	**0.24**		0.093	0.030	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:05	CKD	1213614
Silver	**82**		0.47	0.036	mg/kg dry wt.	10	USEPA-6020A	11/14/12 10:12	CKD	1213614
Thallium	**0.11**		0.047	0.0024	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:05	CKD	1213614
Vanadium	**23**		0.93	0.090	mg/kg dry wt.	10	USEPA-6020A	11/14/12 10:12	CKD	1213614
Zinc	**1300**		470	130	mg/kg dry wt.	500	USEPA-6020A	11/14/12 10:03	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-179**	Sampled:	11/01/12 09:30
Lab Sample ID:	**1211039-05**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**89**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-180**	Sampled:	11/01/12 09:40
Lab Sample ID:	**1211039-06**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/19/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	95		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0026
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0030

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*86*	*45-135*
Tetrachloro-m-xylene	*97*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-180**	Sampled:	11/01/12 09:40
Lab Sample ID:	**1211039-06**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.86U	0.86	0.062
71-43-2	Benzene	0.058U	0.058	0.0082
75-27-4	Bromodichloromethane	0.058U	0.058	0.0077
75-25-2	Bromoform	0.058U	0.058	0.015
*74-83-9	Bromomethane	0.058U	0.058	0.025
75-15-0	Carbon Disulfide	0.29U	0.29	0.013
56-23-5	Carbon Tetrachloride	0.058U	0.058	0.020
108-90-7	Chlorobenzene	0.058U	0.058	0.0097
*75-00-3	Chloroethane	0.058U	0.058	0.020
67-66-3	Chloroform	0.058U	0.058	0.0097
74-87-3	Chloromethane	0.058U	0.058	0.022
110-82-7	Cyclohexane	0.29U	0.29	0.027
96-12-8	1,2-Dibromo-3-chloropropane	0.29U	0.29	0.030
124-48-1	Dibromochloromethane	0.058U	0.058	0.0087
106-93-4	1,2-Dibromoethane	0.058U	0.058	0.019
95-50-1	1,2-Dichlorobenzene	0.058U	0.058	0.014
541-73-1	1,3-Dichlorobenzene	0.058U	0.058	0.014
106-46-7	1,4-Dichlorobenzene	0.058U	0.058	0.014
75-71-8	Dichlorodifluoromethane	0.058U	0.058	0.012
75-34-3	1,1-Dichloroethane	0.058U	0.058	0.013
107-06-2	1,2-Dichloroethane	0.058U	0.058	0.012
75-35-4	1,1-Dichloroethene	0.058U	0.058	0.012
156-59-2	cis-1,2-Dichloroethene	0.058U	0.058	0.013
156-60-5	trans-1,2-Dichloroethene	0.058U	0.058	0.013
78-87-5	1,2-Dichloropropane	0.058U	0.058	0.016
10061-01-5	cis-1,3-Dichloropropene	0.058U	0.058	0.011
10061-02-6	trans-1,3-Dichloropropene	0.058U	0.058	0.011
100-41-4	Ethylbenzene	0.058U	0.058	0.012
591-78-6	2-Hexanone	2.9U	2.9	0.028

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-180**	Sampled:	11/01/12 09:40
Lab Sample ID:	**1211039-06**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	95		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.058U	0.058	0.013
*79-20-9	Methyl Acetate	0.29U	0.29	0.037
1634-04-4	Methyl tert-Butyl Ether	0.058U	0.058	0.011
108-87-2	Methylcyclohexane	0.29U	0.29	0.021
75-09-2	Methylene Chloride	0.12U	0.12	0.031
78-93-3	2-Butanone (MEK)	0.86U	0.86	0.073
108-10-1	4-Methyl-2-pentanone (MIBK)	2.9U	2.9	0.023
100-42-5	Styrene	0.058U	0.058	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.058U	0.058	0.015
127-18-4	Tetrachloroethene	0.058U	0.058	0.016
108-88-3	Toluene	0.058U	0.058	0.013
120-82-1	1,2,4-Trichlorobenzene	0.058U	0.058	0.0081
71-55-6	1,1,1-Trichloroethane	0.058U	0.058	0.0079
79-00-5	1,1,2-Trichloroethane	0.058U	0.058	0.018
79-01-6	Trichloroethene	0.058U	0.058	0.012
*75-69-4	Trichlorofluoromethane	0.058U	0.058	0.015
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.058U	0.058	0.021
75-01-4	Vinyl Chloride	0.046U	0.046	0.0097
1330-20-7	Xylene (Total)	0.17U	0.17	0.023

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-180**	Sampled:	11/01/12 09:40
Lab Sample ID:	**1211039-06**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	95		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.35U	0.35	0.00084
208-96-8	Acenaphthylene	0.35U	0.35	0.00087
120-12-7	Anthracene	0.35U	0.35	0.00090
56-55-3	Benzo(a)anthracene	**0.0032J**	0.35	0.0015
50-32-8	Benzo(a)pyrene	**0.0025J**	0.35	0.00090
*205-99-2	Benzo(b)fluoranthene	**0.0061J**	0.35	0.0018
191-24-2	Benzo(g,h,i)perylene	0.35U	0.35	0.00087
*207-08-9	Benzo(k)fluoranthene	0.35U	0.35	0.0023
218-01-9	Chrysene	**0.0058J**	0.35	0.00090
53-70-3	Dibenz(a,h)anthracene	0.35U	0.35	0.0013
206-44-0	Fluoranthene	**0.012J**	0.35	0.00059
86-73-7	Fluorene	0.35U	0.35	0.00064
193-39-5	Indeno(1,2,3-cd)pyrene	0.35U	0.35	0.0033
91-57-6	2-Methylnaphthalene	0.35U	0.35	0.0014
91-20-3	Naphthalene	**0.0011J**	0.35	0.00054
85-01-8	Phenanthrene	**0.0083J**	0.35	0.00076
129-00-0	Pyrene	**0.010J**	0.35	0.0013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*64*	*33-131*
2-Fluorobiphenyl	*77*	*46-122*
o-Terphenyl	*86*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-180**	Sampled:	11/01/12 09:40
Lab Sample ID:	**1211039-06**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	95		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.057**	**J**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:01	CKD	1213761
Arsenic	**0.18**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:14	CKD	1213614
Barium	**3.5**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Beryllium	**0.041**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Cadmium	**0.011**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Chromium	**2.9**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Cobalt	**0.79**	**J**	1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Copper	**1.2**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Iron	**2200**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 09:02	KLV	1213704
Lead	**2.3**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Manganese	**15**		5.0	0.12	mg/kg dry wt.	5	USEPA-6020A	11/14/12 10:55	CKD	1213614
Molybdenum	**0.20**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:02	CKD	1213639
Nickel	**2.2**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Selenium	**0.041**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:14	CKD	1213614
Silver	**0.0097**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Thallium	**0.015**	**J**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Vanadium	**3.1**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614
Zinc	**6.5**		1.0	0.28	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:23	DSC	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-180**	Sampled:	11/01/12 09:40
Lab Sample ID:	**1211039-06**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**95**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213506

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-181**	Sampled:	11/01/12 10:00
Lab Sample ID:	**1211039-07**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/19/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	92		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0075
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.023J**	0.36	0.0037
11096-82-5	PCB-1260	**0.025J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*92*	*45-135*
Tetrachloro-m-xylene	*84*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-181**	Sampled:	11/01/12 10:00
Lab Sample ID:	**1211039-07**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.81U	0.81	0.059
71-43-2	Benzene	0.054U	0.054	0.0077
75-27-4	Bromodichloromethane	0.054U	0.054	0.0073
75-25-2	Bromoform	0.054U	0.054	0.014
*74-83-9	Bromomethane	0.054U	0.054	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.054U	0.054	0.018
108-90-7	Chlorobenzene	0.054U	0.054	0.0091
*75-00-3	Chloroethane	0.054U	0.054	0.019
67-66-3	Chloroform	0.054U	0.054	0.0091
74-87-3	Chloromethane	0.054U	0.054	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.026
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.028
124-48-1	Dibromochloromethane	0.054U	0.054	0.0082
106-93-4	1,2-Dibromoethane	0.054U	0.054	0.018
95-50-1	1,2-Dichlorobenzene	0.054U	0.054	0.013
541-73-1	1,3-Dichlorobenzene	0.054U	0.054	0.013
106-46-7	1,4-Dichlorobenzene	0.054U	0.054	0.014
75-71-8	Dichlorodifluoromethane	0.054U	0.054	0.012
75-34-3	1,1-Dichloroethane	0.054U	0.054	0.012
107-06-2	1,2-Dichloroethane	0.054U	0.054	0.011
75-35-4	1,1-Dichloroethene	0.054U	0.054	0.011
156-59-2	cis-1,2-Dichloroethene	0.054U	0.054	0.012
156-60-5	trans-1,2-Dichloroethene	0.054U	0.054	0.013
78-87-5	1,2-Dichloropropane	0.054U	0.054	0.015
10061-01-5	cis-1,3-Dichloropropene	0.054U	0.054	0.010
10061-02-6	trans-1,3-Dichloropropene	0.054U	0.054	0.010
100-41-4	Ethylbenzene	0.054U	0.054	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.027

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-181**	Sampled:	11/01/12 10:00
Lab Sample ID:	**1211039-07**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.054U	0.054	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.035
1634-04-4	Methyl tert-Butyl Ether	0.054U	0.054	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	0.11U	0.11	0.029
78-93-3	2-Butanone (MEK)	0.81U	0.81	0.069
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.054U	0.054	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.054U	0.054	0.014
127-18-4	Tetrachloroethene	0.054U	0.054	0.015
108-88-3	Toluene	0.054U	0.054	0.012
120-82-1	1,2,4-Trichlorobenzene	0.054U	0.054	0.0076
71-55-6	1,1,1-Trichloroethane	0.054U	0.054	0.0075
79-00-5	1,1,2-Trichloroethane	0.054U	0.054	0.017
79-01-6	Trichloroethene	**0.17**	0.054	0.011
*75-69-4	Trichlorofluoromethane	0.054U	0.054	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.054U	0.054	0.020
75-01-4	Vinyl Chloride	0.043U	0.043	0.0091
1330-20-7	Xylene (Total)	0.16U	0.16	0.022

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-181**	Sampled:	11/01/12 10:00
Lab Sample ID:	**1211039-07**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	92		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.31J**	1.8	0.0086
208-96-8	Acenaphthylene	1.8U	1.8	0.0089
120-12-7	Anthracene	**0.62J**	1.8	0.0093
56-55-3	Benzo(a)anthracene	**1.5J**	1.8	0.016
50-32-8	Benzo(a)pyrene	**1.2J**	1.8	0.0093
*205-99-2	Benzo(b)fluoranthene	**1.5J**	1.8	0.019
191-24-2	Benzo(g,h,i)perylene	**0.28J**	1.8	0.0089
*207-08-9	Benzo(k)fluoranthene	**0.70J**	1.8	0.024
218-01-9	Chrysene	**1.4J**	1.8	0.0093
53-70-3	Dibenz(a,h)anthracene	**0.093J**	1.8	0.014
206-44-0	Fluoranthene	**3.6**	1.8	0.0061
86-73-7	Fluorene	**0.22J**	1.8	0.0066
193-39-5	Indeno(1,2,3-cd)pyrene	**0.36J**	1.8	0.033
91-57-6	2-Methylnaphthalene	**0.13J**	1.8	0.015
91-20-3	Naphthalene	**0.074J**	1.8	0.0055
85-01-8	Phenanthrene	**2.9**	1.8	0.0078
129-00-0	Pyrene	**2.6**	1.8	0.013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*64*	*33-131*
2-Fluorobiphenyl	*79*	*46-122*
o-Terphenyl	*83*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-181**	Sampled:	11/01/12 10:00
Lab Sample ID:	**1211039-07**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	92		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.96**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:04	CKD	1213761
Arsenic	**4.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:18	CKD	1213614
Barium	**37**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:03	CKD	1213614
Beryllium	**0.13**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Cadmium	**0.23**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Chromium	**20**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:03	CKD	1213614
Cobalt	**3.1**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Copper	**67**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:03	CKD	1213614
Iron	**10000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 09:09	KLV	1213704
Lead	**68**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:03	CKD	1213614
Manganese	**200**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 10:59	CKD	1213614
Molybdenum	**7.2**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Mercury	**0.011**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:07	CKD	1213639
Nickel	**16**		10	0.16	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:03	CKD	1213614
Selenium	**0.16**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:18	CKD	1213614
Silver	**0.96**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Thallium	**0.040**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Vanadium	**7.7**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:28	DSC	1213614
Zinc	**51**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:03	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-181**	Sampled:	11/01/12 10:00
Lab Sample ID:	**1211039-07**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**92**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-182**	Sampled:	11/01/12 10:10
Lab Sample ID:	**1211039-08**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	92		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0075
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	0.36U	0.36	0.0037
11096-82-5	PCB-1260	0.36U	0.36	0.0031

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*103*	*45-135*
Tetrachloro-m-xylene	*102*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-182**	Sampled:	11/01/12 10:10
Lab Sample ID:	**1211039-08**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.88U	0.88	0.064
71-43-2	Benzene	0.059U	0.059	0.0083
75-27-4	Bromodichloromethane	0.059U	0.059	0.0079
75-25-2	Bromoform	0.059U	0.059	0.015
*74-83-9	Bromomethane	0.059U	0.059	0.025
75-15-0	Carbon Disulfide	0.29U	0.29	0.013
56-23-5	Carbon Tetrachloride	0.059U	0.059	0.020
108-90-7	Chlorobenzene	0.059U	0.059	0.0099
*75-00-3	Chloroethane	0.059U	0.059	0.021
67-66-3	Chloroform	0.059U	0.059	0.0099
74-87-3	Chloromethane	0.059U	0.059	0.023
110-82-7	Cyclohexane	0.29U	0.29	0.028
96-12-8	1,2-Dibromo-3-chloropropane	0.29U	0.29	0.030
124-48-1	Dibromochloromethane	0.059U	0.059	0.0089
106-93-4	1,2-Dibromoethane	0.059U	0.059	0.019
95-50-1	1,2-Dichlorobenzene	0.059U	0.059	0.014
541-73-1	1,3-Dichlorobenzene	0.059U	0.059	0.014
106-46-7	1,4-Dichlorobenzene	0.059U	0.059	0.015
75-71-8	Dichlorodifluoromethane	0.059U	0.059	0.013
75-34-3	1,1-Dichloroethane	0.059U	0.059	0.013
107-06-2	1,2-Dichloroethane	0.059U	0.059	0.012
75-35-4	1,1-Dichloroethene	0.059U	0.059	0.012
156-59-2	cis-1,2-Dichloroethene	0.059U	0.059	0.013
156-60-5	trans-1,2-Dichloroethene	0.059U	0.059	0.014
78-87-5	1,2-Dichloropropane	0.059U	0.059	0.016
10061-01-5	cis-1,3-Dichloropropene	0.059U	0.059	0.011
10061-02-6	trans-1,3-Dichloropropene	0.059U	0.059	0.011
100-41-4	Ethylbenzene	0.059U	0.059	0.012
591-78-6	2-Hexanone	2.9U	2.9	0.029

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-182**	Sampled:	11/01/12 10:10
Lab Sample ID:	**1211039-08**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.059U	0.059	0.013
*79-20-9	Methyl Acetate	0.29U	0.29	0.038
1634-04-4	Methyl tert-Butyl Ether	0.059U	0.059	0.011
108-87-2	Methylcyclohexane	0.29U	0.29	0.022
75-09-2	Methylene Chloride	0.12U	0.12	0.031
78-93-3	2-Butanone (MEK)	0.88U	0.88	0.074
108-10-1	4-Methyl-2-pentanone (MIBK)	2.9U	2.9	0.023
100-42-5	Styrene	0.059U	0.059	0.012
79-34-5	1,1,2,2-Tetrachloroethane	0.059U	0.059	0.015
127-18-4	Tetrachloroethene	0.059U	0.059	0.016
108-88-3	Toluene	0.059U	0.059	0.013
120-82-1	1,2,4-Trichlorobenzene	0.059U	0.059	0.0082
71-55-6	1,1,1-Trichloroethane	0.059U	0.059	0.0081
79-00-5	1,1,2-Trichloroethane	0.059U	0.059	0.019
79-01-6	Trichloroethene	0.059U	0.059	0.012
*75-69-4	Trichlorofluoromethane	**0.017J**	0.059	0.016
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.059U	0.059	0.021
75-01-4	Vinyl Chloride	0.047U	0.047	0.0099
1330-20-7	Xylene (Total)	0.18U	0.18	0.024

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-182**	Sampled:	11/01/12 10:10
Lab Sample ID:	**1211039-08**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	92		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.36U	0.36	0.00086
208-96-8	Acenaphthylene	0.36U	0.36	0.00090
120-12-7	Anthracene	0.36U	0.36	0.00093
56-55-3	Benzo(a)anthracene	0.36U	0.36	0.0016
50-32-8	Benzo(a)pyrene	0.36U	0.36	0.00093
205-99-2	Benzo(b)fluoranthene	0.36U	0.36	0.0019
191-24-2	Benzo(g,h,i)perylene	0.36U	0.36	0.00090
207-08-9	Benzo(k)fluoranthene	0.36U	0.36	0.0024
218-01-9	Chrysene	0.36U	0.36	0.00093
53-70-3	Dibenz(a,h)anthracene	0.36U	0.36	0.0014
206-44-0	Fluoranthene	0.36U	0.36	0.00061
86-73-7	Fluorene	0.36U	0.36	0.00066
193-39-5	Indeno(1,2,3-cd)pyrene	0.36U	0.36	0.0034
91-57-6	2-Methylnaphthalene	0.36U	0.36	0.0015
91-20-3	Naphthalene	0.36U	0.36	0.00056
85-01-8	Phenanthrene	0.36U	0.36	0.00079
129-00-0	Pyrene	0.36U	0.36	0.0013

Surrogates:	*% Recovery*	*Control Limits*
Nitrobenzene-d5	*69*	*33-131*
2-Fluorobiphenyl	*85*	*46-122*
o-Terphenyl	*95*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-182**	Sampled:	11/01/12 10:10
Lab Sample ID:	**1211039-08**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	92		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.058**	**J**	0.093	0.023	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:06	CKD	1213761
Arsenic	**0.70**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:21	CKD	1213614
Barium	**6.2**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Beryllium	**0.11**	**J**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Cadmium	**0.038**	**J**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Chromium	**8.4**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Cobalt	**1.7**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Copper	**3.3**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Iron	**2600**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 09:15	KLV	1213704
Lead	**2.0**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Manganese	**26**		5.0	0.12	mg/kg dry wt.	5	USEPA-6020A	11/14/12 11:07	CKD	1213614
Molybdenum	**0.16**	**J**	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:12	CKD	1213639
Nickel	**4.5**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Selenium	**0.065**	**J**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:21	CKD	1213614
Silver	**0.025**	**J**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Thallium	**0.059**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Vanadium	**7.2**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614
Zinc	**9.1**		1.0	0.28	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:32	DSC	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-182**	Sampled:	11/01/12 10:10
Lab Sample ID:	**1211039-08**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**92**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-183**	Sampled:	11/01/12 10:45
Lab Sample ID:	**1211039-09**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	92		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0019
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0075
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	**0.028J**	0.36	0.0037
11096-82-5	PCB-1260	**0.035J**	0.36	0.0031

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*102*	*45-135*
Tetrachloro-m-xylene	*87*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-183**	Sampled:	11/01/12 10:45
Lab Sample ID:	**1211039-09**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.72U	0.72	0.052
71-43-2	Benzene	0.048U	0.048	0.0068
75-27-4	Bromodichloromethane	0.048U	0.048	0.0065
75-25-2	Bromoform	0.048U	0.048	0.012
*74-83-9	Bromomethane	0.048U	0.048	0.021
75-15-0	Carbon Disulfide	0.24U	0.24	0.011
56-23-5	Carbon Tetrachloride	0.048U	0.048	0.016
108-90-7	Chlorobenzene	0.048U	0.048	0.0081
*75-00-3	Chloroethane	0.048U	0.048	0.017
67-66-3	Chloroform	0.048U	0.048	0.0081
74-87-3	Chloromethane	0.048U	0.048	0.019
110-82-7	Cyclohexane	0.24U	0.24	0.023
96-12-8	1,2-Dibromo-3-chloropropane	0.24U	0.24	0.025
124-48-1	Dibromochloromethane	0.048U	0.048	0.0073
106-93-4	1,2-Dibromoethane	0.048U	0.048	0.016
95-50-1	1,2-Dichlorobenzene	0.048U	0.048	0.011
541-73-1	1,3-Dichlorobenzene	0.048U	0.048	0.011
106-46-7	1,4-Dichlorobenzene	0.048U	0.048	0.012
75-71-8	Dichlorodifluoromethane	0.048U	0.048	0.010
75-34-3	1,1-Dichloroethane	0.048U	0.048	0.011
107-06-2	1,2-Dichloroethane	0.048U	0.048	0.010
75-35-4	1,1-Dichloroethene	0.048U	0.048	0.010
156-59-2	cis-1,2-Dichloroethene	0.048U	0.048	0.011
156-60-5	trans-1,2-Dichloroethene	0.048U	0.048	0.011
78-87-5	1,2-Dichloropropane	0.048U	0.048	0.013
10061-01-5	cis-1,3-Dichloropropene	0.048U	0.048	0.0092
10061-02-6	trans-1,3-Dichloropropene	0.048U	0.048	0.0091
100-41-4	Ethylbenzene	0.048U	0.048	0.0099
591-78-6	2-Hexanone	2.4U	2.4	0.024

Continued on next page

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-183**	Sampled:	11/01/12 10:45
Lab Sample ID:	**1211039-09**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	92		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.048U	0.048	0.011
*79-20-9	Methyl Acetate	0.24U	0.24	0.031
1634-04-4	Methyl tert-Butyl Ether	0.048U	0.048	0.0092
108-87-2	Methylcyclohexane	**0.043J**	0.24	0.018
75-09-2	Methylene Chloride	0.096U	0.096	0.026
78-93-3	2-Butanone (MEK)	0.72U	0.72	0.061
108-10-1	4-Methyl-2-pentanone (MIBK)	2.4U	2.4	0.019
100-42-5	Styrene	0.048U	0.048	0.0099
79-34-5	1,1,2,2-Tetrachloroethane	0.048U	0.048	0.012
127-18-4	Tetrachloroethene	0.048U	0.048	0.013
108-88-3	Toluene	**0.013J**	0.048	0.011
120-82-1	1,2,4-Trichlorobenzene	0.048U	0.048	0.0068
71-55-6	1,1,1-Trichloroethane	0.048U	0.048	0.0067
79-00-5	1,1,2-Trichloroethane	0.048U	0.048	0.015
79-01-6	Trichloroethene	**0.40**	0.048	0.010
*75-69-4	Trichlorofluoromethane	0.048U	0.048	0.013
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.048U	0.048	0.017
75-01-4	Vinyl Chloride	0.039U	0.039	0.0081
1330-20-7	Xylene (Total)	**0.028J**	0.14	0.019

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-183**	Sampled:	11/01/12 10:45
Lab Sample ID:	**1211039-09**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	92		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.20J**	1.8	0.0086
208-96-8	Acenaphthylene	1.8U	1.8	0.0090
120-12-7	Anthracene	**0.31J**	1.8	0.0093
56-55-3	Benzo(a)anthracene	**0.86J**	1.8	0.016
50-32-8	Benzo(a)pyrene	**0.66J**	1.8	0.0093
*205-99-2	Benzo(b)fluoranthene	**1.0J**	1.8	0.019
191-24-2	Benzo(g,h,i)perylene	**0.084J**	1.8	0.0090
*207-08-9	Benzo(k)fluoranthene	**0.41J**	1.8	0.024
218-01-9	Chrysene	**0.91J**	1.8	0.0093
53-70-3	Dibenz(a,h)anthracene	1.8U	1.8	0.014
206-44-0	Fluoranthene	**2.5**	1.8	0.0061
86-73-7	Fluorene	**0.11J**	1.8	0.0066
193-39-5	Indeno(1,2,3-cd)pyrene	**0.18J**	1.8	0.034
91-57-6	2-Methylnaphthalene	**0.066J**	1.8	0.015
91-20-3	Naphthalene	**0.029J**	1.8	0.0056
85-01-8	Phenanthrene	**1.9**	1.8	0.0079
129-00-0	Pyrene	**1.7J**	1.8	0.013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*60*	*33-131*
2-Fluorobiphenyl	*74*	*46-122*
o-Terphenyl	*79*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-183**	Sampled:	11/01/12 10:45
Lab Sample ID:	**1211039-09**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	92		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**2.3**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:09	CKD	1213761
Arsenic	**3.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:24	CKD	1213614
Barium	**53**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:15	CKD	1213614
Beryllium	**0.20**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Cadmium	**0.48**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Chromium	**33**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:15	CKD	1213614
Cobalt	**3.3**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Copper	**31**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:15	CKD	1213614
Iron	**7100**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 09:21	KLV	1213704
Lead	**62**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:15	CKD	1213614
Manganese	**220**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 11:11	CKD	1213614
Molybdenum	**5.8**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Mercury	**0.018**	J	0.047	0.0058	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:17	CKD	1213639
Nickel	**35**		10	0.16	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:15	CKD	1213614
Selenium	**0.26**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:24	CKD	1213614
Silver	**0.22**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Thallium	**0.072**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Vanadium	**8.6**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:37	DSC	1213614
Zinc	**120**		25	7.0	mg/kg dry wt.	25	USEPA-6020A	11/14/12 11:11	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-183**	Sampled:	11/01/12 10:45
Lab Sample ID:	**1211039-09**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**92**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-184**	Sampled:	11/01/12 10:55
Lab Sample ID:	**1211039-10**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0074
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	0.35U	0.35	0.0030

Surrogates:	*% Recovery*	*Control Limits*
Decachlorobiphenyl	*100*	*45-135*
Tetrachloro-m-xylene	*106*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

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Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-184**	Sampled:	11/01/12 10:55
Lab Sample ID:	**1211039-10**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	0.80U	0.80	0.058
71-43-2	Benzene	0.053U	0.053	0.0076
75-27-4	Bromodichloromethane	0.053U	0.053	0.0072
75-25-2	Bromoform	0.053U	0.053	0.014
*74-83-9	Bromomethane	0.053U	0.053	0.023
75-15-0	Carbon Disulfide	0.27U	0.27	0.012
56-23-5	Carbon Tetrachloride	0.053U	0.053	0.018
108-90-7	Chlorobenzene	0.053U	0.053	0.0090
*75-00-3	Chloroethane	0.053U	0.053	0.019
67-66-3	Chloroform	0.053U	0.053	0.0090
74-87-3	Chloromethane	0.053U	0.053	0.021
110-82-7	Cyclohexane	0.27U	0.27	0.025
96-12-8	1,2-Dibromo-3-chloropropane	0.27U	0.27	0.027
124-48-1	Dibromochloromethane	0.053U	0.053	0.0081
106-93-4	1,2-Dibromoethane	0.053U	0.053	0.017
95-50-1	1,2-Dichlorobenzene	0.053U	0.053	0.013
541-73-1	1,3-Dichlorobenzene	0.053U	0.053	0.013
106-46-7	1,4-Dichlorobenzene	0.053U	0.053	0.013
75-71-8	Dichlorodifluoromethane	0.053U	0.053	0.011
75-34-3	1,1-Dichloroethane	0.053U	0.053	0.012
107-06-2	1,2-Dichloroethane	0.053U	0.053	0.011
75-35-4	1,1-Dichloroethene	0.053U	0.053	0.011
156-59-2	cis-1,2-Dichloroethene	0.053U	0.053	0.012
156-60-5	trans-1,2-Dichloroethene	0.053U	0.053	0.012
78-87-5	1,2-Dichloropropane	0.053U	0.053	0.015
10061-01-5	cis-1,3-Dichloropropene	0.053U	0.053	0.010
10061-02-6	trans-1,3-Dichloropropene	0.053U	0.053	0.010
100-41-4	Ethylbenzene	0.053U	0.053	0.011
591-78-6	2-Hexanone	2.7U	2.7	0.026

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ANALYTICAL REPORT

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Client Sample ID:	**S-17360-110112-DD-184**	Sampled:	11/01/12 10:55
Lab Sample ID:	**1211039-10**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/8/2012 By: DLV
Dilution Factor:	1	Analyzed:	11/09/12 By: DLV
QC Batch:	1213739	Analytical Batch:	2K09008
Percent Solids:	94		

Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	0.053U	0.053	0.012
*79-20-9	Methyl Acetate	0.27U	0.27	0.034
1634-04-4	Methyl tert-Butyl Ether	0.053U	0.053	0.010
108-87-2	Methylcyclohexane	0.27U	0.27	0.020
75-09-2	Methylene Chloride	**0.10J**	0.11	0.029
78-93-3	2-Butanone (MEK)	0.80U	0.80	0.068
108-10-1	4-Methyl-2-pentanone (MIBK)	2.7U	2.7	0.021
100-42-5	Styrene	0.053U	0.053	0.011
79-34-5	1,1,2,2-Tetrachloroethane	0.053U	0.053	0.014
127-18-4	Tetrachloroethene	0.053U	0.053	0.015
108-88-3	Toluene	0.053U	0.053	0.012
120-82-1	1,2,4-Trichlorobenzene	0.053U	0.053	0.0075
71-55-6	1,1,1-Trichloroethane	0.053U	0.053	0.0074
79-00-5	1,1,2-Trichloroethane	0.053U	0.053	0.017
79-01-6	Trichloroethene	0.053U	0.053	0.011
*75-69-4	Trichlorofluoromethane	0.053U	0.053	0.014
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.053U	0.053	0.019
75-01-4	Vinyl Chloride	0.043U	0.043	0.0090
1330-20-7	Xylene (Total)	0.16U	0.16	0.021

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-123*
1,2-Dichloroethane-d4	*97*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*81-117*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-184**	Sampled:	11/01/12 10:55
Lab Sample ID:	**1211039-10**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	94		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.0022J**	0.35	0.00085
208-96-8	Acenaphthylene	0.35U	0.35	0.00088
120-12-7	Anthracene	**0.012J**	0.35	0.00091
56-55-3	Benzo(a)anthracene	**0.026J**	0.35	0.0015
50-32-8	Benzo(a)pyrene	**0.017J**	0.35	0.00091
*205-99-2	Benzo(b)fluoranthene	**0.029J**	0.35	0.0018
191-24-2	Benzo(g,h,i)perylene	0.35U	0.35	0.00088
*207-08-9	Benzo(k)fluoranthene	**0.013J**	0.35	0.0024
218-01-9	Chrysene	**0.031J**	0.35	0.00091
53-70-3	Dibenz(a,h)anthracene	0.35U	0.35	0.0014
206-44-0	Fluoranthene	**0.062J**	0.35	0.00060
86-73-7	Fluorene	**0.0025J**	0.35	0.00065
*193-39-5	Indeno(1,2,3-cd)pyrene	0.35U	0.35	0.0033
91-57-6	2-Methylnaphthalene	**0.0022J**	0.35	0.0014
91-20-3	Naphthalene	**0.0018J**	0.35	0.00055
85-01-8	Phenanthrene	**0.035J**	0.35	0.00077
129-00-0	Pyrene	**0.048J**	0.35	0.0013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*65*	*33-131*
2-Fluorobiphenyl	*81*	*46-122*
o-Terphenyl	*85*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-184**	Sampled:	11/01/12 10:55
Lab Sample ID:	**1211039-10**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	94		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.17**		0.093	0.023	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:11	CKD	1213761
Arsenic	**0.43**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:27	CKD	1213614
Barium	**7.3**		1.0	0.012	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Beryllium	**0.050**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Cadmium	**0.13**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Chromium	**7.0**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Cobalt	**5.8**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Copper	**4.2**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Iron	**2800**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 09:28	KLV	1213704
Lead	**3.9**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Manganese	**30**		5.0	0.12	mg/kg dry wt.	5	USEPA-6020A	11/14/12 11:19	CKD	1213614
Molybdenum	**1.1**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:22	CKD	1213639
Nickel	**9.0**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Selenium	**0.14**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:27	CKD	1213614
Silver	**0.086**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Thallium	**0.043**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Vanadium	**5.1**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:41	DSC	1213614
Zinc	**13**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/14/12 11:19	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-184**	Sampled:	11/01/12 10:55
Lab Sample ID:	**1211039-10**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-185**	Sampled:	11/01/12 11:50
Lab Sample ID:	**1211039-11**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	5	Analyzed:	11/19/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	88		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
*12674-11-2	PCB-1016	0.37U	0.37	0.0097
*11104-28-2	PCB-1221	0.37U	0.37	0.012
*11141-16-5	PCB-1232	0.37U	0.37	0.012
*53469-21-9	PCB-1242	0.37U	0.37	0.039
*12672-29-6	PCB-1248	0.37U	0.37	0.014
*11097-69-1	PCB-1254	0.37U	0.37	0.019
11096-82-5	PCB-1260	**0.24J**	0.37	0.016

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*84*	*45-135*
Tetrachloro-m-xylene	*68*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-185**	Sampled:	11/01/12 11:50
Lab Sample ID:	**1211039-11**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	80	Analyzed:	11/17/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K18006
Percent Solids:	88		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.094J**	15	0.072
208-96-8	Acenaphthylene	15U	15	0.075
120-12-7	Anthracene	**0.25J**	15	0.078
56-55-3	Benzo(a)anthracene	**1.9J**	15	0.13
50-32-8	Benzo(a)pyrene	**2.2J**	15	0.078
*205-99-2	Benzo(b)fluoranthene	**4.0J**	15	0.16
191-24-2	Benzo(g,h,i)perylene	15U	15	0.075
*207-08-9	Benzo(k)fluoranthene	**1.4J**	15	0.20
218-01-9	Chrysene	**2.6J**	15	0.078
53-70-3	Dibenz(a,h)anthracene	15U	15	0.12
206-44-0	Fluoranthene	**4.7J**	15	0.051
86-73-7	Fluorene	**0.094J**	15	0.055
193-39-5	Indeno(1,2,3-cd)pyrene	15U	15	0.28
91-57-6	2-Methylnaphthalene	15U	15	0.12
91-20-3	Naphthalene	15U	15	0.047
85-01-8	Phenanthrene	**1.5J**	15	0.066
129-00-0	Pyrene	**4.2J**	15	0.11

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-185**	Sampled:	11/01/12 11:50
Lab Sample ID:	**1211039-11**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	88		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
*Antimony	**0.90**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/15/12 09:16	DSC	1213941
Arsenic	**4.9**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:30	CKD	1213614
*Barium	**78**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:42	CKD	1213614
*Beryllium	**0.28**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:46	DSC	1213614
Cadmium	**0.89**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:46	DSC	1213614
*Chromium	**32**		10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:42	CKD	1213614
Cobalt	**4.2**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:46	DSC	1213614
*Copper	**72**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:42	CKD	1213614
*Iron	**16000**		460	57	mg/kg dry wt.	100	USEPA-6010C	11/09/12 11:22	KLV	1213704
*Lead	**91**		25	0.16	mg/kg dry wt.	25	USEPA-6020A	11/14/12 15:33	CKD	1213614
*Manganese	**370**		100	2.3	mg/kg dry wt.	100	USEPA-6020A	11/14/12 11:23	CKD	1213614
Molybdenum	**3.6**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:46	DSC	1213614
Mercury	**0.026**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:39	CKD	1213639
*Nickel	**18**		10	0.16	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:42	CKD	1213614
*Selenium	**0.30**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:30	CKD	1213614
Silver	**0.12**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:46	DSC	1213614
*Thallium	**0.069**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 18:46	DSC	1213614
*Vanadium	**19**		1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/14/12 11:42	CKD	1213614
*Zinc	**750**		100	28	mg/kg dry wt.	100	USEPA-6020A	11/14/12 11:23	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-185**	Sampled:	11/01/12 11:50
Lab Sample ID:	**1211039-11**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**88**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-186**	Sampled:	11/01/12 11:55
Lab Sample ID:	**1211039-12**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	100	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	93		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	1.4U	1.4	0.18
11104-28-2	PCB-1221	1.4U	1.4	0.23
11141-16-5	PCB-1232	1.4U	1.4	0.23
53469-21-9	PCB-1242	1.4U	1.4	0.74
12672-29-6	PCB-1248	1.4U	1.4	0.27
11097-69-1	PCB-1254	1.4U	1.4	0.37
11096-82-5	PCB-1260	**23**	1.4	0.30

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-186**	Sampled:	11/01/12 11:55
Lab Sample ID:	**1211039-12**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	93		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.015J**	1.8	0.0085
208-96-8	Acenaphthylene	1.8U	1.8	0.0089
120-12-7	Anthracene	**0.093J**	1.8	0.0092
56-55-3	Benzo(a)anthracene	**1.5J**	1.8	0.015
50-32-8	Benzo(a)pyrene	**1.6J**	1.8	0.0092
*205-99-2	Benzo(b)fluoranthene	**2.6**	1.8	0.018
191-24-2	Benzo(g,h,i)perylene	**0.38J**	1.8	0.0089
*207-08-9	Benzo(k)fluoranthene	**1.5J**	1.8	0.024
218-01-9	Chrysene	**1.9**	1.8	0.0092
*53-70-3	Dibenz(a,h)anthracene	**0.12J**	1.8	0.014
206-44-0	Fluoranthene	**2.6**	1.8	0.0060
86-73-7	Fluorene	**0.011J**	1.8	0.0065
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.51J**	1.8	0.033
91-57-6	2-Methylnaphthalene	1.8U	1.8	0.015
91-20-3	Naphthalene	1.8U	1.8	0.0055
85-01-8	Phenanthrene	**0.54J**	1.8	0.0078
129-00-0	Pyrene	**2.0**	1.8	0.013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*60*	*33-131*
2-Fluorobiphenyl	*71*	*46-122*
o-Terphenyl	*76*	*20-155*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-186**	Sampled:	11/01/12 11:55
Lab Sample ID:	**1211039-12**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.88**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:32	CKD	1213761
Arsenic	**3.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:52	CKD	1213614
Barium	**28**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:05	CKD	1213614
Beryllium	**0.16**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Cadmium	**1.2**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Chromium	**8.9**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Cobalt	**2.2**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Copper	**31**		10	0.25	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:05	CKD	1213614
Iron	**9000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 09:47	KLV	1213704
Lead	**47**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:05	CKD	1213614
Manganese	**170**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 12:02	CKD	1213614
Molybdenum	**1.0**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:54	CKD	1213639
Nickel	**7.1**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Selenium	**0.096**	J	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:52	CKD	1213614
Silver	**0.065**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Thallium	**0.055**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:52	CKD	1213614
Vanadium	**7.6**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:17	DSC	1213614
Zinc	**69**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:05	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-186**	Sampled:	11/01/12 11:55
Lab Sample ID:	**1211039-12**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-187**	Sampled:	11/01/12 12:00
Lab Sample ID:	**1211039-13**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	40	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	83		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.63U	0.63	0.082
11104-28-2	PCB-1221	0.63U	0.63	0.10
11141-16-5	PCB-1232	0.63U	0.63	0.10
53469-21-9	PCB-1242	0.63U	0.63	0.33
12672-29-6	PCB-1248	0.63U	0.63	0.12
11097-69-1	PCB-1254	0.63U	0.63	0.16
11096-82-5	PCB-1260	**6.1**	0.63	0.14

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-187**	Sampled:	11/01/12 12:00
Lab Sample ID:	**1211039-13**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	83		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.017J**	2.0	0.0096
208-96-8	Acenaphthylene	2.0U	2.0	0.010
120-12-7	Anthracene	**0.050J**	2.0	0.010
56-55-3	Benzo(a)anthracene	**0.44J**	2.0	0.017
50-32-8	Benzo(a)pyrene	**0.44J**	2.0	0.010
*205-99-2	Benzo(b)fluoranthene	**0.85J**	2.0	0.021
191-24-2	Benzo(g,h,i)perylene	2.0U	2.0	0.010
*207-08-9	Benzo(k)fluoranthene	**0.36J**	2.0	0.027
218-01-9	Chrysene	**0.63J**	2.0	0.010
53-70-3	Dibenz(a,h)anthracene	**0.021J**	2.0	0.015
206-44-0	Fluoranthene	**0.90J**	2.0	0.0068
86-73-7	Fluorene	**0.013J**	2.0	0.0073
*193-39-5	Indeno(1,2,3-cd)pyrene	**0.079J**	2.0	0.037
91-57-6	2-Methylnaphthalene	**0.050J**	2.0	0.016
91-20-3	Naphthalene	**0.038J**	2.0	0.0062
85-01-8	Phenanthrene	**0.35J**	2.0	0.0088
129-00-0	Pyrene	**0.63J**	2.0	0.015

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*80*	*33-131*
2-Fluorobiphenyl	*98*	*46-122*
o-Terphenyl	*103*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-187**	Sampled:	11/01/12 12:00
Lab Sample ID:	**1211039-13**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	83		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**9.7**	0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:35	CKD	1213761
Arsenic	**8.3**	0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:56	CKD	1213614
Barium	**180**	100	1.2	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:09	CKD	1213614
Beryllium	**0.55**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:21	DSC	1213614
Cadmium	**7.5**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:21	DSC	1213614
Chromium	**37**	10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:13	CKD	1213614
Cobalt	**8.2**	1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:21	DSC	1213614
Copper	**350**	100	2.5	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:09	CKD	1213614
Iron	**52000**	120	15	mg/kg dry wt.	25	USEPA-6010C	11/09/12 09:53	KLV	1213704
Lead	**470**	100	0.66	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:09	CKD	1213614
Manganese	**270**	100	2.3	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:09	CKD	1213614
Molybdenum	**11**	5.0	0.040	mg/kg dry wt.	5	USEPA-6020A	11/14/12 19:39	CKD	1213614
Mercury	**0.12**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 15:59	CKD	1213639
Nickel	**46**	10	0.16	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:13	CKD	1213614
Selenium	**0.49**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:56	CKD	1213614
Silver	**0.84**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:21	DSC	1213614
Thallium	**0.087**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:56	CKD	1213614
Vanadium	**19**	1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:13	CKD	1213614
Zinc	**440**	100	28	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:09	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-187**	Sampled:	11/01/12 12:00
Lab Sample ID:	**1211039-13**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**83**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-188**	Sampled:	11/01/12 12:05
Lab Sample ID:	**1211039-14**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	50	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	84		

*Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.78U	0.78	0.10
11104-28-2	PCB-1221	0.78U	0.78	0.13
11141-16-5	PCB-1232	0.78U	0.78	0.13
53469-21-9	PCB-1242	0.78U	0.78	0.41
12672-29-6	PCB-1248	0.78U	0.78	0.15
11097-69-1	PCB-1254	0.78U	0.78	0.20
11096-82-5	PCB-1260	**12**	0.78	0.17

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-188**	Sampled:	11/01/12 12:05
Lab Sample ID:	**1211039-14**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	84		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	2.0U	2.0	0.0095
208-96-8	Acenaphthylene	2.0U	2.0	0.0099
120-12-7	Anthracene	**0.025J**	2.0	0.010
56-55-3	Benzo(a)anthracene	**0.30J**	2.0	0.017
50-32-8	Benzo(a)pyrene	**0.32J**	2.0	0.010
*205-99-2	Benzo(b)fluoranthene	**0.63J**	2.0	0.020
191-24-2	Benzo(g,h,i)perylene	2.0U	2.0	0.0099
*207-08-9	Benzo(k)fluoranthene	**0.22J**	2.0	0.027
218-01-9	Chrysene	**0.43J**	2.0	0.010
*53-70-3	Dibenz(a,h)anthracene	2.0U	2.0	0.015
206-44-0	Fluoranthene	**0.51J**	2.0	0.0067
86-73-7	Fluorene	**0.0083J**	2.0	0.0072
193-39-5	Indeno(1,2,3-cd)pyrene	**0.066J**	2.0	0.037
91-57-6	2-Methylnaphthalene	**0.050J**	2.0	0.016
91-20-3	Naphthalene	**0.033J**	2.0	0.0061
85-01-8	Phenanthrene	**0.20J**	2.0	0.0087
129-00-0	Pyrene	**0.43J**	2.0	0.014

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*67*	*33-131*
2-Fluorobiphenyl	*78*	*46-122*
o-Terphenyl	*82*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-188**	Sampled:	11/01/12 12:05
Lab Sample ID:	**1211039-14**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	84		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**11**	0.50	0.12	mg/kg dry wt.	5	USEPA-6020A	11/12/12 16:19	CKD	1213761
Arsenic	**10**	0.50	0.082	mg/kg dry wt.	5	USEPA-6020A	11/14/12 19:36	CKD	1213614
Barium	**180**	100	1.2	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:17	CKD	1213614
Beryllium	**0.50**	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:26	DSC	1213614
Cadmium	**6.3**	0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:26	DSC	1213614
Chromium	**40**	10	0.14	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:29	CKD	1213614
Cobalt	**9.6**	1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:26	DSC	1213614
Copper	**570**	100	2.5	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:17	CKD	1213614
Iron	**48000**	120	15	mg/kg dry wt.	25	USEPA-6010C	11/09/12 10:00	KLV	1213704
Lead	**530**	100	0.66	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:17	CKD	1213614
Manganese	**340**	100	2.3	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:17	CKD	1213614
Molybdenum	**12**	5.0	0.040	mg/kg dry wt.	5	USEPA-6020A	11/14/12 19:36	CKD	1213614
Mercury	**0.15**	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:04	CKD	1213639
Nickel	**64**	10	0.16	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:29	CKD	1213614
Selenium	**0.32**	0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:59	CKD	1213614
Silver	**1.8**	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:26	DSC	1213614
Thallium	**0.078**	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 18:59	CKD	1213614
Vanadium	**24**	1.0	0.097	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:29	CKD	1213614
Zinc	**670**	100	28	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:17	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-188**	Sampled:	11/01/12 12:05
Lab Sample ID:	**1211039-14**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**84**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-189**	Sampled:	11/01/12 12:10
Lab Sample ID:	**1211039-15**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	89		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.37U	0.37	0.0019
11104-28-2	PCB-1221	0.37U	0.37	0.0024
11141-16-5	PCB-1232	0.37U	0.37	0.0024
53469-21-9	PCB-1242	0.37U	0.37	0.0078
12672-29-6	PCB-1248	0.37U	0.37	0.0028
11097-69-1	PCB-1254	0.37U	0.37	0.0038
11096-82-5	PCB-1260	**0.20J**	0.37	0.0032

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*103*	*45-135*
Tetrachloro-m-xylene	*104*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-189**	Sampled:	11/01/12 12:10
Lab Sample ID:	**1211039-15**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	89		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.016J**	1.9	0.0089
208-96-8	Acenaphthylene	1.9U	1.9	0.0093
120-12-7	Anthracene	**0.039J**	1.9	0.0097
56-55-3	Benzo(a)anthracene	**0.22J**	1.9	0.016
50-32-8	Benzo(a)pyrene	**0.20J**	1.9	0.0097
*205-99-2	Benzo(b)fluoranthene	**0.28J**	1.9	0.019
191-24-2	Benzo(g,h,i)perylene	1.9U	1.9	0.0093
*207-08-9	Benzo(k)fluoranthene	**0.14J**	1.9	0.025
218-01-9	Chrysene	**0.25J**	1.9	0.0097
53-70-3	Dibenz(a,h)anthracene	1.9U	1.9	0.014
206-44-0	Fluoranthene	**0.44J**	1.9	0.0063
86-73-7	Fluorene	**0.012J**	1.9	0.0068
193-39-5	Indeno(1,2,3-cd)pyrene	1.9U	1.9	0.035
91-57-6	2-Methylnaphthalene	1.9U	1.9	0.015
91-20-3	Naphthalene	1.9U	1.9	0.0058
85-01-8	Phenanthrene	**0.21J**	1.9	0.0082
129-00-0	Pyrene	**0.33J**	1.9	0.014

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*65*	*33-131*
2-Fluorobiphenyl	*74*	*46-122*
o-Terphenyl	*77*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-189**	Sampled:	11/01/12 12:10
Lab Sample ID:	**1211039-15**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	89		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.29**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:40	CKD	1213761
Arsenic	**2.3**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:02	CKD	1213614
Barium	**26**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:37	CKD	1213614
Beryllium	**0.14**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Cadmium	**0.45**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Chromium	**5.8**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Cobalt	**1.8**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Copper	**7.0**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Iron	**5300**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:04	KLV	1213704
Lead	**10**		10	0.066	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:37	CKD	1213614
Manganese	**120**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 12:33	CKD	1213614
Molybdenum	**0.36**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Mercury	**0.013**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:10	CKD	1213639
Nickel	**6.1**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Selenium	**0.15**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:02	CKD	1213614
Silver	**0.030**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Thallium	**0.040**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Vanadium	**7.4**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/13/12 19:30	DSC	1213614
Zinc	**64**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/14/12 12:37	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-189**	Sampled:	11/01/12 12:10
Lab Sample ID:	**1211039-15**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**89**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-190**	Sampled:	11/01/12 12:15
Lab Sample ID:	**1211039-16**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213735	Analytical Batch:	2K15015
Percent Solids:	57		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.58U	0.58	0.0030
11104-28-2	PCB-1221	0.58U	0.58	0.0037
11141-16-5	PCB-1232	0.58U	0.58	0.0037
53469-21-9	PCB-1242	0.58U	0.58	0.012
12672-29-6	PCB-1248	0.58U	0.58	0.0044
11097-69-1	PCB-1254	0.58U	0.58	0.0060
11096-82-5	PCB-1260	**0.0097J**	0.58	0.0049

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*82*	*45-135*
Tetrachloro-m-xylene	*85*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-190**	Sampled:	11/01/12 12:15
Lab Sample ID:	**1211039-16**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201[illegible] By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	57		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.58U	0.58	0.0014
208-96-8	Acenaphthylene	0.58U	0.58	0.0015
120-12-7	Anthracene	**0.0017J**	0.58	0.0015
56-55-3	Benzo(a)anthracene	**0.011J**	0.58	0.0025
50-32-8	Benzo(a)pyrene	**0.012J**	0.58	0.0015
*205-99-2	Benzo(b)fluoranthene	**0.019J**	0.58	0.0030
191-24-2	Benzo(g,h,i)perylene	0.58U	0.58	0.0015
*207-08-9	Benzo(k)fluoranthene	**0.0064J**	0.58	0.0039
218-01-9	Chrysene	**0.011J**	0.58	0.0015
53-70-3	Dibenz(a,h)anthracene	0.58U	0.58	0.0022
206-44-0	Fluoranthene	**0.017J**	0.58	0.00099
86-73-7	Fluorene	0.58U	0.58	0.0011
193-39-5	Indeno(1,2,3-cd)pyrene	0.58U	0.58	0.0054
91-57-6	2-Methylnaphthalene	0.58U	0.58	0.0024
91-20-3	Naphthalene	**0.0017J**	0.58	0.00090
85-01-8	Phenanthrene	**0.0087J**	0.58	0.0013
129-00-0	Pyrene	**0.015J**	0.58	0.0021

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*65*	*33-131*
2-Fluorobiphenyl	*76*	*46-122*
o-Terphenyl	*77*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-190**	Sampled:	11/01/12 12:15
Lab Sample ID:	**1211039-16**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	57		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.70**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:42	CKD	1213761
Arsenic	**7.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:05	CKD	1213614
Barium	**120**		25	0.30	mg/kg dry wt.	25	USEPA-6020A	11/14/12 12:40	CKD	1213614
Beryllium	**0.15**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Cadmium	**0.45**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Chromium	**15**		5.0	0.070	mg/kg dry wt.	5	USEPA-6020A	11/14/12 12:44	CKD	1213614
Cobalt	**1.6**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Copper	**17**		5.0	0.13	mg/kg dry wt.	5	USEPA-6020A	11/14/12 12:44	CKD	1213614
Iron	**8900**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:10	KLV	1213704
Lead	**4.4**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Manganese	**130**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 12:40	CKD	1213614
Molybdenum	**2.2**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Mercury	**0.014**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:15	CKD	1213639
Nickel	**8.1**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Selenium	**3.4**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Silver	**0.048**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Thallium	**0.098**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:41	CKD	1213614
Vanadium	**10**		0.50	0.048	mg/kg dry wt.	5	USEPA-6020A	11/14/12 12:44	CKD	1213614
Zinc	**42**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/14/12 12:44	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-190**	Sampled:	11/01/12 12:15
Lab Sample ID:	**1211039-16**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**57**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-191**	Sampled:	11/01/12 12:50
Lab Sample ID:	**1211039-17**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/20/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	94		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.35U	0.35	0.0018
11104-28-2	PCB-1221	0.35U	0.35	0.0022
11141-16-5	PCB-1232	0.35U	0.35	0.0022
53469-21-9	PCB-1242	0.35U	0.35	0.0073
12672-29-6	PCB-1248	0.35U	0.35	0.0027
11097-69-1	PCB-1254	0.35U	0.35	0.0036
11096-82-5	PCB-1260	**0.039J**	0.35	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*72*	*45-135*
Tetrachloro-m-xylene	*77*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-191**	Sampled:	11/01/12 12:50
Lab Sample ID:	**1211039-17**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	80	Analyzed:	11/17/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K18006
Percent Solids:	94		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	14U	14	0.067
208-96-8	Acenaphthylene	14U	14	0.070
120-12-7	Anthracene	**0.11J**	14	0.073
56-55-3	Benzo(a)anthracene	**1.1J**	14	0.12
50-32-8	Benzo(a)pyrene	**1.1J**	14	0.073
*205-99-2	Benzo(b)fluoranthene	**1.8J**	14	0.15
191-24-2	Benzo(g,h,i)perylene	14U	14	0.070
*207-08-9	Benzo(k)fluoranthene	**0.65J**	14	0.19
218-01-9	Chrysene	**1.4J**	14	0.073
53-70-3	Dibenz(a,h)anthracene	14U	14	0.11
206-44-0	Fluoranthene	**2.4J**	14	0.048
86-73-7	Fluorene	14U	14	0.051
193-39-5	Indeno(1,2,3-cd)pyrene	14U	14	0.26
91-57-6	2-Methylnaphthalene	14U	14	0.11
91-20-3	Naphthalene	14U	14	0.043
85-01-8	Phenanthrene	**0.73J**	14	0.062
129-00-0	Pyrene	**1.9J**	14	0.10

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-191**	Sampled:	11/01/12 12:50
Lab Sample ID:	**1211039-17**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	94		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.84**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:50	CKD	1213761
Arsenic	**2.2**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:08	CKD	1213614
Barium	**27**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:04	CKD	1213614
Beryllium	**0.18**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Cadmium	**2.0**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Chromium	**13**		5.0	0.070	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:04	CKD	1213614
Cobalt	**2.5**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Copper	**440**		100	2.5	mg/kg dry wt.	100	USEPA-6020A	11/14/12 12:56	CKD	1213614
Iron	**6400**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:16	KLV	1213704
Lead	**47**		5.0	0.033	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:04	CKD	1213614
Manganese	**160**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 13:00	CKD	1213614
Molybdenum	**1.7**		1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Mercury	**0.0078**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:20	CKD	1213639
Nickel	**9.3**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Selenium	**0.26**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Silver	**0.099**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Thallium	**0.050**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:46	CKD	1213614
Vanadium	**8.8**		0.50	0.048	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:04	CKD	1213614
Zinc	**10000**		2000	560	mg/kg dry wt.	2000	USEPA-6020A	11/14/12 15:53	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-191**	Sampled:	11/01/12 12:50
Lab Sample ID:	**1211039-17**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**94**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-192**	Sampled:	11/01/12 12:55
Lab Sample ID:	**1211039-18**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213735	Analytical Batch:	2K15015
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0074
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	0.36U	0.36	0.0037
11096-82-5	PCB-1260	**0.0081J**	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*82*	*45-135*
Tetrachloro-m-xylene	*90*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-192**	Sampled:	11/01/12 12:55
Lab Sample ID:	**1211039-18**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	93		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.36U	0.36	0.00085
208-96-8	Acenaphthylene	0.36U	0.36	0.00089
120-12-7	Anthracene	**0.0024J**	0.36	0.00092
56-55-3	Benzo(a)anthracene	**0.026J**	0.36	0.0016
50-32-8	Benzo(a)pyrene	**0.029J**	0.36	0.00092
*205-99-2	Benzo(b)fluoranthene	**0.057J**	0.36	0.0018
191-24-2	Benzo(g,h,i)perylene	0.36U	0.36	0.00089
*207-08-9	Benzo(k)fluoranthene	**0.023J**	0.36	0.0024
218-01-9	Chrysene	**0.034J**	0.36	0.00092
53-70-3	Dibenz(a,h)anthracene	0.36U	0.36	0.0014
206-44-0	Fluoranthene	**0.045J**	0.36	0.00060
86-73-7	Fluorene	**0.00070J**	0.36	0.00065
193-39-5	Indeno(1,2,3-cd)pyrene	0.36U	0.36	0.0033
91-57-6	2-Methylnaphthalene	0.36U	0.36	0.0015
91-20-3	Naphthalene	**0.0010J**	0.36	0.00055
85-01-8	Phenanthrene	**0.015J**	0.36	0.00078
129-00-0	Pyrene	**0.038J**	0.36	0.0013

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*65*	*33-131*
2-Fluorobiphenyl	*78*	*46-122*
o-Terphenyl	*80*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-192**	Sampled:	11/01/12 12:55
Lab Sample ID:	**1211039-18**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.42**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:53	CKD	1213761
Arsenic	**1.4**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:11	CKD	1213614
Barium	**21**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:19	CKD	1213614
Beryllium	**0.14**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Cadmium	**0.44**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Chromium	**4.8**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Cobalt	**1.6**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Copper	**13**		5.0	0.13	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:19	CKD	1213614
Iron	**4100**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:23	KLV	1213704
Lead	**9.1**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Manganese	**100**		25	0.58	mg/kg dry wt.	25	USEPA-6020A	11/14/12 13:08	CKD	1213614
Molybdenum	**0.26**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Mercury	0.050	U	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:25	CKD	1213639
Nickel	**4.9**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Selenium	**0.15**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Silver	**0.053**		0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Thallium	**0.033**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Vanadium	**6.7**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:50	CKD	1213614
Zinc	**20**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:19	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-192**	Sampled:	11/01/12 12:55
Lab Sample ID:	**1211039-18**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-193**	Sampled:	11/01/12 13:00
Lab Sample ID:	**1211039-19**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213735	Analytical Batch:	2K15015
Percent Solids:	93		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.36U	0.36	0.0018
11104-28-2	PCB-1221	0.36U	0.36	0.0023
11141-16-5	PCB-1232	0.36U	0.36	0.0023
53469-21-9	PCB-1242	0.36U	0.36	0.0075
12672-29-6	PCB-1248	0.36U	0.36	0.0027
11097-69-1	PCB-1254	0.36U	0.36	0.0037
11096-82-5	PCB-1260	0.36U	0.36	0.0030

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*84*	*45-135*
Tetrachloro-m-xylene	*89*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-193**	Sampled:	11/01/12 13:00
Lab Sample ID:	**1211039-19**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	5	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	93		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.90U	0.90	0.0043
208-96-8	Acenaphthylene	0.90U	0.90	0.0045
120-12-7	Anthracene	**0.011J**	0.90	0.0046
56-55-3	Benzo(a)anthracene	**0.11J**	0.90	0.0078
50-32-8	Benzo(a)pyrene	**0.093J**	0.90	0.0046
*205-99-2	Benzo(b)fluoranthene	**0.17J**	0.90	0.0092
191-24-2	Benzo(g,h,i)perylene	0.90U	0.90	0.0045
*207-08-9	Benzo(k)fluoranthene	**0.085J**	0.90	0.012
218-01-9	Chrysene	**0.13J**	0.90	0.0046
53-70-3	Dibenz(a,h)anthracene	0.90U	0.90	0.0069
206-44-0	Fluoranthene	**0.24J**	0.90	0.0030
86-73-7	Fluorene	0.90U	0.90	0.0033
193-39-5	Indeno(1,2,3-cd)pyrene	0.90U	0.90	0.017
91-57-6	2-Methylnaphthalene	0.90U	0.90	0.0073
91-20-3	Naphthalene	0.90U	0.90	0.0028
85-01-8	Phenanthrene	**0.082J**	0.90	0.0039
129-00-0	Pyrene	**0.20J**	0.90	0.0065

Surrogates:	*% Recovery*	*Control Limits*
Nitrobenzene-d5	*64*	*33-131*
2-Fluorobiphenyl	*82*	*46-122*
o-Terphenyl	*83*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-193**	Sampled:	11/01/12 13:00
Lab Sample ID:	**1211039-19**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	93		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.22**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:55	CKD	1213761
Arsenic	**1.2**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:15	CKD	1213614
Barium	**16**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 13:23	CKD	1213614
Beryllium	**0.14**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Cadmium	**0.19**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Chromium	**5.1**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Cobalt	**1.4**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Copper	**5.2**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Iron	**3900**		4.7	0.58	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:30	KLV	1213704
Lead	**5.0**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Manganese	**74**		10	0.23	mg/kg dry wt.	10	USEPA-6020A	11/14/12 13:23	CKD	1213614
Molybdenum	**0.47**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Mercury	**0.0071**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:41	CKD	1213639
Nickel	**3.6**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Selenium	**0.13**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Silver	**0.023**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Thallium	**0.049**	J	0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Vanadium	**6.3**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/14/12 08:55	CKD	1213614
Zinc	**12**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/14/12 13:23	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-193**	Sampled:	11/01/12 13:00
Lab Sample ID:	**1211039-19**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**93**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-194**	Sampled:	11/01/12 13:05
Lab Sample ID:	**1211039-20**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/19/12 By: MSZ
QC Batch:	1213735	Analytical Batch:	2K20024
Percent Solids:	87		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.38U	0.38	0.0019
11104-28-2	PCB-1221	0.38U	0.38	0.0024
11141-16-5	PCB-1232	0.38U	0.38	0.0024
53469-21-9	PCB-1242	0.38U	0.38	0.0079
12672-29-6	PCB-1248	0.38U	0.38	0.0029
11097-69-1	PCB-1254	0.38U	0.38	0.0039
11096-82-5	PCB-1260	**0.019J**	0.38	0.0032

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*80*	*45-135*
Tetrachloro-m-xylene	*85*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-194**	Sampled:	11/01/12 13:05
Lab Sample ID:	**1211039-20**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201: By: ALK
Dilution Factor:	10	Analyzed:	11/16/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K17019
Percent Solids:	87		

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	**0.019J**	1.9	0.0091
208-96-8	Acenaphthylene	1.9U	1.9	0.0094
120-12-7	Anthracene	**0.064J**	1.9	0.0098
56-55-3	Benzo(a)anthracene	**0.53J**	1.9	0.016
50-32-8	Benzo(a)pyrene	**0.45J**	1.9	0.0098
*205-99-2	Benzo(b)fluoranthene	**0.78J**	1.9	0.020
191-24-2	Benzo(g,h,i)perylene	1.9U	1.9	0.0094
*207-08-9	Benzo(k)fluoranthene	**0.19J**	1.9	0.025
218-01-9	Chrysene	**0.62J**	1.9	0.0098
53-70-3	Dibenz(a,h)anthracene	**0.030J**	1.9	0.015
206-44-0	Fluoranthene	**1.4J**	1.9	0.0064
86-73-7	Fluorene	**0.015J**	1.9	0.0069
193-39-5	Indeno(1,2,3-cd)pyrene	**0.060J**	1.9	0.035
91-57-6	2-Methylnaphthalene	**0.030J**	1.9	0.015
91-20-3	Naphthalene	**0.015J**	1.9	0.0059
85-01-8	Phenanthrene	**0.49J**	1.9	0.0083
129-00-0	Pyrene	**1.0J**	1.9	0.014

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*59*	*33-131*
2-Fluorobiphenyl	*67*	*46-122*
o-Terphenyl	*73*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-194**	Sampled:	11/01/12 13:05
Lab Sample ID:	**1211039-20**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	87		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.70**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 15:58	CKD	1213761
Arsenic	**6.2**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:18	CKD	1213614
Barium	**34**		10	0.12	mg/kg dry wt.	10	USEPA-6020A	11/14/12 13:27	CKD	1213614
Beryllium	**0.23**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Cadmium	**0.25**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Chromium	**4.6**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Cobalt	**1.8**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Copper	**8.8**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Iron	**10000**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:44	KLV	1213704
Lead	**9.9**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Manganese	**84**		10	0.23	mg/kg dry wt.	10	USEPA-6020A	11/14/12 13:27	CKD	1213614
Molybdenum	**0.79**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Mercury	**0.0080**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:46	CKD	1213639
Nickel	**4.7**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Selenium	**0.26**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Silver	**0.028**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Thallium	**0.14**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Vanadium	**8.1**		0.10	0.0097	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:00	CKD	1213614
Zinc	**32**		10	2.8	mg/kg dry wt.	10	USEPA-6020A	11/14/12 13:27	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-194**	Sampled:	11/01/12 13:05
Lab Sample ID:	**1211039-20**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**87**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-195**	Sampled:	11/01/12 13:10
Lab Sample ID:	**1211039-21**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/9/2012 By: SMS9
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213735	Analytical Batch:	2K15015
Percent Solids:	80		

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.41U	0.41	0.0021
11104-28-2	PCB-1221	0.41U	0.41	0.0026
11141-16-5	PCB-1232	0.41U	0.41	0.0026
53469-21-9	PCB-1242	0.41U	0.41	0.0086
12672-29-6	PCB-1248	0.41U	0.41	0.0031
11097-69-1	PCB-1254	0.41U	0.41	0.0042
11096-82-5	PCB-1260	0.41U	0.41	0.0035

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*75*	*45-135*
Tetrachloro-m-xylene	*81*	*56-123*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-195**	Sampled:	11/01/12 13:10
Lab Sample ID:	**1211039-21**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Unit:	mg/kg dry	Prepared:	11/12/201 By: ALK
Dilution Factor:	1	Analyzed:	11/14/12 By: JLB
QC Batch:	1213815	Analytical Batch:	2K16021
Percent Solids:	80		

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.41U	0.41	0.00098
208-96-8	Acenaphthylene	0.41U	0.41	0.0010
120-12-7	Anthracene	0.41U	0.41	0.0011
56-55-3	Benzo(a)anthracene	**0.0029J**	0.41	0.0018
50-32-8	Benzo(a)pyrene	**0.0025J**	0.41	0.0011
*205-99-2	Benzo(b)fluoranthene	**0.0029J**	0.41	0.0021
191-24-2	Benzo(g,h,i)perylene	0.41U	0.41	0.0010
*207-08-9	Benzo(k)fluoranthene	0.41U	0.41	0.0028
218-01-9	Chrysene	**0.0029J**	0.41	0.0011
53-70-3	Dibenz(a,h)anthracene	0.41U	0.41	0.0016
206-44-0	Fluoranthene	**0.0050J**	0.41	0.00070
86-73-7	Fluorene	0.41U	0.41	0.00075
193-39-5	Indeno(1,2,3-cd)pyrene	0.41U	0.41	0.0038
91-57-6	2-Methylnaphthalene	**0.0025J**	0.41	0.0017
91-20-3	Naphthalene	**0.0021J**	0.41	0.00063
85-01-8	Phenanthrene	**0.0038J**	0.41	0.00090
129-00-0	Pyrene	**0.0042J**	0.41	0.0015

Surrogates:	***% Recovery***	***Control Limits***
Nitrobenzene-d5	*62*	*33-131*
2-Fluorobiphenyl	*71*	*46-122*
o-Terphenyl	*72*	*20-155*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-195**	Sampled:	11/01/12 13:10
Lab Sample ID:	**1211039-21**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20
Percent Solids:	80		

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.14**		0.10	0.024	mg/kg dry wt.	1	USEPA-6020A	11/12/12 16:00	CKD	1213761
Arsenic	**1.5**		0.10	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 19:21	CKD	1213614
Barium	**14**		5.0	0.061	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:31	CKD	1213614
Beryllium	**0.14**	J	0.50	0.020	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Cadmium	**0.088**		0.050	0.0033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Chromium	**5.5**		1.0	0.014	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Cobalt	**1.5**		1.0	0.0064	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Copper	**4.4**		1.0	0.025	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Iron	**3600**		5.0	0.62	mg/kg dry wt.	1	USEPA-6010C	11/09/12 10:51	KLV	1213704
Lead	**3.3**		1.0	0.0066	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Manganese	**23**		5.0	0.12	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:31	CKD	1213614
Molybdenum	**0.32**	J	1.0	0.0081	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Mercury	**0.015**	J	0.050	0.0061	mg/kg dry wt.	1	USEPA-7471A	11/08/12 16:52	CKD	1213639
Nickel	**3.9**		1.0	0.016	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Selenium	**0.57**		0.10	0.033	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Silver	**0.028**	J	0.050	0.0039	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Thallium	**0.067**		0.050	0.0026	mg/kg dry wt.	1	USEPA-6020A	11/14/12 09:04	CKD	1213614
Vanadium	**10**		0.50	0.048	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:31	CKD	1213614
Zinc	**11**		5.0	1.4	mg/kg dry wt.	5	USEPA-6020A	11/14/12 13:31	CKD	1213614

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211039**
Project:	Former GR Metal Plant; 11980-T02121-014	Description:	Laboratory Services
Client Sample ID:	**S-17360-110112-DD-195**	Sampled:	11/01/12 13:10
Lab Sample ID:	**1211039-21**	Sampled By:	DD
Matrix:	Soil	Received:	11/01/12 16:20

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Percent Solids	**80**	0.1	0.1	%	1	USEPA-3550C	11/05/12 16:45	SKA	1213509

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213733 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1016			0.33 U					0.33	0.0017
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				
Tetrachloro-m-xylene				*88*	*56-123*				
Laboratory Control Sample					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg wet					Analytical Batch:	2K12034			
PCB-1248		0.159	**0.142 J**	90	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*99*	*45-135*				
Tetrachloro-m-xylene				*88*	*56-123*				
Matrix Spike 1211039-03 S-17360-110112-DD-178					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg dry					Analytical Batch:	2K12034			
PCB-1248	0.36 U	0.171	**0.154 J**	90	42-168	--	30	0.36	0.0027
Surrogates:									
Decachlorobiphenyl				*97*	*45-135*				
Tetrachloro-m-xylene				*87*	*56-123*				
Matrix Spike Duplicate 1211039-03 S-17360-110112-DD-178					Analyzed:	11/11/2012	By: ASC		
Unit: mg/kg dry					Analytical Batch:	2K12034			
PCB-1248	0.36 U	0.174	**0.152 J**	88	42-168	1	30	0.36	0.0027
Surrogates:									
Decachlorobiphenyl				*95*	*45-135*				
Tetrachloro-m-xylene				*84*	*56-123*				
QC Batch: 1213735 3550C Sonication Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/19/2012	By: MSZ		
Unit: mg/kg wet					Analytical Batch:	2K20024			
PCB-1016			0.33 U					0.33	0.0017

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Polychlorinated Biphenyls (PCBs) by EPA Method 8082A (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213735 (Continued) 3550C Sonication Extraction/USEPA-8082A									
Method Blank (Continued)					Analyzed:		11/19/2012	By: MSZ	
Unit: mg/kg wet					Analytical Batch:		2K20024		
PCB-1221			0.33 U					0.33	0.0021
PCB-1232			0.33 U					0.33	0.0021
PCB-1242			0.33 U					0.33	0.0069
PCB-1248			0.33 U					0.33	0.0025
PCB-1254			0.33 U					0.33	0.0034
PCB-1260			0.33 U					0.33	0.0028
Surrogates:									
Decachlorobiphenyl				*89*	*45-135*				
Tetrachloro-m-xylene				*96*	*56-123*				
Laboratory Control Sample					Analyzed:		11/16/2012	By: ASC	
Unit: mg/kg wet					Analytical Batch:		2K17025		
PCB-1248		0.166	**0.125 J**	76	55-139	--	30	0.33	0.0025
Surrogates:									
Decachlorobiphenyl				*81*	*45-135*				
Tetrachloro-m-xylene				*83*	*56-123*				
Matrix Spike 1211039-11 S-17360-110112-DD-185					Analyzed:		11/19/2012	By: MSZ	
Unit: mg/kg dry					Analytical Batch:		2K20024		
PCB-1248	1.9 U	0.190	**0.191 J**	101	42-168	--	30	1.9	0.014
Surrogates:									
Decachlorobiphenyl				*87*	*45-135*				
Tetrachloro-m-xylene				*72*	*56-123*				
Matrix Spike Duplicate 1211039-11 S-17360-110112-DD-185					Analyzed:		11/19/2012	By: MSZ	
Unit: mg/kg dry					Analytical Batch:		2K20024		
PCB-1248	1.9 U	0.185	**0.209 J**	113	42-168	9	30	1.9	0.014
Surrogates:									
Decachlorobiphenyl				*93*	*45-135*				
Tetrachloro-m-xylene				*82*	*56-123*				

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank Analyzed: 11/08/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K09008

Acetone	0.75 U			0.75	0.054
Benzene	0.050 U			0.050	0.0071
Bromodichloromethane	0.050 U			0.050	0.0067
Bromoform	0.050 U			0.050	0.013
Bromomethane	0.050 U			0.050	0.021
Carbon Disulfide	0.25 U		--	0.25	0.012
Carbon Tetrachloride	0.050 U			0.050	0.017
Chlorobenzene	0.050 U			0.050	0.0084
Chloroethane	0.050 U			0.050	0.018
Chloroform	0.050 U			0.050	0.0084
Chloromethane	0.050 U			0.050	0.020
Cyclohexane	0.25 U			0.25	0.024
1,2-Dibromo-3-chloropropane	0.25 U			0.25	0.026
Dibromochloromethane	0.050 U			0.050	0.0076
1,2-Dibromoethane	0.050 U			0.050	0.016
1,2-Dichlorobenzene	0.050 U			0.050	0.012
1,3-Dichlorobenzene	0.050 U			0.050	0.012
1,4-Dichlorobenzene	0.050 U			0.050	0.012
Dichlorodifluoromethane	0.050 U			0.050	0.011
1,1-Dichloroethane	0.050 U			0.050	0.011
1,2-Dichloroethane	0.050 U			0.050	0.011
1,1-Dichloroethene	0.050 U			0.050	0.010
cis-1,2-Dichloroethene	0.050 U			0.050	0.011
trans-1,2-Dichloroethene	0.050 U			0.050	0.012
1,2-Dichloropropane	0.050 U			0.050	0.014
cis-1,3-Dichloropropene	0.050 U			0.050	0.0095
trans-1,3-Dichloropropene	0.050 U			0.050	0.0094
Ethylbenzene	0.050 U			0.050	0.010
2-Hexanone	2.5 U			2.5	0.025
Isopropylbenzene	0.050 U			0.050	0.011
Methyl Acetate	0.25 U			0.25	0.032
Methyl tert-Butyl Ether	0.050 U			0.050	0.0095
Methylcyclohexane	0.25 U			0.25	0.018
Methylene Chloride	0.10 U			0.10	0.027
2-Butanone (MEK)	0.75 U			0.75	0.063
4-Methyl-2-pentanone (MIBK)	2.5 U			2.5	0.020

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Method Blank (Continued) Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Styrene		0.050 U				0.050	0.010
1,1,2,2-Tetrachloroethane		0.050 U				0.050	0.013
Tetrachloroethene		0.050 U				0.050	0.014
Toluene		0.050 U				0.050	0.011
1,2,4-Trichlorobenzene		**0.012 J**			--	0.050	0.0070
1,1,1-Trichloroethane		0.050 U				0.050	0.0069
1,1,2-Trichloroethane		0.050 U				0.050	0.016
Trichloroethene		0.050 U				0.050	0.011
Trichlorofluoromethane		0.050 U				0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane		0.050 U				0.050	0.018
Vinyl Chloride		0.040 U				0.040	0.0084
Xylene (Total)		0.15 U				0.15	0.020

Method Blank Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09008

Surrogates:		
Dibromofluoromethane	*100*	*75-123*
1,2-Dichloroethane-d4	*98*	*83-116*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*98*	*81-117*

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV
Unit: mg/kg wet Analytical Batch: 2K09008

Acetone	2.00	**1.46**	73	64-130	--	20	0.75	0.054
Benzene	2.00	**2.05**	102	85-118	--	20	0.050	0.0071
Bromodichloromethane	2.00	**1.98**	99	80-123	--	20	0.050	0.0067
Bromoform	2.00	**1.95**	97	58-128	--	20	0.050	0.013
Bromomethane	2.00	**2.43**	122	57-139	--	20	0.050	0.021
Carbon Disulfide	2.00	**2.19**	110	65-138	--	20	0.25	0.012
Carbon Tetrachloride	2.00	**2.04**	102	76-125	--	20	0.050	0.017
Chlorobenzene	2.00	**2.03**	102	86-114	--	20	0.050	0.0084
Chloroethane	2.00	**2.63**	**132**	76-123	--	20	0.050	0.018
Chloroform	2.00	**1.98**	99	86-118	--	20	0.050	0.0084
Chloromethane	2.00	**1.99**	100	73-123	--	20	0.050	0.020
Cyclohexane	2.00	**2.07**	103	79-122	--	20	0.25	0.024
1,2-Dibromo-3-chloropropane	2.00	**1.70**	85	51-132	--	20	0.25	0.026
Dibromochloromethane	2.00	**1.98**	99	72-119	--	20	0.050	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV

Unit: mg/kg wet Analytical Batch: 2K09008

1,2-Dibromoethane	2.00	**1.99**	99	81-118	--	20	0.050	0.016
1,2-Dichlorobenzene	2.00	**2.03**	102	82-124	--	20	0.050	0.012
1,3-Dichlorobenzene	2.00	**2.08**	104	85-119	--	20	0.050	0.012
1,4-Dichlorobenzene	2.00	**1.97**	99	85-119	--	20	0.050	0.012
Dichlorodifluoromethane	2.00	**1.74**	87	68-135	--	20	0.050	0.011
1,1-Dichloroethane	2.00	**1.97**	99	81-121	--	20	0.050	0.011
1,2-Dichloroethane	2.00	**1.92**	96	82-119	--	20	0.050	0.011
1,1-Dichloroethene	2.00	**1.96**	98	80-121	--	20	0.050	0.010
cis-1,2-Dichloroethene	2.00	**2.02**	101	85-118	--	20	0.050	0.011
trans-1,2-Dichloroethene	2.00	**2.05**	102	85-117	--	20	0.050	0.012
1,2-Dichloropropane	2.00	**2.03**	102	80-122	--	20	0.050	0.014
cis-1,3-Dichloropropene	2.00	**2.04**	102	79-121	--	20	0.050	0.0095
trans-1,3-Dichloropropene	2.00	**1.97**	99	73-125	--	20	0.050	0.0094
Ethylbenzene	2.00	**2.12**	106	84-116	--	20	0.050	0.010
2-Hexanone	2.00	**2.08 J**	104	63-131	--	20	2.5	0.025
Isopropylbenzene	2.00	**2.18**	109	82-125	--	20	0.050	0.011
Methyl Acetate	2.00	**1.38**	**69**	75-123	--	20	0.25	0.032
Methyl tert-Butyl Ether	2.00	**1.71**	85	81-119	--	20	0.050	0.0095
Methylcyclohexane	2.00	**2.08**	104	77-125	--	20	0.25	0.018
Methylene Chloride	2.00	**2.02**	101	78-123	--	20	0.10	0.027
2-Butanone (MEK)	2.00	**1.65**	83	68-130	--	20	0.75	0.063
4-Methyl-2-pentanone (MIBK)	2.00	**2.08 J**	104	68-133	--	20	2.5	0.020
Naphthalene	2.00	**1.62**	81	53-133	--	20	0.25	0.014
Styrene	2.00	**2.18**	109	79-115	--	20	0.050	0.010
1,1,2,2-Tetrachloroethane	2.00	**1.85**	92	75-125	--	20	0.050	0.013
Tetrachloroethene	2.00	**2.02**	101	85-116	--	20	0.050	0.014
Toluene	2.00	**2.08**	104	86-120	--	20	0.050	0.011
1,2,4-Trichlorobenzene	2.00	**1.93**	96	66-133	--	20	0.050	0.0070
1,1,1-Trichloroethane	2.00	**2.01**	100	84-121	--	20	0.050	0.0069
1,1,2-Trichloroethane	2.00	**1.95**	97	85-120	--	20	0.050	0.016
Trichloroethene	2.00	**2.04**	102	83-125	--	20	0.050	0.011
Trichlorofluoromethane	2.00	**3.73**	**186**	82-123	--	20	0.050	0.013
1,1,2-Trichloro-1,2,2-trifluoroethane	2.00	**1.92**	96	81-122	--	20	0.050	0.018
Vinyl Chloride	2.00	**1.96**	98	77-124	--	20	0.040	0.0084
Xylene (Total)	6.00	**6.42**	107	84-117	--	20	0.15	0.020

Laboratory Control Sample Analyzed: 11/08/2012 By: DLV

Unit: ug/L Analytical Batch: 2K09008

Surrogates:

Dibromofluoromethane	*99*	*75-123*

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/08/2012 By: DLV
Unit: ug/L Analytical Batch: 2K09008

Surrogates (Continued):									
1,2-Dichloroethane-d4				*96*	*83-116*				
Toluene-d8				*101*	*85-113*				
4-Bromofluorobenzene				*100*	*81-117*				

Matrix Spike 1211039-03 S-17360-110112-DD-178 Analyzed: 11/09/2012 By: DLV
Unit: mg/kg dry Analytical Batch: 2K09008

Acetone	0.81 U	2.17	**1.42**	65	56-144	--	18	0.81	0.059
Benzene	0.054 U	2.17	**2.35**	109	85-125	--	9	0.054	0.0077
Bromodichloromethane	0.054 U	2.17	**2.37**	110	78-124	--	9	0.054	0.0073
Bromoform	0.054 U	2.17	**2.20**	101	75-118	--	11	0.054	0.014
Bromomethane	0.054 U	2.17	**2.66**	123	70-135	--	24	0.054	0.023
Carbon Disulfide	0.27 U	2.17	**2.44**	**112**	45-108	--	21	0.27	0.012
Carbon Tetrachloride	0.054 U	2.17	**2.31**	106	71-130	--	14	0.054	0.018
Chlorobenzene	0.054 U	2.17	**2.53**	117	86-118	--	11	0.054	0.0091
Chloroethane	0.054 U	2.17	**2.81**	130	32-136	--	21	0.054	0.019
Chloroform	0.054 U	2.17	**2.31**	107	86-126	--	7	0.054	0.0091
Chloromethane	0.054 U	2.17	**2.13**	98	70-142	--	15	0.054	0.021
Cyclohexane	0.27 U	2.17	**2.06**	95	72-135	--	11	0.27	0.026
1,2-Dibromo-3-chloropropane	0.27 U	2.17	**1.94**	89	69-125	--	11	0.27	0.028
Dibromochloromethane	0.054 U	2.17	**2.32**	107	57-121	--	12	0.054	0.0082
1,2-Dibromoethane	0.054 U	2.17	**2.31**	107	72-124	--	11	0.054	0.018
1,2-Dichlorobenzene	0.054 U	2.17	**2.52**	116	85-121	--	10	0.054	0.013
1,3-Dichlorobenzene	0.054 U	2.17	**2.37**	109	86-116	--	8	0.054	0.013
1,4-Dichlorobenzene	0.054 U	2.17	**2.24**	104	87-115	--	9	0.054	0.014
Dichlorodifluoromethane	0.054 U	2.17	**2.34**	108	65-133	--	12	0.054	0.012
1,1-Dichloroethane	0.054 U	2.17	**2.30**	106	85-127	--	9	0.054	0.012
1,2-Dichloroethane	0.054 U	2.17	**2.29**	106	82-125	--	8	0.054	0.011
1,1-Dichloroethene	0.054 U	2.17	**2.43**	112	81-135	--	11	0.054	0.011
cis-1,2-Dichloroethene	0.054 U	2.17	**2.31**	107	88-125	--	9	0.054	0.012
trans-1,2-Dichloroethene	0.054 U	2.17	**2.30**	106	81-135	--	10	0.054	0.013
1,2-Dichloropropane	0.054 U	2.17	**2.38**	110	78-132	--	11	0.054	0.015
cis-1,3-Dichloropropene	0.054 U	2.17	**2.12**	98	70-124	--	10	0.054	0.010
trans-1,3-Dichloropropene	0.054 U	2.17	**2.33**	108	63-122	--	9	0.054	0.010
Ethylbenzene	0.054 U	2.17	**2.44**	112	80-122	--	10	0.054	0.011
2-Hexanone	2.7 U	2.17	**1.96 J**	91	49-135	--	16	2.7	0.027

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B									
Matrix Spike (Continued) 1211039-03 S-17360-110112-DD-178					Analyzed:	11/09/2012	By: DLV		
Unit: mg/kg dry					Analytical Batch:	2K09008			
Isopropylbenzene	0.054 U	2.17	**2.46**	114	84-120	--	9	0.054	0.012
Methyl Acetate	0.27 U	2.17	**1.40**	65	57-133	--	17	0.27	0.035
Methyl tert-Butyl Ether	0.054 U	2.17	**1.91**	88	63-134	--	11	0.054	0.010
Methylcyclohexane	0.27 U	2.17	**2.11**	97	68-134	--	15	0.27	0.020
Methylene Chloride	0.11 U	2.17	**2.41**	111	78-139	--	9	0.11	0.029
2-Butanone (MEK)	0.81 U	2.17	**1.64**	76	49-152	--	16	0.81	0.069
4-Methyl-2-pentanone (MIBK)	2.7 U	2.17	**2.01 J**	93	60-134	--	17	2.7	0.021
Naphthalene	0.27 U	2.17	**1.75**	81	67-119	--	15	0.27	0.015
Styrene	0.054 U	2.17	**2.56**	**118**	80-117	--	10	0.054	0.011
1,1,2,2-Tetrachloroethane	0.054 U	2.17	**1.95**	90	64-122	--	14	0.054	0.014
Tetrachloroethene	0.054 U	2.17	**2.40**	111	74-130	--	11	0.054	0.015
Toluene	0.054 U	2.17	**2.38**	110	81-128	--	10	0.054	0.012
1,2,4-Trichlorobenzene	0.054 U	2.17	**2.12**	98	76-131	--	11	0.054	0.0076
1,1,1-Trichloroethane	0.054 U	2.17	**2.24**	104	84-126	--	9	0.054	0.0075
1,1,2-Trichloroethane	0.054 U	2.17	**2.24**	103	81-124	--	8	0.054	0.017
Trichloroethene	0.054 U	2.17	**2.54**	117	90-130	--	12	0.054	0.011
Trichlorofluoromethane	0.054 U	2.17	**4.27**	**197**	50-155	--	13	0.054	0.014
1,1,2-Trichloro-1,2,2-trifluoroethane	0.054 U	2.17	**1.99**	92	69-130	--	13	0.054	0.020
Vinyl Chloride	0.043 U	2.17	**2.45**	113	63-148	--	11	0.043	0.0091
Xylene (Total)	0.16 U	6.50	**7.80**	120	80-123	--	10	0.16	0.022
Matrix Spike 1211039-03 S-17360-110112-DD-178					Analyzed:	11/09/2012	By: DLV		
Unit: ug/L					Analytical Batch:	2K09008			
Surrogates:									
Dibromofluoromethane				*99*	*75-123*				
1,2-Dichloroethane-d4				*95*	*83-116*				
Toluene-d8				*101*	*85-113*				
4-Bromofluorobenzene				*100*	*81-117*				
Matrix Spike Duplicate 1211039-03 S-17360-110112-DD-178					Analyzed:	11/09/2012	By: DLV		
Unit: mg/kg dry					Analytical Batch:	2K09008			
Acetone	0.81 U	2.17	**1.59**	73	56-144	11	18	0.81	0.059
Benzene	0.054 U	2.17	**2.45**	113	85-125	4	9	0.054	0.0077
Bromodichloromethane	0.054 U	2.17	**2.41**	111	78-124	2	9	0.054	0.0073
Bromoform	0.054 U	2.17	**2.24**	103	75-118	2	11	0.054	0.014
Bromomethane	0.054 U	2.17	**2.75**	127	70-135	3	24	0.054	0.023
Carbon Disulfide	0.27 U	2.17	**2.60**	**120**	45-108	6	21	0.27	0.012

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B

Matrix Spike Duplicate (Continued) 1211039-03 S-17360-110112-DD-178 Analyzed: 11/09/2012 By: DLV

Unit: mg/kg dry Analytical Batch: 2K09008

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Carbon Tetrachloride	0.054 U	2.17	**2.39**	110	71-130	4	14	0.054	0.018
Chlorobenzene	0.054 U	2.17	**2.61**	**120**	86-118	3	11	0.054	0.0091
Chloroethane	0.054 U	2.17	**2.91**	134	32-136	3	21	0.054	0.019
Chloroform	0.054 U	2.17	**2.39**	110	86-126	3	7	0.054	0.0091
Chloromethane	0.054 U	2.17	**2.32**	107	70-142	8	15	0.054	0.021
Cyclohexane	0.27 U	2.17	**2.15**	99	72-135	4	11	0.27	0.026
1,2-Dibromo-3-chloropropane	0.27 U	2.17	**2.08**	96	69-125	7	11	0.27	0.028
Dibromochloromethane	0.054 U	2.17	**2.36**	109	57-121	2	12	0.054	0.0082
1,2-Dibromoethane	0.054 U	2.17	**2.34**	108	72-124	1	11	0.054	0.018
1,2-Dichlorobenzene	0.054 U	2.17	**2.65**	**122**	85-121	5	10	0.054	0.013
1,3-Dichlorobenzene	0.054 U	2.17	**2.50**	115	86-116	5	8	0.054	0.013
1,4-Dichlorobenzene	0.054 U	2.17	**2.37**	109	87-115	5	9	0.054	0.014
Dichlorodifluoromethane	0.054 U	2.17	**2.55**	118	65-133	8	12	0.054	0.012
1,1-Dichloroethane	0.054 U	2.17	**2.42**	112	85-127	5	9	0.054	0.012
1,2-Dichloroethane	0.054 U	2.17	**2.34**	108	82-125	2	8	0.054	0.011
1,1-Dichloroethene	0.054 U	2.17	**2.60**	120	81-135	7	11	0.054	0.011
cis-1,2-Dichloroethene	0.054 U	2.17	**2.41**	111	88-125	4	9	0.054	0.012
trans-1,2-Dichloroethene	0.054 U	2.17	**2.42**	112	81-135	5	10	0.054	0.013
1,2-Dichloropropane	0.054 U	2.17	**2.45**	113	78-132	3	11	0.054	0.015
cis-1,3-Dichloropropene	0.054 U	2.17	**2.18**	101	70-124	3	10	0.054	0.010
trans-1,3-Dichloropropene	0.054 U	2.17	**2.36**	109	63-122	1	9	0.054	0.010
Ethylbenzene	0.054 U	2.17	**2.51**	116	80-122	3	10	0.054	0.011
2-Hexanone	2.7 U	2.17	**2.07 J**	95	49-135	5	16	2.7	0.027
Isopropylbenzene	0.054 U	2.17	**2.62**	**121**	84-120	6	9	0.054	0.012
Methyl Acetate	0.27 U	2.17	**1.46**	67	57-133	4	17	0.27	0.035
Methyl tert-Butyl Ether	0.054 U	2.17	**2.00**	93	63-134	5	11	0.054	0.010
Methylcyclohexane	0.27 U	2.17	**2.21**	102	68-134	4	15	0.27	0.020
Methylene Chloride	0.11 U	2.17	**2.53**	117	78-139	5	9	0.11	0.029
2-Butanone (MEK)	0.81 U	2.17	**1.78**	82	49-152	8	16	0.81	0.069
4-Methyl-2-pentanone (MIBK)	2.7 U	2.17	**2.09 J**	96	60-134	4	17	2.7	0.021
Naphthalene	0.27 U	2.17	**1.98**	91	67-119	12	15	0.27	0.015
Styrene	0.054 U	2.17	**2.62**	**121**	80-117	2	10	0.054	0.011
1,1,2,2-Tetrachloroethane	0.054 U	2.17	**2.06**	95	64-122	5	14	0.054	0.014
Tetrachloroethene	0.054 U	2.17	**2.49**	115	74-130	4	11	0.054	0.015
Toluene	0.054 U	2.17	**2.45**	113	81-128	3	10	0.054	0.012
1,2,4-Trichlorobenzene	0.054 U	2.17	**2.35**	108	76-131	10	11	0.054	0.0076

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Volatile Organic Compounds by EPA Method 8260B (5035A High Level) (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213739 (Continued) 5035A High Concentration (MeOH) - MS/USEPA-8260B									
Matrix Spike Duplicate (Continued) 1211039-03 S-17360-110112-DD-178					Analyzed:		11/09/2012	By: DLV	
Unit: mg/kg dry					Analytical Batch:		2K09008		
1,1,1-Trichloroethane	0.054 U	2.17	**2.36**	109	84-126	5	9	0.054	0.0075
1,1,2-Trichloroethane	0.054 U	2.17	**2.25**	104	81-124	0.5	8	0.054	0.017
Trichloroethene	0.054 U	2.17	**2.59**	120	90-130	2	12	0.054	0.011
Trichlorofluoromethane	0.054 U	2.17	**4.39**	**203**	50-155	3	13	0.054	0.014
1,1,2-Trichloro-1,2,2-trifluoroethane	0.054 U	2.17	**2.11**	98	69-130	6	13	0.054	0.020
Vinyl Chloride	0.043 U	2.17	**2.67**	123	63-148	9	11	0.043	0.0091
Xylene (Total)	0.16 U	6.50	**8.01**	123	80-123	3	10	0.16	0.022
Matrix Spike Duplicate 1211039-03 S-17360-110112-DD-178					Analyzed:		11/09/2012	By: DLV	
Unit: ug/L					Analytical Batch:		2K09008		
Surrogates:									
Dibromofluoromethane				*99*	*75-123*				
1,2-Dichloroethane-d4				*96*	*83-116*				
Toluene-d8				*100*	*85-113*				
4-Bromofluorobenzene				*99*	*81-117*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213815 3550C Sonication Extraction/USEPA-8270C									
Method Blank					Analyzed:	11/14/2012	By: JLB		
Unit: mg/kg wet					Analytical Batch:	2K16021			
Acenaphthene			0.33 U					0.33	0.00079
Acenaphthylene			0.33 U					0.33	0.00082
Anthracene			0.33 U					0.33	0.00086
Benzo(a)anthracene			0.33 U			--		0.33	0.0014
Benzo(a)pyrene			0.33 U			--		0.33	0.00086
Benzo(b)fluoranthene			0.33 U			--		0.33	0.0017
Benzo(g,h,i)perylene			0.33 U					0.33	0.00082
Benzo(k)fluoranthene			0.33 U					0.33	0.0022
Chrysene			0.33 U			--		0.33	0.00086
Dibenz(a,h)anthracene			0.33 U					0.33	0.0013
Fluoranthene			0.33 U			--		0.33	0.00056
Fluorene			0.33 U					0.33	0.00060
Indeno(1,2,3-cd)pyrene			0.33 U					0.33	0.0031
2-Methylnaphthalene			0.33 U					0.33	0.0014
Naphthalene			0.33 U					0.33	0.00051
Phenanthrene			0.33 U			--		0.33	0.00072
Pyrene			0.33 U			--		0.33	0.0012
Surrogates:									
Nitrobenzene-d5				*69*	*33-131*				
2-Fluorobiphenyl				*87*	*46-122*				
o-Terphenyl				*95*	*20-155*				
Laboratory Control Sample					Analyzed:	11/14/2012	By: JLB		
Unit: mg/kg wet					Analytical Batch:	2K16021			
Acenaphthene	0.322	**0.261 J**		81	55-113	--	20	0.33	0.00079
Acenaphthylene	0.322	**0.259 J**		80	56-138	--	20	0.33	0.00082
Anthracene	0.322	**0.272 J**		85	63-134	--	20	0.33	0.00086
Benzo(a)anthracene	0.322	**0.248 J**		77	53-142	--	20	0.33	0.0014
Benzo(a)pyrene	0.322	**0.239 J**		74	54-136	--	20	0.33	0.00086
Benzo(b)fluoranthene	0.322	**0.240 J**		75	49-146	--	20	0.33	0.0017
Benzo(g,h,i)perylene	0.322	**0.346**		108	47-141	--	20	0.33	0.00082
Benzo(k)fluoranthene	0.322	**0.231 J**		72	56-136	--	20	0.33	0.0022
Chrysene	0.322	**0.268 J**		84	66-137	--	20	0.33	0.00086
Dibenz(a,h)anthracene	0.322	**0.202 J**		63	52-142	--	20	0.33	0.0013
Fluoranthene	0.322	**0.271 J**		84	66-140	--	20	0.33	0.00056
Fluorene	0.322	**0.256 J**		80	60-131	--	20	0.33	0.00060

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213815 (Continued) 3550C Sonication Extraction/USEPA-8270C									
Laboratory Control Sample (Continued)					Analyzed:		11/14/2012	By: JLB	
Unit: mg/kg wet					Analytical Batch:		2K16021		
Indeno(1,2,3-cd)pyrene		0.322	**0.299 J**	93	53-135	--	20	0.33	0.0031
2-Methylnaphthalene		0.322	**0.261 J**	81	56-124	--	20	0.33	0.0014
Naphthalene		0.322	**0.247 J**	77	52-128	--	20	0.33	0.00051
Phenanthrene		0.322	**0.270 J**	84	58-134	--	20	0.33	0.00072
Pyrene		0.322	**0.269 J**	84	60-132	--	20	0.33	0.0012
Surrogates:									
Nitrobenzene-d5				*67*	*33-131*				
2-Fluorobiphenyl				*82*	*46-122*				
o-Terphenyl				*88*	*20-155*				
Matrix Spike 1211039-03 S-17360-110112-DD-178					Analyzed:		11/14/2012	By: JLB	
Unit: mg/kg dry					Analytical Batch:		2K16021		
Acenaphthene	0.00109	0.373	**0.325 J**	87	52-110	--	40	0.36	0.00086
Acenaphthylene	0.36 U	0.373	**0.323 J**	87	52-139	--	40	0.36	0.00089
Anthracene	0.00218	0.373	**0.348 J**	93	48-138	--	40	0.36	0.00093
Benzo(a)anthracene	0.00618	0.373	**0.334 J**	88	48-134	--	40	0.36	0.0016
Benzo(a)pyrene	0.00400	0.373	**0.311 J**	82	36-129	--	40	0.36	0.00093
Benzo(b)fluoranthene	0.00581	0.373	**0.322 J**	85	44-141	--	40	0.36	0.0019
Benzo(g,h,i)perylene	0.36 U	0.373	**0.164 J**	44	36-146	--	40	0.36	0.00089
Benzo(k)fluoranthene	0.36 U	0.373	**0.357 J**	96	44-134	--	40	0.36	0.0024
Chrysene	0.00691	0.373	**0.353 J**	93	45-143	--	40	0.36	0.00093
Dibenz(a,h)anthracene	0.36 U	0.373	**0.111 J**	**30**	38-149	--	40	0.36	0.0014
Fluoranthene	0.0124	0.373	**0.352 J**	91	34-140	--	40	0.36	0.00061
Fluorene	0.00145	0.373	**0.331 J**	88	49-127	--	40	0.36	0.00066
Indeno(1,2,3-cd)pyrene	0.36 U	0.373	**0.183 J**	49	31-128	--	40	0.36	0.0033
2-Methylnaphthalene	0.36 U	0.373	**0.332 J**	89	42-130	--	40	0.36	0.0015
Naphthalene	0.36 U	0.373	**0.313 J**	84	32-138	--	40	0.36	0.00055
Phenanthrene	0.0138	0.373	**0.347 J**	89	39-134	--	40	0.36	0.00078
Pyrene	0.0102	0.373	**0.351 J**	91	39-145	--	40	0.36	0.0013
Surrogates:									
Nitrobenzene-d5				*73*	*33-131*				
2-Fluorobiphenyl				*87*	*46-122*				
o-Terphenyl				*91*	*20-155*				
Matrix Spike Duplicate 1211039-03 S-17360-110112-DD-178					Analyzed:		11/14/2012	By: JLB	
Unit: mg/kg dry					Analytical Batch:		2K16021		
Acenaphthene	0.00109	0.363	**0.278 J**	76	52-110	16	40	0.36	0.00086

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213815 (Continued) 3550C Sonication Extraction/USEPA-8270C

Matrix Spike Duplicate (Continued) 1211039-03 S-17360-110112-DD-178 Analyzed: 11/14/2012 By: JLB

Unit: mg/kg dry Analytical Batch: 2K16021

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthylene	0.36 U	0.363	**0.275 J**	76	52-139	16	40	0.36	0.00089
Anthracene	0.00218	0.363	**0.296 J**	81	48-138	16	40	0.36	0.00093
Benzo(a)anthracene	0.00618	0.363	**0.279 J**	75	48-134	18	40	0.36	0.0016
Benzo(a)pyrene	0.00400	0.363	**0.270 J**	73	36-129	14	40	0.36	0.00093
Benzo(b)fluoranthene	0.00581	0.363	**0.310 J**	84	44-141	4	40	0.36	0.0019
Benzo(g,h,i)perylene	0.36 U	0.363	**0.134 J**	37	36-146	20	40	0.36	0.00089
Benzo(k)fluoranthene	0.36 U	0.363	**0.285 J**	78	44-134	23	40	0.36	0.0024
Chrysene	0.00691	0.363	**0.299 J**	81	45-143	16	40	0.36	0.00093
Dibenz(a,h)anthracene	0.36 U	0.363	**0.102 J**	**28**	38-149	9	40	0.36	0.0014
Fluoranthene	0.0124	0.363	**0.295 J**	78	34-140	18	40	0.36	0.00061
Fluorene	0.00145	0.363	**0.280 J**	77	49-127	17	40	0.36	0.00066
Indeno(1,2,3-cd)pyrene	0.36 U	0.363	**0.150 J**	41	31-128	19	40	0.36	0.0033
2-Methylnaphthalene	0.36 U	0.363	**0.284 J**	78	42-130	16	40	0.36	0.0015
Naphthalene	0.36 U	0.363	**0.268 J**	74	32-138	15	40	0.36	0.00055
Phenanthrene	0.0138	0.363	**0.297 J**	78	39-134	15	40	0.36	0.00078
Pyrene	0.0102	0.363	**0.293 J**	78	39-145	18	40	0.36	0.0013
Surrogates:									
Nitrobenzene-d5				*63*	*33-131*				
2-Fluorobiphenyl				*77*	*46-122*				
o-Terphenyl				*78*	*20-155*				

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213761 (3050B Digestion)							Analyzed: 11/12/2012		By: CKD	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample		4.00	**3.73**	mg/kg dry wt.	93	80-120		20	0.10	0.024
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.0391	3.79	**3.57**	mg/kg dry wt.	93	75-125		20	0.10	0.024
Matrix Spike Duplicate	0.0391	3.98	**3.64**	mg/kg dry wt.	91	75-125	2	20	0.10	0.024
QC Batch: 1213941 (3050B Digestion)							Analyzed: 11/15/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.024
Laboratory Control Sample		4.00	**3.66**	mg/kg dry wt.	91	80-120		20	0.10	0.024
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.899	3.84	**4.43**	mg/kg dry wt.	92	75-125		20	0.10	0.024
Matrix Spike Duplicate	0.899	3.92	**4.11**	mg/kg dry wt.	82	75-125	7	20	0.10	0.024
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/14/2012		By: CKD	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.016
Laboratory Control Sample		4.00	**4.10**	mg/kg dry wt.	102	80-120		20	0.10	0.016
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.193	3.84	**4.07**	mg/kg dry wt.	101	75-125		20	0.10	0.016
Matrix Spike Duplicate	0.193	3.88	**4.05**	mg/kg dry wt.	99	75-125	0.6	20	0.10	0.016
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	4.86	3.71	**9.17**	mg/kg dry wt.	116	75-125		20	0.093	0.015
Matrix Spike Duplicate	4.86	3.97	**8.70**	mg/kg dry wt.	97	75-125	5	20	0.10	0.016
Analyte: Barium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.012
Laboratory Control Sample		4.00	**4.26**	mg/kg dry wt.	106	80-120		20	1.0	0.012
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/14/2012		By: CKD	
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	4.33	3.84	**8.91**	mg/kg dry wt.	119	75-125		20	5.0	0.061

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Barium/USEPA-6020A (Continued)										
QC Batch: 1213614 (Continued) (3050B Digestion)							Analyzed: 11/14/2012		By: CKD	
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike Duplicate	4.33	3.88	**10.2**	mg/kg dry wt.	**151**	75-125	13	20	5.0	0.061
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			0.50 U	mg/kg dry wt.					0.50	0.020
Laboratory Control Sample		4.00	**4.20**	mg/kg dry wt.	105	80-120		20	0.50	0.020
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.0477	3.84	**3.93**	mg/kg dry wt.	101	75-125		20	0.50	0.020
Matrix Spike Duplicate	0.0477	3.88	**4.07**	mg/kg dry wt.	104	75-125	4	20	0.50	0.020
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.282	3.71	**3.96**	mg/kg dry wt.	99	75-125		20	0.46	0.018
Matrix Spike Duplicate	0.282	3.97	**4.27**	mg/kg dry wt.	101	75-125	8	20	0.50	0.020
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0033
Laboratory Control Sample		4.00	**4.12**	mg/kg dry wt.	103	80-120		20	0.050	0.0033
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.00965	3.84	**3.91**	mg/kg dry wt.	102	75-125		20	0.050	0.0033
Matrix Spike Duplicate	0.00965	3.88	**4.02**	mg/kg dry wt.	103	75-125	3	20	0.050	0.0033
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.890	3.71	**4.89**	mg/kg dry wt.	108	75-125		20	0.046	0.0031
Matrix Spike Duplicate	0.890	3.97	**5.04**	mg/kg dry wt.	105	75-125	3	20	0.050	0.0033
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.014
Laboratory Control Sample		4.00	**4.17**	mg/kg dry wt.	104	80-120		20	1.0	0.014
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	3.66	3.84	**7.03**	mg/kg dry wt.	88	75-125		20	1.0	0.014

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Chromium/USEPA-6020A (Continued)										
QC Batch: 1213614 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike Duplicate	3.66	3.88	**9.58**	mg/kg dry wt.	**152**	75-125	**31**	20	1.0	0.014
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0064
Laboratory Control Sample		4.00	**4.17**	mg/kg dry wt.	104	80-120		20	1.0	0.0064
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	1.04	3.84	**4.68**	mg/kg dry wt.	95	75-125		20	1.0	0.0064
Matrix Spike Duplicate	1.04	3.88	**4.76**	mg/kg dry wt.	96	75-125	2	20	1.0	0.0064
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	4.20	3.71	**8.36**	mg/kg dry wt.	112	75-125		20	0.93	0.0059
Matrix Spike Duplicate	4.20	3.97	**7.51**	mg/kg dry wt.	83	75-125	11	20	1.0	0.0064
Analyte: Copper/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.025
Laboratory Control Sample		4.00	**4.25**	mg/kg dry wt.	106	80-120		20	1.0	0.025
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	1.25	3.84	**4.94**	mg/kg dry wt.	96	75-125		20	1.0	0.025
Matrix Spike Duplicate	1.25	3.88	**5.07**	mg/kg dry wt.	98	75-125	3	20	1.0	0.025
Analyte: Iron/USEPA-6010C										
QC Batch: 1213704 (3050B Digestion)							Analyzed: 11/09/2012		By: KLV	
Method Blank			5.0 U	mg/kg dry wt.					5.0	0.62
Laboratory Control Sample		25.0	**23.5**	mg/kg dry wt.	94	80-120		20	5.0	0.62
Analyte: Lead/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			**0.028 J**	mg/kg dry wt.					1.0	0.0066

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Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Lead/USEPA-6020A (Continued)										
QC Batch: 1213614 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Laboratory Control Sample		4.00	**4.26**	mg/kg dry wt.	107	80-120		20	1.0	0.0066
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	1.18	3.84	**5.07**	mg/kg dry wt.	101	75-125		20	1.0	0.0066
Matrix Spike Duplicate	1.18	3.88	**6.80**	mg/kg dry wt.	**145**	75-125	**29**	20	1.0	0.0066
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.023
Laboratory Control Sample		4.00	**4.16**	mg/kg dry wt.	104	80-120		20	1.0	0.023
Analyte: Mercury/USEPA-7471A										
QC Batch: 1213639 (7471A Mercury Digestion)							Analyzed: 11/08/2012		By: CKD	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0061
Laboratory Control Sample		0.333	**0.312**	mg/kg dry wt.	94	80-120		20	0.050	0.0061
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	<RL	0.327	**0.325**	mg/kg dry wt.	99	80-120		20	0.050	0.0061
Matrix Spike Duplicate	<RL	0.313	**0.301**	mg/kg dry wt.	96	80-120	8	20	0.047	0.0057
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.0262	0.327	**0.378**	mg/kg dry wt.	108	80-120		20	0.050	0.0061
Matrix Spike Duplicate	0.0262	0.324	**0.374**	mg/kg dry wt.	107	80-120	0.9	20	0.050	0.0061
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.0081
Laboratory Control Sample		4.00	**4.17**	mg/kg dry wt.	104	80-120		20	1.0	0.0081
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.0760	3.84	**3.70**	mg/kg dry wt.	94	75-125		20	1.0	0.0081
Matrix Spike Duplicate	0.0760	3.88	**3.82**	mg/kg dry wt.	96	75-125	3	20	1.0	0.0081
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	3.61	3.71	**7.41**	mg/kg dry wt.	102	75-125		20	0.93	0.0075

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213614 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike Duplicate	3.61	3.97	**7.03**	mg/kg dry wt.	86	75-125	5	20	1.0	0.0081
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			1.0 U	mg/kg dry wt.					1.0	0.016
Laboratory Control Sample		4.00	**4.11**	mg/kg dry wt.	103	80-120		20	1.0	0.016
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	2.71	3.84	**6.11**	mg/kg dry wt.	89	75-125		20	1.0	0.016
Matrix Spike Duplicate	2.71	3.88	**6.33**	mg/kg dry wt.	93	75-125	4	20	1.0	0.016
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/14/2012		By: CKD	
Method Blank			**0.084 J**	mg/kg dry wt.					0.10	0.033
Laboratory Control Sample		4.00	**4.07**	mg/kg dry wt.	102	80-120		20	0.10	0.033
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	<RL	3.84	**3.89**	mg/kg dry wt.	101	75-125		20	0.10	0.033
Matrix Spike Duplicate	<RL	3.88	**3.88**	mg/kg dry wt.	100	75-125	0.3	20	0.10	0.033
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.302	3.71	**3.86**	mg/kg dry wt.	96	75-125		20	0.093	0.030
Matrix Spike Duplicate	0.302	3.97	**4.00**	mg/kg dry wt.	93	75-125	3	20	0.10	0.033
Analyte: Silver/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0039
Laboratory Control Sample		4.00	**4.20**	mg/kg dry wt.	105	80-120		20	0.050	0.0039
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.0113	3.84	**3.87**	mg/kg dry wt.	100	75-125		20	0.050	0.0039
Matrix Spike Duplicate	0.0113	3.88	**4.00**	mg/kg dry wt.	103	75-125	3	20	0.050	0.0039
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.119	3.71	**3.78**	mg/kg dry wt.	99	75-125		20	0.046	0.0036

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Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Silver/USEPA-6020A (Continued)										
QC Batch: 1213614 (Continued) (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike Duplicate	0.119	3.97	**4.00**	mg/kg dry wt.	98	75-125	6	20	0.050	0.0039
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			0.050 U	mg/kg dry wt.					0.050	0.0026
Laboratory Control Sample		4.00	**4.26**	mg/kg dry wt.	107	80-120		20	0.050	0.0026
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	0.0197	3.84	**3.92**	mg/kg dry wt.	102	75-125		20	0.050	0.0026
Matrix Spike Duplicate	0.0197	3.88	**4.06**	mg/kg dry wt.	104	75-125	3	20	0.050	0.0026
1211039-11 [S-17360-110112-DD-185]										
Matrix Spike	0.0694	3.71	**3.68**	mg/kg dry wt.	97	75-125		20	0.046	0.0024
Matrix Spike Duplicate	0.0694	3.97	**3.96**	mg/kg dry wt.	98	75-125	7	20	0.050	0.0026
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			0.10 U	mg/kg dry wt.					0.10	0.0097
Laboratory Control Sample		4.00	**4.12**	mg/kg dry wt.	103	80-120		20	0.10	0.0097
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	4.20	3.84	**7.23**	mg/kg dry wt.	79	75-125		20	0.10	0.0097
Matrix Spike Duplicate	4.20	3.88	**8.54**	mg/kg dry wt.	112	75-125	17	20	0.10	0.0097
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/13/2012		By: DSC	
Method Blank			**0.37 J**	mg/kg dry wt.					1.0	0.28
Laboratory Control Sample		4.00	**4.52**	mg/kg dry wt.	113	80-120		20	1.0	0.28
QC Batch: 1213614 (3050B Digestion)							Analyzed: 11/14/2012		By: CKD	
1211039-03 [S-17360-110112-DD-178]										
Matrix Spike	7.14	3.84	**9.75**	mg/kg dry wt.	**68**	75-125		20	5.0	1.4
Matrix Spike Duplicate	7.14	3.88	**9.78**	mg/kg dry wt.	**68**	75-125	0.3	20	5.0	1.4

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical / Chemical Parameters by EPA / APHA / ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Percent Solids/USEPA-3550C										
QC Batch: 1213506 (General Inorganic Prep)							Analyzed: 11/05/2012		By: SKA	
Method Blank			0.1 U	%					0.1	
1211039-03 [S-17360-110112-DD-178]										
Duplicate	92		**92**	%			0.06	5	0.1	
QC Batch: 1213509 (General Inorganic Prep)							Analyzed: 11/05/2012		By: SKA	
Method Blank			0.1 U	%					0.1	
1211039-11 [S-17360-110112-DD-185]										
Duplicate	88		**85**	%			4	5	0.1	
1211039-21 [S-17360-110112-DD-195]										
Duplicate	80		**80**	%			0.3	5	0.1	

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CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES
14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

#231-W (ORTL (41-19)

COC NO.: PL-10036
PAGE 1 OF 2
(See Reverse Side for Instructions)

1211039

Project No/ Phase/Task Code:	17360-T02121-014
Project Name:	Grand Rapids Metal - sample bulk load
Project Location:	Grand Rapids Metal
Chemistry Contact:	Paul Wiseman
Sampler(s):	Dan Deitner
Laboratory Name:	Tri Matrix
Lab Contact:	Jennifer Rice
Lab Location:	Grand Rapids MI
Lab Quote No:	
SSOW ID:	11980-T02121-014
Cooler No:	TM2814
Carrier:	drop off at Lab
Airbill No:	—
Date Shipped:	11-01-12

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 (17)	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC) (22)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	TCL VOC	TCL SVOC	PCB	TAL metals	PAH	Hold - Freezing Required	Hold - Specified Chromium			MS/MSD Request	Comments/ Special Instructions:
01	S-17360-110112-DD-173	11-01-12	0840	SO	G	1					1			2	X		X	X	X	X	X	07			
02	S-17360-110112-DD-174	11-01-12	0845	SO	G	1					1			2	X		X	X	X	X	X	07			
03	S-17360-110112-DD-178	11-01-12	0850	SO	G	2					3			5	X		X	X	X	X	X	08			added volume for MS/MSD
04	trip blank	11-01-12	—	SOQ	—						1			1	X		X	~~X~~	~~X~~	~~X~~	X	DD 11-01-12			trip blank
05	S-17360-110112-DD-179	11-01-12	0930	SO	G	1					1			2	X		X	X	X	X	X	07			
06	S-17360-110112-DD-180	11-01-12	0940	SO	G	1					1			2	X		X	X	X	X	X				
07	S-17360-110112-DD-181	11-01-12	1000	SO	G	1					1			2	X		X	X	X	X	X				
08	S-17360-110112-DD-182	11-01-12	1010	SO	G	1					1			2	X		X	X	X	X	X				
09	S-17360-110112-DD-183	11-01-12	1045	SO	G	1					1			2	X		X	X	X	X	X				
10	S-17360-110112-DD-184	11-01-12	1055	SO	G	1					1			2	X		X	X	X	X	X				
11	S-17360-110112-DD-185	11-01-12	1150	SO	G	2								2			X	X	X	X		10	09		Added volume for MS/MSD
12	S-17360-110112-DD-186	11-01-12	1155	SO	G	1								1			X	X	X	X			09		
13	S-17360-110112-DD-187	11-01-12	1200	SO	G	1								1			X	X	X	X					
14	S-17360-110112-DD-188	11-01-12	1205	SO	G	1								1			X	X	X	X					
15	S-17360-110112-DD-189	11-01-12	1210	SO	G	1								1			X	X	X	X					

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: 28

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dan Deitner	CRA	11-01-12	1620	1. [signature]	TriMatrix	11/1/12	1620
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)

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TRIMATRIX LABORATORIES

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-10021
PAGE 2 OF 2

1211039 (11-19) (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 17360-T02121-014	Laboratory Name: TRI MATRIX
Project Name: Grand Rapids Metal-sample bulk Load	Lab Contact: JENNIFER RICE
Project Location: PAUL WISEMAN	Lab Location: GRANDRAPIDS, MI
Chemistry Contact: Grand Rapids, MI	Lab Quote No:
Sampler(s): DAN DEITNER	SSOW ID: 11980-T02121-014
	Cooler No: TM2814
	Carrier: Drop off At Lab
	Airbill No: —
	Date Shipped: 11-01-12

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 (17)	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): PCB	TAL METALS	PAH	6010-Fractionate Lead							MS/MSD Request	Comments/ Special Instructions:
16	S-17360-110112-DD-190	11-01-12	1215	SO	G	1								1	X	X	X	X							09	
17	S-17360-110112-DD-191	11-01-12	1250	SO	G	1								1	X	X	X	X								
18	S-17360-110112-DD-192	11-01-12	1255	SO	G	1								1	X	X	X	X								
19	S-17360-110112-DD-193	11-01-12	1300	SO	G	1								1	X	X	X	X								
20	S-17360-110112-DD-194	11-01-12	1305	SO	G	1								1	X	X	X	X								
21	S-17360-110112-DD-195	11-01-12	1310	SO	G	1								1	X	X	X	X								
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										
15																										

Cam Cain 11-01-12

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: 6
All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Cam Cain	CRA	11-01-12	1620	1.	TriMatrix	11/1/12	1620
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)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: New / Add To: 1211039
Receipt Record Page/Line #: 41-19 | Project Chemist: JLR | Sample #s:

Recorded by (initials/date): DXL 11/1/12

Cooler / Box / Other | Qty Received: 1

Thermometer Used: IR Gun (#202) / Digital Thermometer (#54) / Other (#_____) | See Additional Cooler Information Form

Cooler # / Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
1128H / 1719	None / Present / Intact / Present / Not Intact	Dispersed / Top / Middle / Bottom	Loose Ice / Bagged Ice / Blue Ice / None / Avg 2-3 containers	Temperature Blank (TB) / 1 Container
Cooler # / Time	None / Present / Intact / Present / Not Intact	Dispersed / Top / Middle / Bottom	Loose Ice / Bagged Ice / Blue Ice / None / Avg 2-3 containers	Temperature Blank (TB) / 1 Container
Cooler # / Time	None / Present / Intact / Present / Not Intact	Dispersed / Top / Middle / Bottom	Loose Ice / Bagged Ice / Blue Ice / None / Avg 2-3 containers	Temperature Blank (TB) / 1 Container
Cooler # / Time	None / Present / Intact / Present / Not Intact	Dispersed / Top / Middle / Bottom	Loose Ice / Bagged Ice / Blue Ice / None / Avg 2-3 containers	Temperature Blank (TB) / 1 Container

Recorded °C	Correction Factor °C	Actual °C
Temp Blank: 0		2.4
TB location: Representative / Not Representative		
1: 3.8	0	3.8
2: 3.5	0	3.5
3: 2.7	0	2.7
Average °C		3.3

Cooler ID on COC? ☐
VOC Trip Blank received? ☑ (MEOH)

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers: 42-10036, 42-10021

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☐	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☐	Inappropriate or non-TriMatrix containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☑	☐	Received pre-preserved VOC soils?

☑ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☑ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
11/1/12	11/1/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T01Y12-012

Work Orders:
1211057

Date:
November 16, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T01Y12-012

SDG Executive Summary

This case narrative applies to samples received on November 02, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/16/12

Date

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Sample Receipt and Login -- Work Order: 1211057

TriMatrix Laboratories received the cooler(s) for this work order on November 02, 2012, at 15:28. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
GW-17360-110212-BW-051	1211057-01	Water	11/2/2012
GW-17360-110212-BW-052	1211057-02	Water	11/2/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8260B

Sample:		
	1211057-01	GW-17360-110212-BW-051
	1211057-02	GW-17360-110212-BW-052

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:			
	1211057-01	GW-17360-110212-BW-051	Chloroform
	1211057-01	GW-17360-110212-BW-051	Methyl Acetate
	1211057-02	GW-17360-110212-BW-052	Chloroform
	1211057-02	GW-17360-110212-BW-052	Methyl Acetate

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification: The CRL recovery for this analyte was outside of the laboratory control limits. However, the only requirement is that the analyte be detected. No qualifications are necessary.

Analysis: USEPA-6020A

Sample/Analyte:		
	2K14007-CRL2	Arsenic
	2K14007-CRL2	Manganese
	2K14060-CRL1	Manganese

Qualification: The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.

Analysis: USEPA-6020A

Sample/Analyte:			
	1211057-01	GW-17360-110212-BW-051	Copper
	1211057-01	GW-17360-110212-BW-051	Nickel
	1211057-02	GW-17360-110212-BW-052	Copper
	1211057-02	GW-17360-110212-BW-052	Nickel

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211057**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-051**	Sampled:	11/02/12 09:32
Lab Sample ID:	**1211057-01**	Sampled By:	BMW
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201: By: BAG
Dilution Factor:	1	Analyzed:	11/12/12 By: BAG
QC Batch:	1213947	Analytical Batch:	2K13025

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.58J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**0.18J**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.74J**	5.0	0.42

Continued on next page

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211057**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-051**	Sampled:	11/02/12 09:32
Lab Sample ID:	**1211057-01**	Sampled By:	BMW
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201: By: BAG
Dilution Factor:	1	Analyzed:	11/12/12 By: BAG
QC Batch:	1213947	Analytical Batch:	2K13025

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.74J**	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**1.1**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211057**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-051**	Sampled:	11/02/12 09:32
Lab Sample ID:	**1211057-01**	Sampled By:	BMW
Matrix:	Water	Received:	11/02/12 15:28

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/14/12 17:54	CKD	1213570
Arsenic	**0.34**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Barium	**51**		1.0	0.14	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/14/12 17:54	CKD	1213570
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Chromium	**0.80**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/14/12 17:54	CKD	1213570
Cobalt	**1.6**		1.0	0.050	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
***Copper**	**1.8**		1.0	0.13	ug/L	1	USEPA-6020A	11/14/12 17:54	CKD	1213570
Iron	**150**		20	6.5	ug/L	1	USEPA-6010C	11/07/12 14:47	KLV	1213496
Lead	**0.22**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Manganese	**23**		1.0	0.14	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Molybdenum	**0.41**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 17:10	CKD	1213558
***Nickel**	**1.6**		1.0	0.17	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Selenium	**0.97**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Vanadium	**1.2**		1.0	0.066	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570
Zinc	**4.2**	**J**	10	1.5	ug/L	1	USEPA-6020A	11/14/12 11:02	DSC	1213570

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211057**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-052**	Sampled:	11/02/12 10:50
Lab Sample ID:	**1211057-02**	Sampled By:	BMW
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201: By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1213947	Analytical Batch:	2K13025

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	**0.89J**	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.41J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**0.96J**	5.0	0.42

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211057**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-052**	Sampled:	11/02/12 10:50
Lab Sample ID:	**1211057-02**	Sampled By:	BMW
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201: By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1213947	Analytical Batch:	2K13025

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**2.9**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211057**
Project:	Former GR Metal Plant; 11980-T01Y12-012	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-052**	Sampled:	11/02/12 10:50
Lab Sample ID:	**1211057-02**	Sampled By:	BMW
Matrix:	Water	Received:	11/02/12 15:28

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	**0.20**	**J**	1.0	0.15	ug/L	1	USEPA-6020A	11/14/12 17:57	CKD	1213570
Arsenic	1.0	U	1.0	0.18	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Barium	**36**		1.0	0.14	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/14/12 17:57	CKD	1213570
Cadmium	**0.059**	**J**	0.20	0.038	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Chromium	**1.2**		1.0	0.20	ug/L	1	USEPA-6020A	11/14/12 17:57	CKD	1213570
Cobalt	**0.50**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
***Copper**	**3.0**		1.0	0.13	ug/L	1	USEPA-6020A	11/14/12 17:57	CKD	1213570
Iron	**130**		20	6.5	ug/L	1	USEPA-6010C	11/07/12 14:50	KLV	1213496
Lead	**2.4**		1.0	0.15	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Manganese	**8.2**		1.0	0.14	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Molybdenum	**0.46**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/07/12 17:15	CKD	1213558
***Nickel**	**2.7**		1.0	0.17	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Selenium	**3.8**		1.0	0.31	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Vanadium	**1.2**		1.0	0.066	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570
Zinc	**23**		10	1.5	ug/L	1	USEPA-6020A	11/14/12 11:07	DSC	1213570

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Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213947 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/12/2012 By: BAG

Unit: ug/L Analytical Batch: 2K13025

Acetone	5.0 U	--		5.0	1.1
Benzene	1.0 U			1.0	0.11
Bromodichloromethane	1.0 U			1.0	0.13
Bromoform	1.0 U			1.0	0.26
Bromomethane	1.0 U			1.0	0.21
Carbon Disulfide	5.0 U	--		5.0	0.23
Carbon Tetrachloride	1.0 U			1.0	0.26
Chlorobenzene	1.0 U			1.0	0.17
Chloroethane	1.0 U			1.0	0.14
Chloroform	**0.16 J**	--		1.0	0.098
Chloromethane	1.0 U	--		1.0	0.29
Cyclohexane	5.0 U			5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U			1.0	0.13
Dibromochloromethane	1.0 U			1.0	0.15
1,2-Dibromoethane	1.0 U			1.0	0.15
1,2-Dichlorobenzene	1.0 U			1.0	0.24
1,3-Dichlorobenzene	1.0 U	--		1.0	0.24
1,4-Dichlorobenzene	1.0 U	--		1.0	0.25
Dichlorodifluoromethane	1.0 U			1.0	0.21
1,1-Dichloroethane	1.0 U			1.0	0.18
1,2-Dichloroethane	1.0 U			1.0	0.21
1,1-Dichloroethene	1.0 U			1.0	0.21
cis-1,2-Dichloroethene	1.0 U			1.0	0.12
trans-1,2-Dichloroethene	1.0 U			1.0	0.20
1,2-Dichloropropane	1.0 U			1.0	0.28
cis-1,3-Dichloropropene	1.0 U			1.0	0.19
trans-1,3-Dichloropropene	1.0 U			1.0	0.19
Ethylbenzene	1.0 U			1.0	0.21
2-Hexanone	5.0 U			5.0	0.49
Isopropylbenzene	1.0 U			1.0	0.22
Methyl Acetate	**0.85 J**	--		5.0	0.42
Methyl tert-Butyl Ether	1.0 U			1.0	0.19
Methylcyclohexane	5.0 U			5.0	0.37
Methylene Chloride	1.0 U			1.0	0.24
2-Butanone (MEK)	5.0 U			5.0	0.63
4-Methyl-2-pentanone (MIBK)	**0.97 J**	--		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213947 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/12/2012 By: BAG

Unit: ug/L Analytical Batch: 2K13025

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		**3.8**			--	1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*98*	*85-118*			
1,2-Dichloroethane-d4			*101*	*87-122*			
Toluene-d8			*95*	*85-113*			
4-Bromofluorobenzene			*100*	*82-110*			

Laboratory Control Sample Analyzed: 11/12/2012 By: BAG

Unit: ug/L Analytical Batch: 2K13025

Acetone	40.0	**33.0**	83	53-138	--	20	5.0	1.1
Benzene	40.0	**40.6**	102	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**43.6**	109	82-124	--	20	1.0	0.13
Bromoform	40.0	**35.8**	90	65-123	--	20	1.0	0.26
Bromomethane	40.0	**37.6**	94	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**44.4**	111	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**42.0**	105	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**40.5**	101	84-118	--	20	1.0	0.17
Chloroethane	40.0	**37.2**	93	76-124	--	20	1.0	0.14
Chloroform	40.0	**40.4**	101	82-119	--	20	1.0	0.098
Chloromethane	40.0	**33.6**	84	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**39.3**	98	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**37.1**	93	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**38.5**	96	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**39.2**	98	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.2**	108	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213947 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/12/2012 By: BAG

Unit: ug/L Analytical Batch: 2K13025

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**42.5**	106	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**42.2**	106	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**34.0**	85	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**40.8**	102	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.1**	100	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**37.6**	94	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**41.2**	103	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**39.6**	99	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**41.4**	103	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**36.7**	92	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**35.5**	89	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**42.7**	107	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**36.8**	92	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**38.1**	95	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**33.2**	83	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**40.6**	102	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**37.2**	93	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.9**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**37.4**	94	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**40.5**	101	60-142	--	20	5.0	0.40
Styrene		40.0	**37.7**	94	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**40.1**	100	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**41.9**	105	81-117	--	20	1.0	0.23
Toluene		40.0	**39.8**	100	85-118	--	20	1.0	0.18
*1,2,4-Trichlorobenzene		40.0	**37.6 B**	94	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**42.0**	105	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.2**	100	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**42.1**	105	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**35.5**	89	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**35.9**	90	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**34.7**	87	77-123	--	20	1.0	0.21
Xylene (Total)		120	**114**	95	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*99*	*85-118*				
1,2-Dichloroethane-d4				*99*	*87-122*				
Toluene-d8				*96*	*85-113*				

Continued on next page

*See Statement of Data Qualifications

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213947 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/12/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2K13025			
Surrogates (Continued):									
4-Bromofluorobenzene				*99*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/12/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2K13025			
Acetone		40.0	**31.4**	78	53-138	5	20	5.0	1.1
Benzene		40.0	**40.7**	102	84-119	0.2	20	1.0	0.11
Bromodichloromethane		40.0	**43.5**	109	82-124	0.4	20	1.0	0.13
Bromoform		40.0	**35.4**	88	65-123	1	20	1.0	0.26
Bromomethane		40.0	**34.4**	86	55-142	9	20	1.0	0.21
Carbon Disulfide		40.0	**44.0**	110	70-131	0.9	20	5.0	0.23
Carbon Tetrachloride		40.0	**42.6**	106	79-127	1	20	1.0	0.26
Chlorobenzene		40.0	**40.3**	101	84-118	0.6	20	1.0	0.17
Chloroethane		40.0	**36.3**	91	76-124	3	20	1.0	0.14
Chloroform		40.0	**40.1**	100	82-119	0.6	20	1.0	0.098
Chloromethane		40.0	**33.2**	83	73-125	1	20	1.0	0.29
Cyclohexane		40.0	**39.6**	99	77-130	0.8	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**36.3**	91	58-130	2	20	1.0	0.13
Dibromochloromethane		40.0	**37.8**	94	74-121	2	20	1.0	0.15
1,2-Dibromoethane		40.0	**38.6**	97	84-125	1	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**42.8**	107	81-124	0.8	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**42.5**	106	81-124	0	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**41.8**	104	79-122	1	20	1.0	0.25
Dichlorodifluoromethane		40.0	**33.6**	84	68-130	1	20	1.0	0.21
1,1-Dichloroethane		40.0	**41.0**	103	80-118	0.6	20	1.0	0.18
1,2-Dichloroethane		40.0	**39.2**	98	81-122	2	20	1.0	0.21
1,1-Dichloroethene		40.0	**37.0**	92	77-123	2	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**41.6**	104	84-119	1	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**39.8**	100	76-126	0.4	20	1.0	0.20
1,2-Dichloropropane		40.0	**41.4**	104	82-122	0.07	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**36.6**	92	77-120	0.2	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**35.6**	89	73-116	0.2	20	1.0	0.19
Ethylbenzene		40.0	**42.3**	106	87-119	0.8	20	1.0	0.21
2-Hexanone		40.0	**36.5**	91	55-141	0.9	20	5.0	0.49
Isopropylbenzene		40.0	**38.5**	96	76-126	0.9	20	1.0	0.22
Methyl Acetate		40.0	**31.8**	80	67-129	4	20	5.0	0.42

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1213947 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/12/2012 By: BAG

Unit: ug/L Analytical Batch: 2K13025

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether	40.0		**41.1**	103	72-128	1	20	1.0	0.19
Methylcyclohexane	40.0		**37.9**	95	78-126	2	20	5.0	0.37
Methylene Chloride	40.0		**39.3**	98	75-129	4	20	1.0	0.24
2-Butanone (MEK)	40.0		**33.4**	83	52-142	11	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)	40.0		**40.0**	100	60-142	1	20	5.0	0.40
Styrene	40.0		**37.5**	94	84-120	0.5	20	1.0	0.20
1,1,2,2-Tetrachloroethane	40.0		**39.8**	100	70-137	0.8	20	1.0	0.26
Tetrachloroethene	40.0		**42.2**	106	81-117	0.8	20	1.0	0.23
Toluene	40.0		**39.9**	100	85-118	0.2	20	1.0	0.18
*1,2,4-Trichlorobenzene	40.0		**37.8 B**	94	75-125	0.3	20	1.0	0.13
1,1,1-Trichloroethane	40.0		**42.5**	106	81-122	1	20	1.0	0.14
1,1,2-Trichloroethane	40.0		**39.5**	99	83-121	2	20	1.0	0.20
Trichloroethene	40.0		**42.4**	106	82-119	0.9	20	1.0	0.21
Trichlorofluoromethane	40.0		**35.1**	88	76-128	1	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane	40.0		**35.2**	88	76-126	2	20	1.0	0.24
Vinyl Chloride	40.0		**34.5**	86	77-123	0.4	20	1.0	0.21
Xylene (Total)	120		**113**	94	86-119	0.8	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*98*	*85-118*				
1,2-Dichloroethane-d4				*98*	*87-122*				
Toluene-d8				*96*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: CKD	
Method Blank			**0.17 J**	ug/L					1.0	0.15
Laboratory Control Sample Duplicate			**47.4**	ug/L			1	20	1.0	0.15
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Laboratory Control Sample	50.0		**46.7**	ug/L	93	80-120		20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample	50.0		**48.6**	ug/L	97	80-120		20	1.0	0.18
Laboratory Control Sample Duplicate			**48.9**	ug/L			0.6	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample	50.0		**48.7**	ug/L	97	80-120		20	1.0	0.14
Laboratory Control Sample Duplicate			**49.6**	ug/L			2	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample	50.0		**45.2**	ug/L	90	80-120		20	1.0	0.11
Laboratory Control Sample Duplicate			**46.5**	ug/L			3	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.038
Laboratory Control Sample	50.0		**49.0**	ug/L	98	80-120		20	0.20	0.038
Laboratory Control Sample Duplicate			**49.2**	ug/L			0.4	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			**0.31 J**	ug/L					1.0	0.20

Continued on next page

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Chromium/USEPA-6020A (Continued)										
QC Batch: 1213570 (Continued) (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Laboratory Control Sample		50.0	**50.1**	ug/L	100	80-120		20	1.0	0.20
Laboratory Control Sample Duplicate			**48.6**	ug/L			3	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**50.8**	ug/L	102	80-120		20	1.0	0.050
Laboratory Control Sample Duplicate			**51.5**	ug/L			1	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: CKD	
Method Blank			**0.14 J**	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**49.0**	ug/L	98	80-120		20	1.0	0.13
Laboratory Control Sample Duplicate			**49.7**	ug/L			1	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213496 (3010A Digestion)							Analyzed: 11/07/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5
Laboratory Control Sample		400	**401**	ug/L	100	80-120		20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**49.3**	ug/L	99	80-120		20	1.0	0.15
Laboratory Control Sample Duplicate			**49.9**	ug/L			1	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**51.4**	ug/L	103	80-120		20	1.0	0.14

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Manganese/USEPA-6020A (Continued)										
QC Batch: 1213570 (Continued) (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Laboratory Control Sample Duplicate			**49.7**	ug/L			3	20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213558 (7470A Digestion - Total)							Analyzed: 11/07/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample	2.00		**2.05**	ug/L	102	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.075
Laboratory Control Sample	50.0		**47.6**	ug/L	95	80-120		20	1.0	0.075
Laboratory Control Sample Duplicate			**47.9**	ug/L			0.7	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample	50.0		**50.6**	ug/L	101	80-120		20	1.0	0.17
Laboratory Control Sample Duplicate			**50.6**	ug/L			0.07	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample	50.0		**48.0**	ug/L	96	80-120		20	1.0	0.31
Laboratory Control Sample Duplicate			**49.2**	ug/L			2	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample	50.0		**48.2**	ug/L	96	80-120		20	0.20	0.037
Laboratory Control Sample Duplicate			**48.8**	ug/L			1	20	0.20	0.037

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.027
Laboratory Control Sample	50.0		**48.9**	ug/L	98	80-120		20	1.0	0.027
Laboratory Control Sample Duplicate			**49.6**	ug/L			2	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			**0.096 J**	ug/L					1.0	0.066
Laboratory Control Sample	50.0		**51.1**	ug/L	102	80-120		20	1.0	0.066
Laboratory Control Sample Duplicate			**49.7**	ug/L			3	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213570 (3020A Digestion)							Analyzed: 11/14/2012		By: DSC	
Method Blank			10 U	ug/L					10	1.5
Laboratory Control Sample	50.0		**54.3**	ug/L	109	80-120		20	10	1.5
Laboratory Control Sample Duplicate			**50.6**	ug/L			7	20	10	1.5

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E-1211057

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL-09731
PAGE 1 OF 1
(See Reverse Side for Instructions)

43-11 211 Blue

Project No/ Phase/Task Code: 17360 -T01112-010	Laboratory Name: TRI-MATRIX	Lab Location: Grand Rapids MI	SSOW ID: 11980-T01112-010
Project Name: Grand Rapids Metal semi annual monitor	Lab Contact: JENNIFER RICE	Lab Quote No:	Cooler No:
Project Location: Grand Rapids MI			Carrier:
Chemistry Contact: Paul Wiseman			Airbill No:
Sampler(s): BMW			Date Shipped: 11-2-12

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	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: VOCs	Analysis Requested: TAL Metals	MS/MSD Request	Comments/ Special Instructions:
01 1	GW-17360-110212-BW-051	11-2-12	0932	WG	G										2	2		04
02 2	GW-17360-110212-BW-052	11-2-12	1050	WG	G										2	2		1
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:

All Samples in Cooler must be on COC

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	[signature]	CRA	11-2-12	1527	[signature]	TriMatrix	11/2/12	1528
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 (20110804)

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TRIMATRIX LABORATORIES

TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CKA | Work Order #: 1211057
Receipt Record Page/Line #: 43-11 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): LR 11/2/12

☑ Cooler ☐ Box ☐ Other_____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) | ☐ See Additional Cooler Information Form

Cooler # 3101 | Time 1705

Custody Seals:
☑ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Location:
Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
☐ Loose Ice / Avg 2-3 containers
☑ Bagged Ice / Avg 2-3 containers
☐ Blue Ice / Avg 2-3 containers
☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
☐ Temperature Blank (TB)
☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1	11.3	—	11.3
2	10.9	—	10.9
3	9.1	—	9.1
Average °C			10.4

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals:
☐ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Location:
Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
☐ Loose Ice / Avg 2-3 containers
☐ Bagged Ice / Avg 2-3 containers
☐ Blue Ice / Avg 2-3 containers
☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
☐ Temperature Blank (TB)
☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals:
☐ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Location:
Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
☐ Loose Ice / Avg 2-3 containers
☐ Bagged Ice / Avg 2-3 containers
☐ Blue Ice / Avg 2-3 containers
☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
☐ Temperature Blank (TB)
☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals:
☐ None
☐ Present / Intact
☐ Present / Not Intact

Coolant Location:
Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
☐ Loose Ice / Avg 2-3 containers
☐ Bagged Ice / Avg 2-3 containers
☐ Blue Ice / Avg 2-3 containers
☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
☐ Temperature Blank (TB)
☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1			
2			
3			
Average °C			

☐ Cooler ID on COC?
☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By_____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other_____

COC Information

☐ TriMatrix COC ☑ Other_____

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials:_____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
11/2/12 1528	11/2/12 1712	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page ____ of ____

Client: CRA	Work Order #: 1211057
Receipt Log #: 43-11	Completed By (initials/date): CR 11/2/12
	Project Chemist:

COC ID #: PL-09731 — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1						✓		
COC Line #2						✓		
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

Ph Strip Lot #: ☑ HC137671 ☐ ____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #: ____ — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211058

Date:
November 29, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on November 02, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

This report relates only to the samples(s) as received. Estimates of analytical uncertainties for the test results contained within this report are available upon request. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC) and one or more of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#12-056-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#002841); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#03068); Michigan DPH (#0034); Minnesota DPH (#367345); New York ELAP (#46503); North Carolina DNRE (#659); Texas CEQ (#T104704495-12-2); Virginia DCLS (#1622); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-09-00163).

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

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11/29/12

Gary L. Wood, Project Chemist

Date

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Sample Receipt and Login -- Work Order: 1211058

TriMatrix Laboratories received the cooler(s) for this work order on November 02, 2012, at 15:28. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
GW-17360-110212-BW-199	1211058-01	Water	11/2/2012
GW-17360-110212-BW-200	1211058-02	Water	11/2/2012
GW-17360-110212-BW-201	1211058-03	Water	11/2/2012

No administrative issues were encountered during the receipt and analysis of this work order.

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8260B

Sample:	1211058-01	GW-17360-110212-BW-199
	1211058-02	GW-17360-110212-BW-200
	1211058-03	GW-17360-110212-BW-201

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was less than 5 times the MB value, is considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:	1211058-01	GW-17360-110212-BW-199	Methyl Acetate
	1211058-02	GW-17360-110212-BW-200	Methyl Acetate
	1211058-03	GW-17360-110212-BW-201	Methyl Acetate

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8260B

Sample/Analyte:	1211058-01	GW-17360-110212-BW-199	Acetone
	1211058-01	GW-17360-110212-BW-199	Chloroform
	1211058-02	GW-17360-110212-BW-200	Acetone
	1211058-02	GW-17360-110212-BW-200	Chloroform
	1211058-03	GW-17360-110212-BW-201	Acetone
	1211058-03	GW-17360-110212-BW-201	Chloroform

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification: The LCS recovery was less than the lower control limit but greater than or equal to 10%. A positive result for this analyte in the associated QC batch is considered estimated; a non-detect result for the same analyte is considered as approximate.

Analysis: USEPA-8270C

Sample/Analyte:	1211058-01	GW-17360-110212-BW-199	Caprolactam
	1211058-02	GW-17360-110212-BW-200	Caprolactam
	1211058-03	GW-17360-110212-BW-201	Caprolactam

Qualification: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8270C

Sample/Analyte:	1211058-01	GW-17360-110212-BW-199	Benzo(a)anthracene
	1211058-01	GW-17360-110212-BW-199	Benzo(k)fluoranthene
	1211058-01	GW-17360-110212-BW-199	Chrysene
	1211058-03	GW-17360-110212-BW-201	Perylene-d12
	1213587-BS3		4-Nitrophenol

Qualification: The RL for this analysis has been elevated due to sample matrix interference.

Analysis: USEPA-8270C

Sample:	1211058-01	GW-17360-110212-BW-199
	1211058-02	GW-17360-110212-BW-200
	1211058-03	GW-17360-110212-BW-201

Qualification: Surrogate results are unavailable due to sample matrix interference(s), resulting in a dilution. Surrogate concentrations were diluted below the calibration range.

Analysis: USEPA-8270C

Sample: 1211058-01 GW-17360-110212-BW-199

Qualification: 3-Methylphenol cannot be resolved from 4-Methylphenol due to chromatographic limitations. The reported result could be 3-Methylphenol, 4-Methylphenol, or a combination of both isomers.

Analysis: USEPA-8270C

Sample/Analyte:	1211058-01	GW-17360-110212-BW-199	4-Methylphenol

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Qualification: 3-Methylphenol cannot be resolved from 4-Methylphenol due to chromatographic limitations. The reported result could be 3-Methylphenol, 4-Methylphenol, or a combination of both isomers.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-199**	Sampled:	11/02/12 12:41
Lab Sample ID:	**1211058-01**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201[illegible] By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213817	Analytical Batch:	2K16007

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*58*	*52-139*
Tetrachloro-m-xylene	*64*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-199**	Sampled:	11/02/12 12:41
Lab Sample ID:	**1211058-01**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/13/201 By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
*67-64-1	Acetone	**190**	5.0	1.1
71-43-2	Benzene	**0.81J**	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	**1.2**	1.0	0.21
75-15-0	Carbon Disulfide	**0.57J**	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**0.58J**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**0.18J**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	**0.94J**	1.0	0.21
591-78-6	2-Hexanone	**11**	5.0	0.49

Continued on next page

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-199**	Sampled:	11/02/12 12:41
Lab Sample ID:	**1211058-01**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/13/201 By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	**4.8**	1.0	0.22
*79-20-9	Methyl Acetate	**1.5J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	**50**	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	**26**	5.0	0.40
100-42-5	Styrene	**3.8**	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	**0.60J**	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	**9.2**	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*100*	*85-118*
1,2-Dichloroethane-d4	*106*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*102*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-199**	Sampled:	11/02/12 12:41
Lab Sample ID:	**1211058-01**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	20	Analyzed:	11/27/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K28088

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	10U	10	0.51
208-96-8	Acenaphthylene	10U	10	0.61
98-86-2	Acetophenone	**11**	10	1.0
120-12-7	Anthracene	10U	10	0.36
1912-24-9	Atrazine	10U	10	1.4
100-52-7	Benzaldehyde	10U	10	1.7
*56-55-3	Benzo(a)anthracene	10U	10	0.51
50-32-8	Benzo(a)pyrene	10U	10	0.80
205-99-2	Benzo(b)fluoranthene	10U	10	1.4
*207-08-9	Benzo(k)fluoranthene	10U	10	0.61
191-24-2	Benzo(g,h,i)perylene	10U	10	0.51
92-52-4	1,1'-Biphenyl	10U	10	0.61
101-55-3	4-Bromophenyl Phenyl Ether	10U	10	0.66
85-68-7	Butyl Benzyl Phthalate	20U	20	4.7
*105-60-2	Caprolactam	20U	20	9.4
86-74-8	Carbazole	10U	10	5.0
59-50-7	4-Chloro-3-methylphenol	10U	10	2.8
106-47-8	4-Chloroaniline	20U	20	3.2
111-91-1	Bis(2-chloroethoxy)methane	10U	10	0.35
111-44-4	Bis(2-chloroethyl) Ether	10U	10	0.70
108-60-1	Bis(2-chloroisopropyl) Ether	10U	10	1.4
91-58-7	2-Chloronaphthalene	10U	10	0.63
95-57-8	2-Chlorophenol	10U	10	0.70
7005-72-3	4-Chlorophenyl Phenyl Ether	10U	10	0.50
*218-01-9	Chrysene	10U	10	0.63
53-70-3	Dibenz(a,h)anthracene	10U	10	0.67
132-64-9	Dibenzofuran	10U	10	0.51
84-74-2	Di-n-butyl Phthalate	20U	20	7.3
91-94-1	3,3´-Dichlorobenzidine	20U	20	4.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-199**	Sampled:	11/02/12 12:41
Lab Sample ID:	**1211058-01**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	20	Analyzed:	11/27/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K28088

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	10U	10	1.2
84-66-2	Diethyl Phthalate	10U	10	1.2
105-67-9	2,4-Dimethylphenol	20U	20	4.6
131-11-3	Dimethyl Phthalate	10U	10	1.4
534-52-1	4,6-Dinitro-2-methylphenol	100U	100	5.6
51-28-5	2,4-Dinitrophenol	100U	100	41
121-14-2	2,4-Dinitrotoluene	10U	10	1.6
606-20-2	2,6-Dinitrotoluene	10U	10	1.4
117-84-0	Di-n-octyl Phthalate	10U	10	4.0
117-81-7	Bis(2-ethylhexyl) Phthalate	10U	10	8.1
206-44-0	Fluoranthene	10U	10	0.34
86-73-7	Fluorene	10U	10	0.43
118-74-1	Hexachlorobenzene	10U	10	0.79
87-68-3	Hexachlorobutadiene	10U	10	0.60
77-47-4	Hexachlorocyclopentadiene	10U	10	1.1
67-72-1	Hexachloroethane	10U	10	0.84
193-39-5	Indeno(1,2,3-cd)pyrene	10U	10	0.48
78-59-1	Isophorone	10U	10	0.49
91-57-6	2-Methylnaphthalene	10U	10	0.48
95-48-7	2-Methylphenol	10U	10	0.60
*106-44-5	4-Methylphenol	10U	10	2.3
91-20-3	Naphthalene	**14**	10	0.60
88-74-4	2-Nitroaniline	10U	10	3.1
99-09-2	3-Nitroaniline	20U	20	3.6
100-01-6	4-Nitroaniline	20U	20	4.2
98-95-3	Nitrobenzene	10U	10	1.2
100-02-7	4-Nitrophenol	100U	100	18
88-75-5	2-Nitrophenol	10U	10	1.8
86-30-6	N-Nitroso-diphenylamine	10U	10	0.48
621-64-7	N-Nitroso-di-n-propylamine	10U	10	0.85
87-86-5	Pentachlorophenol	10U	10	2.5

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-199**	Sampled:	11/02/12 12:41
Lab Sample ID:	**1211058-01**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	20	Analyzed:	11/27/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K28088

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	10U	10	0.48
108-95-2	Phenol	**19**	10	0.46
129-00-0	Pyrene	10U	10	0.49
88-06-2	2,4,6-Trichlorophenol	10U	10	2.7
95-95-4	2,4,5-Trichlorophenol	10U	10	2.7

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-200**	Sampled:	11/02/12 13:05
Lab Sample ID:	**1211058-02**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201[illegible] By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213817	Analytical Batch:	2K16007

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.24U	0.24	0.044
11104-28-2	PCB-1221	0.24U	0.24	0.059
11141-16-5	PCB-1232	0.24U	0.24	0.053
53469-21-9	PCB-1242	0.24U	0.24	0.049
12672-29-6	PCB-1248	0.24U	0.24	0.039
11097-69-1	PCB-1254	0.24U	0.24	0.052
11096-82-5	PCB-1260	0.24U	0.24	0.046

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*89*	*52-139*
Tetrachloro-m-xylene	*79*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-200**	Sampled:	11/02/12 13:05
Lab Sample ID:	**1211058-02**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/13/201 By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
*67-64-1	Acetone	**61**	5.0	1.1
71-43-2	Benzene	**0.24J**	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	**0.27J**	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**6.3**	1.0	0.098
74-87-3	Chloromethane	**0.45J**	1.0	0.29
110-82-7	Cyclohexane	**0.31J**	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	**0.89J**	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-200**	Sampled:	11/02/12 13:05
Lab Sample ID:	**1211058-02**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/13/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
*79-20-9	Methyl Acetate	**2.2J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	**8.6**	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**2.1**	1.0	0.23
108-88-3	Toluene	**0.44J**	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.44J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	**10**	3.0	0.39

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*102*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-200**	Sampled:	11/02/12 13:05
Lab Sample ID:	**1211058-02**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	5	Analyzed:	11/21/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K23001

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	2.5U	2.5	0.13
208-96-8	Acenaphthylene	2.5U	2.5	0.15
98-86-2	Acetophenone	2.5U	2.5	0.25
120-12-7	Anthracene	2.5U	2.5	0.090
1912-24-9	Atrazine	2.5U	2.5	0.35
100-52-7	Benzaldehyde	2.5U	2.5	0.43
56-55-3	Benzo(a)anthracene	2.5U	2.5	0.13
50-32-8	Benzo(a)pyrene	2.5U	2.5	0.20
205-99-2	Benzo(b)fluoranthene	2.5U	2.5	0.36
207-08-9	Benzo(k)fluoranthene	2.5U	2.5	0.15
191-24-2	Benzo(g,h,i)perylene	2.5U	2.5	0.13
92-52-4	1,1'-Biphenyl	2.5U	2.5	0.15
101-55-3	4-Bromophenyl Phenyl Ether	2.5U	2.5	0.17
85-68-7	Butyl Benzyl Phthalate	5.0U	5.0	1.2
*105-60-2	Caprolactam	5.0U	5.0	2.4
86-74-8	Carbazole	2.5U	2.5	1.3
59-50-7	4-Chloro-3-methylphenol	2.5U	2.5	0.69
106-47-8	4-Chloroaniline	5.0U	5.0	0.81
111-91-1	Bis(2-chloroethoxy)methane	2.5U	2.5	0.088
111-44-4	Bis(2-chloroethyl) Ether	2.5U	2.5	0.18
108-60-1	Bis(2-chloroisopropyl) Ether	2.5U	2.5	0.35
91-58-7	2-Chloronaphthalene	2.5U	2.5	0.16
95-57-8	2-Chlorophenol	2.5U	2.5	0.18
7005-72-3	4-Chlorophenyl Phenyl Ether	2.5U	2.5	0.13
218-01-9	Chrysene	2.5U	2.5	0.16
53-70-3	Dibenz(a,h)anthracene	2.5U	2.5	0.17
132-64-9	Dibenzofuran	2.5U	2.5	0.13
84-74-2	Di-n-butyl Phthalate	5.0U	5.0	1.8
91-94-1	3,3´-Dichlorobenzidine	5.0U	5.0	1.2

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-200**	Sampled:	11/02/12 13:05
Lab Sample ID:	**1211058-02**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	5	Analyzed:	11/21/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K23001

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	2.5U	2.5	0.30
84-66-2	Diethyl Phthalate	2.5U	2.5	0.31
105-67-9	2,4-Dimethylphenol	5.0U	5.0	1.2
131-11-3	Dimethyl Phthalate	2.5U	2.5	0.34
534-52-1	4,6-Dinitro-2-methylphenol	25U	25	1.4
51-28-5	2,4-Dinitrophenol	25U	25	10
121-14-2	2,4-Dinitrotoluene	2.5U	2.5	0.41
606-20-2	2,6-Dinitrotoluene	2.5U	2.5	0.35
117-84-0	Di-n-octyl Phthalate	2.5U	2.5	1.0
117-81-7	Bis(2-ethylhexyl) Phthalate	2.5U	2.5	2.0
206-44-0	Fluoranthene	2.5U	2.5	0.084
86-73-7	Fluorene	2.5U	2.5	0.11
118-74-1	Hexachlorobenzene	2.5U	2.5	0.20
87-68-3	Hexachlorobutadiene	2.5U	2.5	0.15
77-47-4	Hexachlorocyclopentadiene	2.5U	2.5	0.27
67-72-1	Hexachloroethane	2.5U	2.5	0.21
193-39-5	Indeno(1,2,3-cd)pyrene	2.5U	2.5	0.12
78-59-1	Isophorone	2.5U	2.5	0.12
91-57-6	2-Methylnaphthalene	2.5U	2.5	0.12
95-48-7	2-Methylphenol	2.5U	2.5	0.15
106-44-5	4-Methylphenol	2.5U	2.5	0.58
91-20-3	Naphthalene	2.5U	2.5	0.15
88-74-4	2-Nitroaniline	2.5U	2.5	0.78
99-09-2	3-Nitroaniline	5.0U	5.0	0.90
100-01-6	4-Nitroaniline	5.0U	5.0	1.1
98-95-3	Nitrobenzene	2.5U	2.5	0.31
100-02-7	4-Nitrophenol	25U	25	4.5
88-75-5	2-Nitrophenol	2.5U	2.5	0.46
86-30-6	N-Nitroso-diphenylamine	2.5U	2.5	0.12
621-64-7	N-Nitroso-di-n-propylamine	2.5U	2.5	0.21
87-86-5	Pentachlorophenol	2.5U	2.5	0.62

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-200**	Sampled:	11/02/12 13:05
Lab Sample ID:	**1211058-02**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	5	Analyzed:	11/21/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K23001

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	2.5U	2.5	0.12
108-95-2	Phenol	2.5U	2.5	0.12
129-00-0	Pyrene	2.5U	2.5	0.12
88-06-2	2,4,6-Trichlorophenol	2.5U	2.5	0.67
95-95-4	2,4,5-Trichlorophenol	2.5U	2.5	0.68

Surrogates:	***% Recovery***	***Control Limits***
2-Fluorophenol	*34*	*20-70*
Phenol-d6	*19*	*18-45*
Nitrobenzene-d5	*67*	*31-123*
2-Fluorobiphenyl	*74*	*25-113*
2,4,6-Tribromophenol	*82*	*30-121*
o-Terphenyl	*68*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-201**	Sampled:	11/02/12 14:00
Lab Sample ID:	**1211058-03**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/12/201[illegible] By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213817	Analytical Batch:	2K16007

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*80*	*52-139*
Tetrachloro-m-xylene	*71*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-201**	Sampled:	11/02/12 14:00
Lab Sample ID:	**1211058-03**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/13/201: By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
*67-64-1	Acetone	**12**	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**3.1**	1.0	0.098
74-87-3	Chloromethane	**0.34J**	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	**1.5**	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	**0.54J**	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-201**	Sampled:	11/02/12 14:00
Lab Sample ID:	**1211058-03**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/13/201: By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	**4.6**	1.0	0.22
*79-20-9	Methyl Acetate	**1.5J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	**2.6J**	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	**0.60J**	1.0	0.23
108-88-3	Toluene	**0.29J**	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	**0.42J**	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	**15**	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*104*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*100*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-201**	Sampled:	11/02/12 14:00
Lab Sample ID:	**1211058-03**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	10	Analyzed:	11/27/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K28088

*Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	5.0U	5.0	0.26
208-96-8	Acenaphthylene	5.0U	5.0	0.30
98-86-2	Acetophenone	5.0U	5.0	0.51
120-12-7	Anthracene	5.0U	5.0	0.18
1912-24-9	Atrazine	5.0U	5.0	0.70
100-52-7	Benzaldehyde	5.0U	5.0	0.87
56-55-3	Benzo(a)anthracene	5.0U	5.0	0.26
50-32-8	Benzo(a)pyrene	5.0U	5.0	0.40
205-99-2	Benzo(b)fluoranthene	5.0U	5.0	0.71
207-08-9	Benzo(k)fluoranthene	5.0U	5.0	0.31
191-24-2	Benzo(g,h,i)perylene	5.0U	5.0	0.26
92-52-4	1,1'-Biphenyl	5.0U	5.0	0.31
101-55-3	4-Bromophenyl Phenyl Ether	5.0U	5.0	0.33
85-68-7	Butyl Benzyl Phthalate	10U	10	2.4
*105-60-2	Caprolactam	10U	10	4.7
86-74-8	Carbazole	5.0U	5.0	2.5
59-50-7	4-Chloro-3-methylphenol	5.0U	5.0	1.4
106-47-8	4-Chloroaniline	10U	10	1.6
111-91-1	Bis(2-chloroethoxy)methane	5.0U	5.0	0.18
111-44-4	Bis(2-chloroethyl) Ether	5.0U	5.0	0.35
108-60-1	Bis(2-chloroisopropyl) Ether	5.0U	5.0	0.70
91-58-7	2-Chloronaphthalene	5.0U	5.0	0.31
95-57-8	2-Chlorophenol	5.0U	5.0	0.35
7005-72-3	4-Chlorophenyl Phenyl Ether	5.0U	5.0	0.25
218-01-9	Chrysene	5.0U	5.0	0.31
53-70-3	Dibenz(a,h)anthracene	5.0U	5.0	0.34
132-64-9	Dibenzofuran	5.0U	5.0	0.26
84-74-2	Di-n-butyl Phthalate	10U	10	3.7
91-94-1	3,3´-Dichlorobenzidine	10U	10	2.4

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-201**	Sampled:	11/02/12 14:00
Lab Sample ID:	**1211058-03**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	10	Analyzed:	11/27/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K28088

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	5.0U	5.0	0.60
84-66-2	Diethyl Phthalate	5.0U	5.0	0.62
105-67-9	2,4-Dimethylphenol	10U	10	2.3
131-11-3	Dimethyl Phthalate	5.0U	5.0	0.68
534-52-1	4,6-Dinitro-2-methylphenol	50U	50	2.8
51-28-5	2,4-Dinitrophenol	50U	50	21
121-14-2	2,4-Dinitrotoluene	5.0U	5.0	0.82
606-20-2	2,6-Dinitrotoluene	5.0U	5.0	0.70
117-84-0	Di-n-octyl Phthalate	5.0U	5.0	2.0
117-81-7	Bis(2-ethylhexyl) Phthalate	5.0U	5.0	4.0
206-44-0	Fluoranthene	5.0U	5.0	0.17
86-73-7	Fluorene	5.0U	5.0	0.22
118-74-1	Hexachlorobenzene	5.0U	5.0	0.39
87-68-3	Hexachlorobutadiene	5.0U	5.0	0.30
77-47-4	Hexachlorocyclopentadiene	5.0U	5.0	0.54
67-72-1	Hexachloroethane	5.0U	5.0	0.42
193-39-5	Indeno(1,2,3-cd)pyrene	5.0U	5.0	0.24
78-59-1	Isophorone	5.0U	5.0	0.25
91-57-6	2-Methylnaphthalene	5.0U	5.0	0.24
95-48-7	2-Methylphenol	5.0U	5.0	0.30
106-44-5	4-Methylphenol	5.0U	5.0	1.2
91-20-3	Naphthalene	5.0U	5.0	0.30
88-74-4	2-Nitroaniline	5.0U	5.0	1.6
99-09-2	3-Nitroaniline	10U	10	1.8
100-01-6	4-Nitroaniline	10U	10	2.1
98-95-3	Nitrobenzene	5.0U	5.0	0.61
100-02-7	4-Nitrophenol	50U	50	9.0
88-75-5	2-Nitrophenol	5.0U	5.0	0.92
86-30-6	N-Nitroso-diphenylamine	5.0U	5.0	0.24
621-64-7	N-Nitroso-di-n-propylamine	5.0U	5.0	0.42
87-86-5	Pentachlorophenol	5.0U	5.0	1.2

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211058**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**GW-17360-110212-BW-201**	Sampled:	11/02/12 14:00
Lab Sample ID:	**1211058-03**	Sampled By:	Paul Wiseman
Matrix:	Water	Received:	11/02/12 15:28
Unit:	ug/L	Prepared:	11/7/2012 By: SMS9
Dilution Factor:	10	Analyzed:	11/27/12 By: JLB
QC Batch:	1213587	Analytical Batch:	2K28088

*Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	5.0U	5.0	0.24
108-95-2	Phenol	5.0U	5.0	0.23
129-00-0	Pyrene	5.0U	5.0	0.25
88-06-2	2,4,6-Trichlorophenol	5.0U	5.0	1.3
95-95-4	2,4,5-Trichlorophenol	5.0U	5.0	1.4

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*41*	*20-70*
Phenol-d6	*24*	*18-45*
Nitrobenzene-d5	*68*	*31-123*
2-Fluorobiphenyl	*59*	*25-113*
2,4,6-Tribromophenol	*35*	*30-121*
o-Terphenyl	*102*	*42-125*

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213817 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/15/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K16007			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*95*	*52-139*				
Tetrachloro-m-xylene				*69*	*26-118*				
Laboratory Control Sample					Analyzed:	11/15/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K16007			
PCB-1248		1.00	**0.861**	86	44-146	--	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*91*	*52-139*				
Tetrachloro-m-xylene				*68*	*26-118*				

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Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1214054 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Acetone	**1.7 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	**0.11 J**	--	1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U	--	1.0	0.24
1,3-Dichlorobenzene	1.0 U	--	1.0	0.24
1,4-Dichlorobenzene	1.0 U	--	1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	**1.1 J**	--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*103*	*87-122*			
Toluene-d8			*94*	*85-113*			
4-Bromofluorobenzene			*100*	*82-110*			

Laboratory Control Sample Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Acetone	40.0	**38.3**	96	53-138	--	20	5.0	1.1
Benzene	40.0	**41.4**	104	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**44.2**	111	82-124	--	20	1.0	0.13
Bromoform	40.0	**35.0**	88	65-123	--	20	1.0	0.26
Bromomethane	40.0	**34.5**	86	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**46.6**	116	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**44.1**	110	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**40.4**	101	84-118	--	20	1.0	0.17
Chloroethane	40.0	**37.2**	93	76-124	--	20	1.0	0.14
Chloroform	40.0	**40.9**	102	82-119	--	20	1.0	0.098
Chloromethane	40.0	**34.3**	86	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**41.5**	104	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**36.2**	90	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**38.3**	96	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**38.8**	97	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.4**	109	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**43.2**	108	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**36.4**	91	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.4**	106	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.1**	100	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**39.3**	98	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**42.7**	107	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**41.4**	103	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**42.4**	106	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.8**	95	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.0**	90	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**43.8**	110	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**36.5**	91	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**39.0**	97	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**33.0**	83	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**40.2**	101	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**39.9**	100	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.6**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**38.9**	97	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**39.5**	99	60-142	--	20	5.0	0.40
Styrene		40.0	**38.1**	95	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.6**	104	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**42.8**	107	81-117	--	20	1.0	0.23
Toluene		40.0	**40.7**	102	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**39.0**	97	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**43.6**	109	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.1**	100	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**41.3**	103	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**37.3**	93	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**37.5**	94	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	--	20	1.0	0.21
Xylene (Total)		120	**117**	97	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*102*	*85-118*				
1,2-Dichloroethane-d4				*100*	*87-122*				
Toluene-d8				*97*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/13/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2K14027			
Surrogates (Continued):									
4-Bromofluorobenzene				*100*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/13/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2K14027			
Acetone		40.0	**38.3**	96	53-138	0	20	5.0	1.1
Benzene		40.0	**41.8**	104	84-119	1	20	1.0	0.11
Bromodichloromethane		40.0	**44.2**	111	82-124	0	20	1.0	0.13
Bromoform		40.0	**35.0**	88	65-123	0	20	1.0	0.26
Bromomethane		40.0	**34.5**	86	55-142	0	20	1.0	0.21
Carbon Disulfide		40.0	**46.6**	116	70-131	0	20	5.0	0.23
Carbon Tetrachloride		40.0	**44.1**	110	79-127	0	20	1.0	0.26
Chlorobenzene		40.0	**41.2**	103	84-118	2	20	1.0	0.17
Chloroethane		40.0	**37.2**	93	76-124	0	20	1.0	0.14
Chloroform		40.0	**40.9**	102	82-119	0	20	1.0	0.098
Chloromethane		40.0	**34.3**	86	73-125	0	20	1.0	0.29
Cyclohexane		40.0	**41.5**	104	77-130	0	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**36.2**	90	58-130	0	20	1.0	0.13
Dibromochloromethane		40.0	**38.3**	96	74-121	0	20	1.0	0.15
1,2-Dibromoethane		40.0	**38.8**	97	84-125	0	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**43.4**	109	81-124	0	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**43.2**	108	81-124	0	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	0	20	1.0	0.25
Dichlorodifluoromethane		40.0	**36.4**	91	68-130	0	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.4**	106	80-118	0	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.1**	100	81-122	0	20	1.0	0.21
1,1-Dichloroethene		40.0	**38.9**	97	77-123	1	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**42.7**	107	84-119	0	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**41.4**	103	76-126	0	20	1.0	0.20
1,2-Dichloropropane		40.0	**42.4**	106	82-122	0	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.8**	95	77-120	0	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.0**	90	73-116	0	20	1.0	0.19
Ethylbenzene		40.0	**43.8**	110	87-119	0	20	1.0	0.21
2-Hexanone		40.0	**36.5**	91	55-141	0	20	5.0	0.49
Isopropylbenzene		40.0	**39.0**	97	76-126	0	20	1.0	0.22
Methyl Acetate		40.0	**33.0**	83	67-129	0	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**40.2**	101	72-128	0	20	1.0	0.19
Methylcyclohexane		40.0	**39.9**	100	78-126	0	20	5.0	0.37
Methylene Chloride		40.0	**40.6**	102	75-129	0	20	1.0	0.24
2-Butanone (MEK)		40.0	**38.9**	97	52-142	0	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**39.5**	99	60-142	0	20	5.0	0.40
Styrene		40.0	**38.1**	95	84-120	0	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.6**	104	70-137	0	20	1.0	0.26
Tetrachloroethene		40.0	**42.8**	107	81-117	0	20	1.0	0.23
Toluene		40.0	**41.1**	103	85-118	0.9	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**39.0**	97	75-125	0	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**43.6**	109	81-122	0	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.1**	100	83-121	0	20	1.0	0.20
Trichloroethene		40.0	**41.9**	105	82-119	1	20	1.0	0.21
Trichlorofluoromethane		40.0	**37.3**	93	76-128	0	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**37.5**	94	76-126	0	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	0	20	1.0	0.21
Xylene (Total)		120	**117**	97	86-119	0	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*99*	*87-122*				
Toluene-d8				*96*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213587 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/15/2012 By: JLB
Unit: ug/L Analytical Batch: 2K16027

Acenaphthene	0.50 U			0.50
Acenaphthylene	0.50 U			0.50
Acetophenone	0.50 U		--	0.50
Anthracene	0.50 U			0.50
Atrazine	0.50 U			0.50
Benzaldehyde	0.50 U			0.50
Benzo(a)anthracene	0.50 U		--	0.50
Benzo(a)pyrene	0.50 U			0.50
Benzo(b)fluoranthene	0.50 U			0.50
Benzo(k)fluoranthene	0.50 U			0.50
Benzo(g,h,i)perylene	0.50 U			0.50
1,1'-Biphenyl	0.50 U		--	0.50
4-Bromophenyl Phenyl Ether	0.50 U			0.50
Butyl Benzyl Phthalate	1.0 U		--	1.0
Caprolactam	1.0 U		--	1.0
Carbazole	0.50 U		--	0.50
4-Chloro-3-methylphenol	0.50 U			0.50
4-Chloroaniline	1.0 U			1.0
Bis(2-chloroethoxy)methane	0.50 U			0.50
Bis(2-chloroethyl) Ether	0.50 U			0.50
Bis(2-chloroisopropyl) Ether	0.50 U			0.50
2-Chloronaphthalene	0.50 U			0.50
2-Chlorophenol	0.50 U			0.50
4-Chlorophenyl Phenyl Ether	0.50 U		--	0.50
Chrysene	0.50 U		--	0.50
Dibenz(a,h)anthracene	0.50 U			0.50
Dibenzofuran	0.50 U			0.50
Di-n-butyl Phthalate	1.0 U		--	1.0
3,3´-Dichlorobenzidine	1.0 U			1.0
2,4-Dichlorophenol	0.50 U			0.50
Diethyl Phthalate	0.50 U		--	0.50
2,4-Dimethylphenol	1.0 U			1.0
Dimethyl Phthalate	0.50 U		--	0.50
4,6-Dinitro-2-methylphenol	5.0 U			5.0
2,4-Dinitrophenol	5.0 U			5.0
2,4-Dinitrotoluene	0.50 U			0.50

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

2,6-Dinitrotoluene	0.50 U			--	0.50
Di-n-octyl Phthalate	0.50 U			--	0.50
Bis(2-ethylhexyl) Phthalate	0.50 U			--	0.50
Fluoranthene	0.50 U				0.50
Fluorene	0.50 U				0.50
Hexachlorobenzene	0.50 U				0.50
Hexachlorobutadiene	0.50 U				0.50
Hexachlorocyclopentadiene	0.50 U				0.50
Hexachloroethane	0.50 U				0.50
Indeno(1,2,3-cd)pyrene	0.50 U				0.50
Isophorone	0.50 U				0.50
2-Methylnaphthalene	0.50 U				0.50
2-Methylphenol	0.50 U			--	0.50
4-Methylphenol	0.50 U			--	0.50
Naphthalene	0.50 U				0.50
2-Nitroaniline	0.50 U				0.50
3-Nitroaniline	1.0 U			--	1.0
4-Nitroaniline	1.0 U			--	1.0
Nitrobenzene	0.50 U			--	0.50
4-Nitrophenol	5.0 U			--	5.0
2-Nitrophenol	0.50 U				0.50
N-Nitroso-diphenylamine	0.50 U				0.50
N-Nitroso-di-n-propylamine	0.50 U				0.50
Pentachlorophenol	0.50 U				0.50
Phenanthrene	0.50 U			--	0.50
Phenol	0.50 U				0.50
Pyrene	0.50 U				0.50
2,4,6-Trichlorophenol	0.50 U				0.50
2,4,5-Trichlorophenol	0.50 U				0.50
Surrogates:					
2-Fluorophenol			*46*	*20-70*	
Phenol-d6			*30*	*18-45*	
Nitrobenzene-d5			*78*	*31-123*	
2-Fluorobiphenyl			*80*	*25-113*	
2,4,6-Tribromophenol			*55*	*30-121*	
o-Terphenyl			*73*	*42-125*	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthene		10.0	**7.82**	78	53-126	--	20	0.50	
Acenaphthylene		10.0	**8.10**	81	62-133	--	20	0.50	
Acetophenone		10.0	**7.46**	75	58-115	--	20	0.50	
Anthracene		10.0	**7.74**	77	64-130	--	20	0.50	
Atrazine		10.0	**7.27**	73	60-140	--	20	0.50	
Benzaldehyde		10.0	**7.16**	72	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**7.80**	78	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.66**	77	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**7.74**	77	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**7.08**	71	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**7.39**	74	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**7.52**	75	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**6.89**	69	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**9.07**	91	58-141	--	20	1.0	
Caprolactam		10.0	**1.68**	**17**	23-76	--	20	1.0	
Carbazole		10.0	**7.80**	78	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**8.10**	81	53-120	--	20	0.50	
4-Chloroaniline		10.0	**7.37**	74	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**6.64**	66	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**7.80**	78	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**6.88**	69	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.58**	76	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.75**	68	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**7.32**	73	57-122	--	20	0.50	
Chrysene		10.0	**7.54**	75	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**7.38**	74	57-130	--	20	0.50	
Dibenzofuran		10.0	**7.82**	78	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.09**	81	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	**15.0**	75	55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**7.13**	71	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**7.94**	79	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.15**	52	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**7.84**	78	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**6.93**	69	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**5.89**	59	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**8.77**	88	55-131	--	20	0.50	

Continued on next page

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213587 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2,6-Dinitrotoluene		10.0	**8.17**	82	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.09**	81	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**8.22**	82	60-136	--	20	0.50	
Fluoranthene		10.0	**7.28**	73	64-138	--	20	0.50	
Fluorene		10.0	**7.70**	77	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**6.63**	66	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**6.32**	63	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**4.40**	44	21-138	--	20	0.50	
Hexachloroethane		10.0	**7.67**	77	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**7.32**	73	57-129	--	20	0.50	
Isophorone		10.0	**7.07**	71	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**7.09**	71	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.50**	55	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.98**	60	33-122	--	20	0.50	
Naphthalene		10.0	**7.50**	75	50-127	--	20	0.50	
2-Nitroaniline		10.0	**8.88**	89	57-130	--	20	0.50	
3-Nitroaniline		10.0	**8.13**	81	49-144	--	20	1.0	
4-Nitroaniline		10.0	**8.19**	82	52-143	--	20	1.0	
Nitrobenzene		10.0	**6.89**	69	53-121	--	20	0.50	
*4-Nitrophenol		10.0	**3.39 J**	34	17-70	--	20	5.0	
2-Nitrophenol		10.0	**7.93**	79	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**7.87**	79	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**7.40**	74	49-125	--	20	0.50	
Pentachlorophenol		10.0	**4.60**	46	21-124	--	20	0.50	
Phenanthrene		10.0	**7.46**	75	63-126	--	20	0.50	
Phenol		10.0	**3.58**	36	22-60	--	20	0.50	
Pyrene		10.0	**8.20**	82	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.61**	66	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.11**	71	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*41*	*20-70*				
Phenol-d6				*29*	*18-45*				
Nitrobenzene-d5				*74*	*31-123*				
2-Fluorobiphenyl				*74*	*25-113*				
2,4,6-Tribromophenol				*61*	*30-121*				
o-Terphenyl				*69*	*42-125*				

*See Statement of Data Qualifications

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E·121058

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170
Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: PL-09733
PAGE 1 OF 1
(See Reverse Side for Instructions)

Cart 4 714 white TM5103

Project No/ Phase/Task Code: 17360-105121-013	Laboratory Name: TRI-MATRIX	Lab Location: Grand Rapids MI	SSOW ID: 11960-105A1-013
Project Name: Grand Rapids Metal Stage III	Lab Contact: JENNIFER RICE	Lab Quote No:	Cooler No:
Project Location: Grand Rapids MI			Carrier:
Chemistry Contact: PAUL WISEMAN			Airbill No:
Sampler(s):			Date Shipped: 11-2-12

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: TCL VOC	TCL SVOC	PCBs	MS/MSD Request	Comments/ Special Instructions:
01	GW-17360-110212-BG-199	11-2-12	1241	WG	G										✓	✓	✓	(1)	
02	200	↓	1305	WG	G										✓	✓	✓		
03	201	↓	1400	WG	G										✓	✓	✓	↓	
04																			
05																			
06																			
07																			
08																			
09																			
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:

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	11-2-12	1527	1.	TriMatrix	11/2/12	1528
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)

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TRIMATRIX LABORATORIES

TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CMK | Work Order #: 1211058
Receipt Record Page/Line # | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): SR 11/2/12

Cooler ☑ | Box ☐ | Other ☐ | Qty Received: 1

Thermometer Used: IR Gun (#202) ☑ | Digital Thermometer (#54) ☐ | Other (#) ☐ | See Additional Cooler Information Form ☐

Cooler # 3101 / Time 1703	Cooler # / Time	Cooler # / Time	Cooler # / Time
Custody Seals: None ☑ / Present / Intact ☐ / Present / Not Intact ☐	Custody Seals: None ☐ / Present / Intact ☐ / Present / Not Intact ☐	Custody Seals: None ☐ / Present / Intact ☐ / Present / Not Intact ☐	Custody Seals: None ☐ / Present / Intact ☐ / Present / Not Intact ☐
Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers ☐ / Bagged Ice / Avg 2-3 containers ☑ / Blue Ice / Avg 2-3 containers ☐ / None / Avg 2-3 containers ☐	Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers ☐ / Bagged Ice / Avg 2-3 containers ☐ / Blue Ice / Avg 2-3 containers ☐ / None / Avg 2-3 containers ☐	Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers ☐ / Bagged Ice / Avg 2-3 containers ☐ / Blue Ice / Avg 2-3 containers ☐ / None / Avg 2-3 containers ☐	Coolant/Temperature Taken Via: Loose Ice / Avg 2-3 containers ☐ / Bagged Ice / Avg 2-3 containers ☐ / Blue Ice / Avg 2-3 containers ☐ / None / Avg 2-3 containers ☐
Alternate Temperature Taken Via: Temperature Blank (TB) ☑ / 1 Container ☐	Alternate Temperature Taken Via: Temperature Blank (TB) ☐ / 1 Container ☐	Alternate Temperature Taken Via: Temperature Blank (TB) ☐ / 1 Container ☐	Alternate Temperature Taken Via: Temperature Blank (TB) ☐ / 1 Container ☐
Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C	Recorded °C / Correction Factor °C / Actual °C
Temp Blank: — / 1.3.3	Temp Blank:	Temp Blank:	Temp Blank:
TB location: Representative / Not Representative	TB location: Representative / Not Representative	TB location: Representative / Not Representative	TB location: Representative / Not Representative
1 14.2 - 14.2	1	1	1
2 14.8 - 14.8	2	2	2
3 13.9 - 13.9	3	3	3
Average °C	Average °C	Average °C	Average °C
Cooler ID on COC? ☐	Cooler ID on COC? ☐	Cooler ID on COC? ☐	Cooler ID on COC? ☐
VOC Trip Blank received? ☐	VOC Trip Blank received? ☐	VOC Trip Blank received? ☐	VOC Trip Blank received? ☐

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other _____

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Average sample temperature ≤6° C?
☑	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
11/2/12 1528	11/2/12 1706	Yes (No)

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211081

Date:
November 21, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on November 05, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/21/12

Date

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Sample Receipt and Login -- Work Order: 1211081

TriMatrix Laboratories received the cooler(s) for this work order on November 05, 2012, at 12:51. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
WG-17360-110512-EB-001	1211081-01	Water	11/5/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Volatile Organic Compounds by EPA Method 8260B

Qualification: The quality control batch(s), associated with the following samples and analyses, do not contain an MS/MSD or MS/DUP due to insufficient sample volumes. An LCS and LCSD were analyzed as the measure of batch precision and accuracy.

Analysis: USEPA-8260B

Sample: 1211081-01 WG-17360-110512-EB-001

Qualification: The analyte concentration in the associated MB was greater than the MDL but less than the RL. The positive sample result, which was greater than 5 times the MB value, is not considered estimated.

Analysis: USEPA-8260B

Sample/Analyte: 1211081-01 WG-17360-110512-EB-001 Chloroform

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Attachment 2
Statement of Data Qualifications

Semivolatile Organic Compounds by EPA Method 8270C

Qualification:	Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.	
Analysis:	USEPA-8270C	
Sample/Analyte:	1213646-BLK2	Bis(2-ethylhexyl) Phthalate
	1213646-BS2	4-Nitrophenol

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Attachment 2
Statement of Data Qualifications

Total Metals by EPA 6000/7000 Series Methods

Qualification:	The % difference between the values of the isotopes monitored for this analyte exceeded 25%; the lower of the two results has been reported.		
Analysis:	USEPA-6020A		
Sample/Analyte:	1211081-01	WG-17360-110512-EB-001	Nickel

Qualification:	This analyte was not present in this sample at a concentration greater than 100 times the MDL, therefore serial dilution is not required.		
Analysis:	USEPA-6020A		
Sample/Analyte:	1211081-01	WG-17360-110512-EB-001	Molybdenum
	1211081-01	WG-17360-110512-EB-001	Vanadium

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211081**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51
Unit:	ug/L	Prepared:	11/12/201 By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: ASC
QC Batch:	1213817	Analytical Batch:	2K16007

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.20U	0.20	0.037
11104-28-2	PCB-1221	0.20U	0.20	0.050
11141-16-5	PCB-1232	0.20U	0.20	0.045
53469-21-9	PCB-1242	0.20U	0.20	0.042
12672-29-6	PCB-1248	0.20U	0.20	0.033
11097-69-1	PCB-1254	0.20U	0.20	0.044
11096-82-5	PCB-1260	0.20U	0.20	0.039

Surrogates:	***% Recovery***	***Control Limits***
Decachlorobiphenyl	*94*	*52-139*
Tetrachloro-m-xylene	*76*	*26-118*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211081**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51
Unit:	ug/L	Prepared:	11/13/201 By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL	MDL
67-64-1	Acetone	5.0U	5.0	1.1
71-43-2	Benzene	1.0U	1.0	0.11
75-27-4	Bromodichloromethane	1.0U	1.0	0.13
75-25-2	Bromoform	1.0U	1.0	0.26
74-83-9	Bromomethane	1.0U	1.0	0.21
75-15-0	Carbon Disulfide	5.0U	5.0	0.23
56-23-5	Carbon Tetrachloride	1.0U	1.0	0.26
108-90-7	Chlorobenzene	1.0U	1.0	0.17
75-00-3	Chloroethane	1.0U	1.0	0.14
*67-66-3	Chloroform	**2.5**	1.0	0.098
74-87-3	Chloromethane	1.0U	1.0	0.29
110-82-7	Cyclohexane	5.0U	5.0	0.18
96-12-8	1,2-Dibromo-3-chloropropane	1.0U	1.0	0.13
124-48-1	Dibromochloromethane	1.0U	1.0	0.15
106-93-4	1,2-Dibromoethane	1.0U	1.0	0.15
95-50-1	1,2-Dichlorobenzene	1.0U	1.0	0.24
541-73-1	1,3-Dichlorobenzene	1.0U	1.0	0.24
106-46-7	1,4-Dichlorobenzene	1.0U	1.0	0.25
75-71-8	Dichlorodifluoromethane	1.0U	1.0	0.21
75-34-3	1,1-Dichloroethane	1.0U	1.0	0.18
107-06-2	1,2-Dichloroethane	1.0U	1.0	0.21
75-35-4	1,1-Dichloroethene	1.0U	1.0	0.21
156-59-2	cis-1,2-Dichloroethene	1.0U	1.0	0.12
156-60-5	trans-1,2-Dichloroethene	1.0U	1.0	0.20
78-87-5	1,2-Dichloropropane	1.0U	1.0	0.28
10061-01-5	cis-1,3-Dichloropropene	1.0U	1.0	0.19
10061-02-6	trans-1,3-Dichloropropene	1.0U	1.0	0.19
100-41-4	Ethylbenzene	1.0U	1.0	0.21
591-78-6	2-Hexanone	5.0U	5.0	0.49

Continued on next page

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211081**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51
Unit:	ug/L	Prepared:	11/13/201[illegible] By: BAG
Dilution Factor:	1	Analyzed:	11/13/12 By: BAG
QC Batch:	1214054	Analytical Batch:	2K14027

*Volatile Organic Compounds by EPA Method 8260B (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
98-82-8	Isopropylbenzene	1.0U	1.0	0.22
79-20-9	Methyl Acetate	**1.1J**	5.0	0.42
1634-04-4	Methyl tert-Butyl Ether	1.0U	1.0	0.19
108-87-2	Methylcyclohexane	5.0U	5.0	0.37
75-09-2	Methylene Chloride	1.0U	1.0	0.24
78-93-3	2-Butanone (MEK)	5.0U	5.0	0.63
108-10-1	4-Methyl-2-pentanone (MIBK)	5.0U	5.0	0.40
100-42-5	Styrene	1.0U	1.0	0.20
79-34-5	1,1,2,2-Tetrachloroethane	1.0U	1.0	0.26
127-18-4	Tetrachloroethene	1.0U	1.0	0.23
108-88-3	Toluene	1.0U	1.0	0.18
120-82-1	1,2,4-Trichlorobenzene	1.0U	1.0	0.13
71-55-6	1,1,1-Trichloroethane	1.0U	1.0	0.14
79-00-5	1,1,2-Trichloroethane	1.0U	1.0	0.20
79-01-6	Trichloroethene	1.0U	1.0	0.21
75-69-4	Trichlorofluoromethane	1.0U	1.0	0.27
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0U	1.0	0.24
75-01-4	Vinyl Chloride	1.0U	1.0	0.21
1330-20-7	Xylene (Total)	3.0U	3.0	0.39

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*85-118*
1,2-Dichloroethane-d4	*101*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*99*	*82-110*

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211081**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51
Unit:	ug/L	Prepared:	11/8/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213646	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL	MDL
83-32-9	Acenaphthene	0.50U	0.50	0.026
208-96-8	Acenaphthylene	0.50U	0.50	0.030
98-86-2	Acetophenone	0.50U	0.50	0.051
120-12-7	Anthracene	0.50U	0.50	0.018
1912-24-9	Atrazine	0.50U	0.50	0.070
100-52-7	Benzaldehyde	0.50U	0.50	0.087
56-55-3	Benzo(a)anthracene	0.50U	0.50	0.026
50-32-8	Benzo(a)pyrene	0.50U	0.50	0.040
205-99-2	Benzo(b)fluoranthene	0.50U	0.50	0.071
207-08-9	Benzo(k)fluoranthene	0.50U	0.50	0.031
191-24-2	Benzo(g,h,i)perylene	0.50U	0.50	0.026
92-52-4	1,1'-Biphenyl	0.50U	0.50	0.031
101-55-3	4-Bromophenyl Phenyl Ether	0.50U	0.50	0.033
85-68-7	Butyl Benzyl Phthalate	1.0U	1.0	0.24
105-60-2	Caprolactam	1.0U	1.0	0.47
86-74-8	Carbazole	0.50U	0.50	0.25
59-50-7	4-Chloro-3-methylphenol	0.50U	0.50	0.14
106-47-8	4-Chloroaniline	1.0U	1.0	0.16
111-91-1	Bis(2-chloroethoxy)methane	0.50U	0.50	0.018
111-44-4	Bis(2-chloroethyl) Ether	0.50U	0.50	0.035
108-60-1	Bis(2-chloroisopropyl) Ether	0.50U	0.50	0.070
91-58-7	2-Chloronaphthalene	0.50U	0.50	0.031
95-57-8	2-Chlorophenol	0.50U	0.50	0.035
7005-72-3	4-Chlorophenyl Phenyl Ether	0.50U	0.50	0.025
218-01-9	Chrysene	0.50U	0.50	0.031
53-70-3	Dibenz(a,h)anthracene	0.50U	0.50	0.034
132-64-9	Dibenzofuran	0.50U	0.50	0.026
84-74-2	Di-n-butyl Phthalate	1.0U	1.0	0.37
91-94-1	3,3´-Dichlorobenzidine	1.0U	1.0	0.24

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ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211081**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51
Unit:	ug/L	Prepared:	11/8/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213646	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
120-83-2	2,4-Dichlorophenol	0.50U	0.50	0.060
84-66-2	Diethyl Phthalate	0.50U	0.50	0.062
105-67-9	2,4-Dimethylphenol	1.0U	1.0	0.23
131-11-3	Dimethyl Phthalate	0.50U	0.50	0.068
534-52-1	4,6-Dinitro-2-methylphenol	5.0U	5.0	0.28
51-28-5	2,4-Dinitrophenol	5.0U	5.0	2.1
121-14-2	2,4-Dinitrotoluene	0.50U	0.50	0.082
606-20-2	2,6-Dinitrotoluene	0.50U	0.50	0.070
117-84-0	Di-n-octyl Phthalate	0.50U	0.50	0.20
117-81-7	Bis(2-ethylhexyl) Phthalate	0.50U	0.50	0.40
206-44-0	Fluoranthene	0.50U	0.50	0.017
86-73-7	Fluorene	0.50U	0.50	0.022
118-74-1	Hexachlorobenzene	0.50U	0.50	0.039
87-68-3	Hexachlorobutadiene	0.50U	0.50	0.030
77-47-4	Hexachlorocyclopentadiene	0.50U	0.50	0.054
67-72-1	Hexachloroethane	0.50U	0.50	0.042
193-39-5	Indeno(1,2,3-cd)pyrene	0.50U	0.50	0.024
78-59-1	Isophorone	0.50U	0.50	0.025
91-57-6	2-Methylnaphthalene	0.50U	0.50	0.024
95-48-7	2-Methylphenol	0.50U	0.50	0.030
106-44-5	4-Methylphenol	0.50U	0.50	0.12
91-20-3	Naphthalene	0.50U	0.50	0.030
88-74-4	2-Nitroaniline	0.50U	0.50	0.16
99-09-2	3-Nitroaniline	1.0U	1.0	0.18
100-01-6	4-Nitroaniline	1.0U	1.0	0.21
98-95-3	Nitrobenzene	0.50U	0.50	0.061
100-02-7	4-Nitrophenol	5.0U	5.0	0.90
88-75-5	2-Nitrophenol	0.50U	0.50	0.092
86-30-6	N-Nitroso-diphenylamine	0.50U	0.50	0.024
621-64-7	N-Nitroso-di-n-propylamine	0.50U	0.50	0.042
87-86-5	Pentachlorophenol	0.50U	0.50	0.12

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ANALYTICAL REPORT

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Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51
Unit:	ug/L	Prepared:	11/8/2012 By: MCG
Dilution Factor:	1	Analyzed:	11/15/12 By: JLB
QC Batch:	1213646	Analytical Batch:	2K16027

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

CAS Number	Analyte	Analytical Result	RL	MDL
85-01-8	Phenanthrene	0.50U	0.50	0.024
108-95-2	Phenol	0.50U	0.50	0.023
129-00-0	Pyrene	0.50U	0.50	0.025
88-06-2	2,4,6-Trichlorophenol	0.50U	0.50	0.13
95-95-4	2,4,5-Trichlorophenol	0.50U	0.50	0.14

Surrogates:	*% Recovery*	*Control Limits*
2-Fluorophenol	*49*	*20-70*
Phenol-d6	*30*	*18-45*
Nitrobenzene-d5	*82*	*31-123*
2-Fluorobiphenyl	*83*	*25-113*
2,4,6-Tribromophenol	*60*	*30-121*
o-Terphenyl	*75*	*42-125*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211081**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**WG-17360-110512-EB-001**	Sampled:	11/05/12 10:15
Lab Sample ID:	**1211081-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/05/12 12:51

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result		RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Antimony	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Arsenic	**0.61**	**J**	1.0	0.18	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Barium	**24**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Beryllium	1.0	U	1.0	0.11	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Cadmium	0.20	U	0.20	0.038	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Chromium	**0.31**	**J**	1.0	0.20	ug/L	1	USEPA-6020A	11/10/12 11:35	DSC	1213629
Cobalt	**0.15**	**J**	1.0	0.050	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Copper	**1.4**		1.0	0.13	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Iron	**36**		20	6.5	ug/L	1	USEPA-6010C	11/12/12 19:27	KLV	1213720
Lead	1.0	U	1.0	0.15	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Manganese	**4.0**		1.0	0.14	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
***Molybdenum**	**0.72**	**J**	1.0	0.075	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Mercury	0.20	U	0.20	0.055	ug/L	1	USEPA-7470A	11/09/12 13:19	CKD	1213666
***Nickel**	**0.72**	**J**	1.0	0.17	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Selenium	**0.33**	**J**	1.0	0.31	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Silver	0.20	U	0.20	0.037	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
Thallium	1.0	U	1.0	0.027	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629
***Vanadium**	**0.57**	**J**	1.0	0.066	ug/L	1	USEPA-6020A	11/10/12 11:35	DSC	1213629
***Zinc**	**9.9**	**JB**	10	1.5	ug/L	1	USEPA-6020A	11/10/12 08:31	DSC	1213629

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QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 8082A

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1213817 3510C Liquid-Liquid Extraction/USEPA-8082A									
Method Blank					Analyzed:	11/15/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K16007			
PCB-1016			0.20 U					0.20	0.037
PCB-1221			0.20 U					0.20	0.050
PCB-1232			0.20 U					0.20	0.045
PCB-1242			0.20 U					0.20	0.042
PCB-1248			0.20 U					0.20	0.033
PCB-1254			0.20 U					0.20	0.044
PCB-1260			0.20 U					0.20	0.039
Surrogates:									
Decachlorobiphenyl				*95*	*52-139*				
Tetrachloro-m-xylene				*69*	*26-118*				
Laboratory Control Sample					Analyzed:	11/15/2012	By: ASC		
Unit: ug/L					Analytical Batch:	2K16007			
PCB-1248		1.00	**0.861**	86	44-146	--	30	0.20	0.033
Surrogates:									
Decachlorobiphenyl				*91*	*52-139*				
Tetrachloro-m-xylene				*68*	*26-118*				

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QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1214054 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Acetone	**1.7 J**	--	5.0	1.1
Benzene	1.0 U		1.0	0.11
Bromodichloromethane	1.0 U		1.0	0.13
Bromoform	1.0 U		1.0	0.26
Bromomethane	1.0 U		1.0	0.21
Carbon Disulfide	5.0 U	--	5.0	0.23
Carbon Tetrachloride	1.0 U		1.0	0.26
Chlorobenzene	1.0 U		1.0	0.17
Chloroethane	1.0 U		1.0	0.14
Chloroform	**0.11 J**	--	1.0	0.098
Chloromethane	1.0 U		1.0	0.29
Cyclohexane	5.0 U		5.0	0.18
1,2-Dibromo-3-chloropropane	1.0 U		1.0	0.13
Dibromochloromethane	1.0 U		1.0	0.15
1,2-Dibromoethane	1.0 U		1.0	0.15
1,2-Dichlorobenzene	1.0 U	--	1.0	0.24
1,3-Dichlorobenzene	1.0 U	--	1.0	0.24
1,4-Dichlorobenzene	1.0 U	--	1.0	0.25
Dichlorodifluoromethane	1.0 U		1.0	0.21
1,1-Dichloroethane	1.0 U		1.0	0.18
1,2-Dichloroethane	1.0 U		1.0	0.21
1,1-Dichloroethene	1.0 U		1.0	0.21
cis-1,2-Dichloroethene	1.0 U		1.0	0.12
trans-1,2-Dichloroethene	1.0 U		1.0	0.20
1,2-Dichloropropane	1.0 U		1.0	0.28
cis-1,3-Dichloropropene	1.0 U		1.0	0.19
trans-1,3-Dichloropropene	1.0 U		1.0	0.19
Ethylbenzene	1.0 U		1.0	0.21
2-Hexanone	5.0 U		5.0	0.49
Isopropylbenzene	1.0 U		1.0	0.22
Methyl Acetate	**1.1 J**	--	5.0	0.42
Methyl tert-Butyl Ether	1.0 U		1.0	0.19
Methylcyclohexane	5.0 U		5.0	0.37
Methylene Chloride	1.0 U		1.0	0.24
2-Butanone (MEK)	5.0 U		5.0	0.63
4-Methyl-2-pentanone (MIBK)	5.0 U		5.0	0.40

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Styrene		1.0 U				1.0	0.20
1,1,2,2-Tetrachloroethane		1.0 U				1.0	0.26
Tetrachloroethene		1.0 U				1.0	0.23
Toluene		1.0 U				1.0	0.18
1,2,4-Trichlorobenzene		1.0 U				1.0	0.13
1,1,1-Trichloroethane		1.0 U				1.0	0.14
1,1,2-Trichloroethane		1.0 U				1.0	0.20
Trichloroethene		1.0 U				1.0	0.21
Trichlorofluoromethane		1.0 U				1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		1.0 U				1.0	0.24
Vinyl Chloride		1.0 U				1.0	0.21
Xylene (Total)		3.0 U				3.0	0.39
Surrogates:							
Dibromofluoromethane			*99*	*85-118*			
1,2-Dichloroethane-d4			*103*	*87-122*			
Toluene-d8			*94*	*85-113*			
4-Bromofluorobenzene			*100*	*82-110*			

Laboratory Control Sample Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Acetone	40.0	**38.3**	96	53-138	--	20	5.0	1.1
Benzene	40.0	**41.4**	104	84-119	--	20	1.0	0.11
Bromodichloromethane	40.0	**44.2**	111	82-124	--	20	1.0	0.13
Bromoform	40.0	**35.0**	88	65-123	--	20	1.0	0.26
Bromomethane	40.0	**34.5**	86	55-142	--	20	1.0	0.21
Carbon Disulfide	40.0	**46.6**	116	70-131	--	20	5.0	0.23
Carbon Tetrachloride	40.0	**44.1**	110	79-127	--	20	1.0	0.26
Chlorobenzene	40.0	**40.4**	101	84-118	--	20	1.0	0.17
Chloroethane	40.0	**37.2**	93	76-124	--	20	1.0	0.14
Chloroform	40.0	**40.9**	102	82-119	--	20	1.0	0.098
Chloromethane	40.0	**34.3**	86	73-125	--	20	1.0	0.29
Cyclohexane	40.0	**41.5**	104	77-130	--	20	5.0	0.18
1,2-Dibromo-3-chloropropane	40.0	**36.2**	90	58-130	--	20	1.0	0.13
Dibromochloromethane	40.0	**38.3**	96	74-121	--	20	1.0	0.15
1,2-Dibromoethane	40.0	**38.8**	97	84-125	--	20	1.0	0.15
1,2-Dichlorobenzene	40.0	**43.4**	109	81-124	--	20	1.0	0.24

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
1,3-Dichlorobenzene		40.0	**43.2**	108	81-124	--	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	--	20	1.0	0.25
Dichlorodifluoromethane		40.0	**36.4**	91	68-130	--	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.4**	106	80-118	--	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.1**	100	81-122	--	20	1.0	0.21
1,1-Dichloroethene		40.0	**39.3**	98	77-123	--	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**42.7**	107	84-119	--	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**41.4**	103	76-126	--	20	1.0	0.20
1,2-Dichloropropane		40.0	**42.4**	106	82-122	--	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.8**	95	77-120	--	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.0**	90	73-116	--	20	1.0	0.19
Ethylbenzene		40.0	**43.8**	110	87-119	--	20	1.0	0.21
2-Hexanone		40.0	**36.5**	91	55-141	--	20	5.0	0.49
Isopropylbenzene		40.0	**39.0**	97	76-126	--	20	1.0	0.22
Methyl Acetate		40.0	**33.0**	83	67-129	--	20	5.0	0.42
Methyl tert-Butyl Ether		40.0	**40.2**	101	72-128	--	20	1.0	0.19
Methylcyclohexane		40.0	**39.9**	100	78-126	--	20	5.0	0.37
Methylene Chloride		40.0	**40.6**	102	75-129	--	20	1.0	0.24
2-Butanone (MEK)		40.0	**38.9**	97	52-142	--	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**39.5**	99	60-142	--	20	5.0	0.40
Styrene		40.0	**38.1**	95	84-120	--	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.6**	104	70-137	--	20	1.0	0.26
Tetrachloroethene		40.0	**42.8**	107	81-117	--	20	1.0	0.23
Toluene		40.0	**40.7**	102	85-118	--	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**39.0**	97	75-125	--	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**43.6**	109	81-122	--	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.1**	100	83-121	--	20	1.0	0.20
Trichloroethene		40.0	**41.3**	103	82-119	--	20	1.0	0.21
Trichlorofluoromethane		40.0	**37.3**	93	76-128	--	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**37.5**	94	76-126	--	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	--	20	1.0	0.21
Xylene (Total)		120	**117**	97	86-119	--	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*102*	*85-118*				
1,2-Dichloroethane-d4				*100*	*87-122*				
Toluene-d8				*97*	*85-113*				

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Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B									
Laboratory Control Sample (Continued)					Analyzed:	11/13/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2K14027			
Surrogates (Continued):									
4-Bromofluorobenzene				*100*	*82-110*				
Laboratory Control Sample Duplicate					Analyzed:	11/13/2012	By: BAG		
Unit: ug/L					Analytical Batch:	2K14027			
Acetone		40.0	**38.3**	96	53-138	0	20	5.0	1.1
Benzene		40.0	**41.8**	104	84-119	1	20	1.0	0.11
Bromodichloromethane		40.0	**44.2**	111	82-124	0	20	1.0	0.13
Bromoform		40.0	**35.0**	88	65-123	0	20	1.0	0.26
Bromomethane		40.0	**34.5**	86	55-142	0	20	1.0	0.21
Carbon Disulfide		40.0	**46.6**	116	70-131	0	20	5.0	0.23
Carbon Tetrachloride		40.0	**44.1**	110	79-127	0	20	1.0	0.26
Chlorobenzene		40.0	**41.2**	103	84-118	2	20	1.0	0.17
Chloroethane		40.0	**37.2**	93	76-124	0	20	1.0	0.14
Chloroform		40.0	**40.9**	102	82-119	0	20	1.0	0.098
Chloromethane		40.0	**34.3**	86	73-125	0	20	1.0	0.29
Cyclohexane		40.0	**41.5**	104	77-130	0	20	5.0	0.18
1,2-Dibromo-3-chloropropane		40.0	**36.2**	90	58-130	0	20	1.0	0.13
Dibromochloromethane		40.0	**38.3**	96	74-121	0	20	1.0	0.15
1,2-Dibromoethane		40.0	**38.8**	97	84-125	0	20	1.0	0.15
1,2-Dichlorobenzene		40.0	**43.4**	109	81-124	0	20	1.0	0.24
1,3-Dichlorobenzene		40.0	**43.2**	108	81-124	0	20	1.0	0.24
1,4-Dichlorobenzene		40.0	**43.2**	108	79-122	0	20	1.0	0.25
Dichlorodifluoromethane		40.0	**36.4**	91	68-130	0	20	1.0	0.21
1,1-Dichloroethane		40.0	**42.4**	106	80-118	0	20	1.0	0.18
1,2-Dichloroethane		40.0	**40.1**	100	81-122	0	20	1.0	0.21
1,1-Dichloroethene		40.0	**38.9**	97	77-123	1	20	1.0	0.21
cis-1,2-Dichloroethene		40.0	**42.7**	107	84-119	0	20	1.0	0.12
trans-1,2-Dichloroethene		40.0	**41.4**	103	76-126	0	20	1.0	0.20
1,2-Dichloropropane		40.0	**42.4**	106	82-122	0	20	1.0	0.28
cis-1,3-Dichloropropene		40.0	**37.8**	95	77-120	0	20	1.0	0.19
trans-1,3-Dichloropropene		40.0	**36.0**	90	73-116	0	20	1.0	0.19
Ethylbenzene		40.0	**43.8**	110	87-119	0	20	1.0	0.21
2-Hexanone		40.0	**36.5**	91	55-141	0	20	5.0	0.49
Isopropylbenzene		40.0	**39.0**	97	76-126	0	20	1.0	0.22
Methyl Acetate		40.0	**33.0**	83	67-129	0	20	5.0	0.42

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Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1214054 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample Duplicate (Continued) Analyzed: 11/13/2012 By: BAG

Unit: ug/L Analytical Batch: 2K14027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Methyl tert-Butyl Ether		40.0	**40.2**	101	72-128	0	20	1.0	0.19
Methylcyclohexane		40.0	**39.9**	100	78-126	0	20	5.0	0.37
Methylene Chloride		40.0	**40.6**	102	75-129	0	20	1.0	0.24
2-Butanone (MEK)		40.0	**38.9**	97	52-142	0	20	5.0	0.63
4-Methyl-2-pentanone (MIBK)		40.0	**39.5**	99	60-142	0	20	5.0	0.40
Styrene		40.0	**38.1**	95	84-120	0	20	1.0	0.20
1,1,2,2-Tetrachloroethane		40.0	**41.6**	104	70-137	0	20	1.0	0.26
Tetrachloroethene		40.0	**42.8**	107	81-117	0	20	1.0	0.23
Toluene		40.0	**41.1**	103	85-118	0.9	20	1.0	0.18
1,2,4-Trichlorobenzene		40.0	**39.0**	97	75-125	0	20	1.0	0.13
1,1,1-Trichloroethane		40.0	**43.6**	109	81-122	0	20	1.0	0.14
1,1,2-Trichloroethane		40.0	**40.1**	100	83-121	0	20	1.0	0.20
Trichloroethene		40.0	**41.9**	105	82-119	1	20	1.0	0.21
Trichlorofluoromethane		40.0	**37.3**	93	76-128	0	20	1.0	0.27
1,1,2-Trichloro-1,2,2-trifluoroethane		40.0	**37.5**	94	76-126	0	20	1.0	0.24
Vinyl Chloride		40.0	**36.3**	91	77-123	0	20	1.0	0.21
Xylene (Total)		120	**117**	97	86-119	0	20	3.0	0.39
Surrogates:									
Dibromofluoromethane				*100*	*85-118*				
1,2-Dichloroethane-d4				*99*	*87-122*				
Toluene-d8				*96*	*85-113*				
4-Bromofluorobenzene				*99*	*82-110*				

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QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213646 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Acenaphthene	0.50 U			0.50	
Acenaphthylene	0.50 U			0.50	
Acetophenone	0.50 U		--	0.50	
Anthracene	0.50 U			0.50	
Atrazine	0.50 U			0.50	
Benzaldehyde	0.50 U			0.50	
Benzo(a)anthracene	0.50 U		--	0.50	
Benzo(a)pyrene	0.50 U			0.50	
Benzo(b)fluoranthene	0.50 U			0.50	
Benzo(k)fluoranthene	0.50 U			0.50	
Benzo(g,h,i)perylene	0.50 U			0.50	
1,1'-Biphenyl	0.50 U		--	0.50	
4-Bromophenyl Phenyl Ether	0.50 U			0.50	
Butyl Benzyl Phthalate	1.0 U			1.0	
Caprolactam	1.0 U		--	1.0	
Carbazole	0.50 U		--	0.50	
4-Chloro-3-methylphenol	0.50 U			0.50	
4-Chloroaniline	1.0 U			1.0	
Bis(2-chloroethoxy)methane	0.50 U			0.50	
Bis(2-chloroethyl) Ether	0.50 U			0.50	
Bis(2-chloroisopropyl) Ether	0.50 U			0.50	
2-Chloronaphthalene	0.50 U			0.50	
2-Chlorophenol	0.50 U			0.50	
4-Chlorophenyl Phenyl Ether	0.50 U		--	0.50	
Chrysene	0.50 U		--	0.50	
Dibenz(a,h)anthracene	0.50 U			0.50	
Dibenzofuran	0.50 U			0.50	
Di-n-butyl Phthalate	1.0 U		--	1.0	
3,3´-Dichlorobenzidine	1.0 U			1.0	
2,4-Dichlorophenol	0.50 U			0.50	
Diethyl Phthalate	0.50 U		--	0.50	
2,4-Dimethylphenol	1.0 U			1.0	
Dimethyl Phthalate	0.50 U		--	0.50	
4,6-Dinitro-2-methylphenol	5.0 U			5.0	
2,4-Dinitrophenol	5.0 U			5.0	
2,4-Dinitrotoluene	0.50 U			0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213646 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

2,6-Dinitrotoluene			0.50 U					0.50	
Di-n-octyl Phthalate			0.50 U			--		0.50	
*Bis(2-ethylhexyl) Phthalate			0.50 U			--		0.50	
Fluoranthene			0.50 U					0.50	
Fluorene			0.50 U					0.50	
Hexachlorobenzene			0.50 U					0.50	
Hexachlorobutadiene			0.50 U					0.50	
Hexachlorocyclopentadiene			0.50 U					0.50	
Hexachloroethane			0.50 U					0.50	
Indeno(1,2,3-cd)pyrene			0.50 U					0.50	
Isophorone			0.50 U			--		0.50	
2-Methylnaphthalene			0.50 U					0.50	
2-Methylphenol			0.50 U					0.50	
4-Methylphenol			0.50 U			--		0.50	
Naphthalene			0.50 U					0.50	
2-Nitroaniline			0.50 U					0.50	
3-Nitroaniline			1.0 U					1.0	
4-Nitroaniline			1.0 U			--		1.0	
Nitrobenzene			0.50 U					0.50	
4-Nitrophenol			5.0 U					5.0	
2-Nitrophenol			0.50 U					0.50	
N-Nitroso-diphenylamine			0.50 U					0.50	
N-Nitroso-di-n-propylamine			0.50 U					0.50	
Pentachlorophenol			0.50 U					0.50	
Phenanthrene			0.50 U			--		0.50	
Phenol			0.50 U			--		0.50	
Pyrene			0.50 U					0.50	
2,4,6-Trichlorophenol			0.50 U					0.50	
2,4,5-Trichlorophenol			0.50 U					0.50	
Surrogates:									
2-Fluorophenol				*51*	*20-70*				
Phenol-d6				*34*	*18-45*				
Nitrobenzene-d5				*83*	*31-123*				
2-Fluorobiphenyl				*83*	*25-113*				
2,4,6-Tribromophenol				*60*	*30-121*				
o-Terphenyl				*78*	*42-125*				

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213646 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample Analyzed: 11/09/2012 By: JLB

Unit: ug/L Analytical Batch: 2K13019

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Acenaphthylene		10.0	**7.88**	79	62-133	--	20	0.50	
Acetophenone		10.0	**7.36**	74	58-115	--	20	0.50	
Anthracene		10.0	**8.02**	80	64-130	--	20	0.50	
Atrazine		10.0	**8.80**	88	60-140	--	20	0.50	
Benzaldehyde		10.0	**17.7**	**177**	35-128	--	20	0.50	
Benzo(a)anthracene		10.0	**8.15**	82	63-129	--	20	0.50	
Benzo(a)pyrene		10.0	**7.92**	79	59-131	--	20	0.50	
Benzo(b)fluoranthene		10.0	**8.16**	82	58-133	--	20	0.50	
Benzo(k)fluoranthene		10.0	**7.12**	71	59-132	--	20	0.50	
Benzo(g,h,i)perylene		10.0	**9.16**	92	52-129	--	20	0.50	
1,1'-Biphenyl		10.0	**7.70**	77	58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether		10.0	**7.81**	78	57-124	--	20	0.50	
Butyl Benzyl Phthalate		10.0	**8.33**	83	58-141	--	20	1.0	
Caprolactam		10.0	**1.78**	**18**	23-76	--	20	1.0	
Carbazole		10.0	**8.23**	82	62-146	--	20	0.50	
4-Chloroaniline		10.0	**8.30**	83	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**6.60**	66	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**6.95**	70	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**7.07**	71	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.82**	78	58-126	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**7.78**	78	57-122	--	20	0.50	
Chrysene		10.0	**7.90**	79	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**9.30**	93	57-130	--	20	0.50	
Dibenzofuran		10.0	**8.01**	80	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.72**	87	58-145	--	20	1.0	
3,3´-Dichlorobenzidine		20.0	1.0 U	**0**	55-135		20	1.0	
2,4-Dichlorophenol		10.0	**7.81**	78	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**14.2**	**142**	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**6.89**	69	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**8.17**	82	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**8.26**	83	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**8.93**	89	10-147	--	20	5.0	
2,6-Dinitrotoluene		10.0	**8.19**	82	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**7.93**	79	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**8.46**	85	60-136	--	20	0.50	
Fluoranthene		10.0	**8.29**	83	64-138	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL

QC Batch: 1213646 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/09/2012 By: JLB

Unit: ug/L Analytical Batch: 2K13019

Fluorene	10.0	**7.95**	80	60-128	--	20	0.50	
Hexachlorobenzene	10.0	**7.50**	75	49-130	--	20	0.50	
Hexachlorobutadiene	10.0	**7.26**	73	50-128	--	20	0.50	
Hexachlorocyclopentadiene	10.0	**7.85**	78	21-138	--	20	0.50	
Hexachloroethane	10.0	**6.90**	69	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene	10.0	**9.13**	91	57-129	--	20	0.50	
Isophorone	10.0	**6.81**	68	56-129	--	20	0.50	
2-Methylnaphthalene	10.0	**7.63**	76	59-135	--	20	0.50	
2-Methylphenol	10.0	**5.88**	59	39-107	--	20	0.50	
4-Methylphenol	10.0	**5.63**	56	33-122	--	20	0.50	
2-Nitroaniline	10.0	**8.37**	84	57-130	--	20	0.50	
3-Nitroaniline	10.0	1.0 U	**0**	49-144		20	1.0	
4-Nitroaniline	10.0	1.0 U	**0**	52-143		20	1.0	
Nitrobenzene	10.0	**7.57**	76	53-121	--	20	0.50	
2-Nitrophenol	10.0	**7.32**	73	44-128	--	20	0.50	
N-Nitroso-diphenylamine	10.0	**8.13**	81	45-110	--	20	0.50	
Phenanthrene	10.0	**7.93**	79	63-126	--	20	0.50	
2,4,6-Trichlorophenol	10.0	**7.90**	79	47-128	--	20	0.50	
2,4,5-Trichlorophenol	10.0	**8.84**	88	53-129	--	20	0.50	

Laboratory Control Sample Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Acenaphthene	10.0	**8.02**	80	53-126	--	20	0.50	
Acenaphthylene	10.0	**8.21**	82	62-133	--	20	0.50	
Acetophenone		**7.53**		58-115	--	20	0.50	
Anthracene	10.0	**7.93**	79	64-130	--	20	0.50	
Atrazine		**7.65**		60-140	--	20	0.50	
Benzaldehyde		**7.35**		35-128	--	20	0.50	
Benzo(a)anthracene	10.0	**8.11**	81	63-129	--	20	0.50	
Benzo(a)pyrene	10.0	**8.10**	81	59-131	--	20	0.50	
Benzo(b)fluoranthene	10.0	**8.17**	82	58-133	--	20	0.50	
Benzo(k)fluoranthene	10.0	**7.48**	75	59-132	--	20	0.50	
Benzo(g,h,i)perylene	10.0	**7.69**	77	52-129	--	20	0.50	
1,1'-Biphenyl		**7.69**		58-116	--	20	0.50	
4-Bromophenyl Phenyl Ether	10.0	**7.14**	71	57-124	--	20	0.50	
Butyl Benzyl Phthalate	10.0	**9.30**	93	58-141	--	20	1.0	
Caprolactam		**1.35**		23-76	--	20	1.0	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213646 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Carbazole		10.0	**8.04**	80	62-146	--	20	0.50	
4-Chloro-3-methylphenol		10.0	**8.27**	83	53-120	--	20	0.50	
4-Chloroaniline		10.0	**7.49**	75	44-138	--	20	1.0	
Bis(2-chloroethoxy)methane		10.0	**6.86**	69	52-124	--	20	0.50	
Bis(2-chloroethyl) Ether		10.0	**7.91**	79	42-123	--	20	0.50	
Bis(2-chloroisopropyl) Ether		10.0	**7.14**	71	50-122	--	20	0.50	
2-Chloronaphthalene		10.0	**7.62**	76	58-126	--	20	0.50	
2-Chlorophenol		10.0	**6.71**	67	44-121	--	20	0.50	
4-Chlorophenyl Phenyl Ether		10.0	**7.46**	75	57-122	--	20	0.50	
Chrysene		10.0	**7.71**	77	66-134	--	20	0.50	
Dibenz(a,h)anthracene		10.0	**7.77**	78	57-130	--	20	0.50	
Dibenzofuran		10.0	**8.00**	80	59-123	--	20	0.50	
Di-n-butyl Phthalate		10.0	**8.22**	82	58-145	--	20	1.0	
3,3´-Dichlorobenzidine			**15.9**		55-135	--	20	1.0	
2,4-Dichlorophenol		10.0	**7.20**	72	51-122	--	20	0.50	
Diethyl Phthalate		10.0	**8.21**	82	55-129	--	20	0.50	
2,4-Dimethylphenol		10.0	**5.85**	58	35-112	--	20	1.0	
Dimethyl Phthalate		10.0	**8.07**	81	61-126	--	20	0.50	
4,6-Dinitro-2-methylphenol		10.0	**6.63**	66	25-139	--	20	5.0	
2,4-Dinitrophenol		10.0	**5.35**	54	10-147	--	20	5.0	
2,4-Dinitrotoluene		10.0	**9.00**	90	55-131	--	20	0.50	
2,6-Dinitrotoluene		10.0	**8.34**	83	59-120	--	20	0.50	
Di-n-octyl Phthalate		10.0	**8.36**	84	55-136	--	20	0.50	
Bis(2-ethylhexyl) Phthalate		10.0	**8.42**	84	60-136	--	20	0.50	
Fluoranthene		10.0	**7.53**	75	64-138	--	20	0.50	
Fluorene		10.0	**7.88**	79	60-128	--	20	0.50	
Hexachlorobenzene		10.0	**6.79**	68	49-130	--	20	0.50	
Hexachlorobutadiene		10.0	**6.58**	66	50-128	--	20	0.50	
Hexachlorocyclopentadiene		10.0	**5.23**	52	21-138	--	20	0.50	
Hexachloroethane		10.0	**7.85**	78	41-123	--	20	0.50	
Indeno(1,2,3-cd)pyrene		10.0	**7.63**	76	57-129	--	20	0.50	
Isophorone		10.0	**7.24**	72	56-129	--	20	0.50	
2-Methylnaphthalene		10.0	**7.35**	74	59-135	--	20	0.50	
2-Methylphenol		10.0	**5.54**	55	39-107	--	20	0.50	
4-Methylphenol		10.0	**5.97**	60	33-122	--	20	0.50	
Naphthalene		10.0	**7.78**	78	50-127	--	20	0.50	

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Semivolatile Organic Compounds by EPA Method 8270C (Continued)

QC Batch: 1213646 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Laboratory Control Sample (Continued) Analyzed: 11/15/2012 By: JLB

Unit: ug/L Analytical Batch: 2K16027

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
2-Nitroaniline		10.0	**9.16**	92	57-130	--	20	0.50	
3-Nitroaniline		10.0	**8.38**	84	49-144	--	20	1.0	
4-Nitroaniline		10.0	**8.09**	81	52-143	--	20	1.0	
Nitrobenzene		10.0	**7.13**	71	53-121	--	20	0.50	
*4-Nitrophenol		10.0	**2.50 J**	25	17-70	--	20	5.0	
2-Nitrophenol		10.0	**7.96**	80	44-128	--	20	0.50	
N-Nitroso-diphenylamine		10.0	**8.06**	81	45-110	--	20	0.50	
N-Nitroso-di-n-propylamine		10.0	**7.61**	76	49-125	--	20	0.50	
Pentachlorophenol		10.0	**4.42**	44	21-124	--	20	0.50	
Phenanthrene		10.0	**7.65**	76	63-126	--	20	0.50	
Phenol		10.0	**3.44**	34	22-60	--	20	0.50	
Pyrene		10.0	**8.46**	85	60-134	--	20	0.50	
2,4,6-Trichlorophenol		10.0	**6.30**	63	47-128	--	20	0.50	
2,4,5-Trichlorophenol		10.0	**7.24**	72	53-129	--	20	0.50	
Surrogates:									
2-Fluorophenol				*39*	*20-70*				
Phenol-d6				*28*	*18-45*				
Nitrobenzene-d5				*77*	*31-123*				
2-Fluorobiphenyl				*76*	*25-113*				
2,4,6-Tribromophenol				*61*	*30-121*				
o-Terphenyl				*71*	*42-125*				

*See Statement of Data Qualifications

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Antimony/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			**0.16 J**	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**49.1**	ug/L	98	80-120		20	1.0	0.15
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	<RL	50.0	**49.2**	ug/L	98	75-125		20	1.0	0.15
Matrix Spike Duplicate	<RL	50.0	**50.0**	ug/L	100	75-125	2	20	1.0	0.15
Analyte: Arsenic/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.18
Laboratory Control Sample		50.0	**50.1**	ug/L	100	80-120		20	1.0	0.18
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.608	50.0	**50.8**	ug/L	100	75-125		20	1.0	0.18
Matrix Spike Duplicate	0.608	50.0	**50.9**	ug/L	101	75-125	0.1	20	1.0	0.18
Analyte: Barium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**51.3**	ug/L	103	80-120		20	1.0	0.14
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	24.2	50.0	**73.3**	ug/L	98	75-125		20	1.0	0.14
Matrix Spike Duplicate	24.2	50.0	**73.8**	ug/L	99	75-125	0.7	20	1.0	0.14
Analyte: Beryllium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.11
Laboratory Control Sample		50.0	**50.1**	ug/L	100	80-120		20	1.0	0.11
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	<RL	50.0	**49.0**	ug/L	98	75-125		20	1.0	0.11
Matrix Spike Duplicate	<RL	50.0	**49.4**	ug/L	99	75-125	1	20	1.0	0.11
Analyte: Cadmium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.038

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Cadmium/USEPA-6020A (Continued)										
QC Batch: 1213629 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**49.5**	ug/L	99	80-120		20	0.20	0.038
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	<RL	50.0	**50.5**	ug/L	101	75-125		20	0.20	0.038
Matrix Spike Duplicate	<RL	50.0	**51.1**	ug/L	102	75-125	1	20	0.20	0.038
Analyte: Chromium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.20
Laboratory Control Sample		50.0	**48.5**	ug/L	97	80-120		20	1.0	0.20
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.306	50.0	**46.7**	ug/L	93	75-125		20	1.0	0.20
Matrix Spike Duplicate	0.306	50.0	**49.3**	ug/L	98	75-125	5	20	1.0	0.20
Analyte: Cobalt/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.050
Laboratory Control Sample		50.0	**49.5**	ug/L	99	80-120		20	1.0	0.050
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.154	50.0	**48.2**	ug/L	96	75-125		20	1.0	0.050
Matrix Spike Duplicate	0.154	50.0	**48.9**	ug/L	97	75-125	1	20	1.0	0.050
Analyte: Copper/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			**0.18 J**	ug/L					1.0	0.13
Laboratory Control Sample		50.0	**49.8**	ug/L	100	80-120		20	1.0	0.13
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	1.41	50.0	**48.3**	ug/L	94	75-125		20	1.0	0.13
Matrix Spike Duplicate	1.41	50.0	**48.3**	ug/L	94	75-125	0.06	20	1.0	0.13
Analyte: Iron/USEPA-6010C										
QC Batch: 1213720 (3010A Digestion)							Analyzed: 11/12/2012		By: KLV	
Method Blank			20 U	ug/L					20	6.5

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Iron/USEPA-6010C (Continued)										
QC Batch: 1213720 (Continued) (3010A Digestion)							Analyzed: 11/12/2012		By: KLV	
Laboratory Control Sample		400	**380**	ug/L	95	80-120		20	20	6.5
Laboratory Control Sample Duplicate			**389**	ug/L			2	20	20	6.5
Analyte: Lead/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.15
Laboratory Control Sample		50.0	**51.4**	ug/L	103	80-120		20	1.0	0.15
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	<RL	50.0	**50.3**	ug/L	101	75-125		20	1.0	0.15
Matrix Spike Duplicate	<RL	50.0	**51.0**	ug/L	102	75-125	1	20	1.0	0.15
Analyte: Manganese/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.14
Laboratory Control Sample		50.0	**48.4**	ug/L	97	80-120		20	1.0	0.14
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	3.99	50.0	**50.9**	ug/L	94	75-125		20	1.0	0.14
Matrix Spike Duplicate	3.99	50.0	**52.0**	ug/L	96	75-125	2	20	1.0	0.14
Analyte: Mercury/USEPA-7470A										
QC Batch: 1213666 (7470A Digestion - Total)							Analyzed: 11/09/2012		By: CKD	
Method Blank			0.20 U	ug/L					0.20	0.055
Laboratory Control Sample		2.00	**2.02**	ug/L	101	80-120		20	0.20	0.055
Analyte: Molybdenum/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.075
Laboratory Control Sample		50.0	**49.1**	ug/L	98	80-120		20	1.0	0.075
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.719	50.0	**50.8**	ug/L	100	75-125		20	1.0	0.075

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Molybdenum/USEPA-6020A (Continued)										
QC Batch: 1213629 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike Duplicate	0.719	50.0	**52.0**	ug/L	102	75-125	2	20	1.0	0.075
Analyte: Nickel/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.17
Laboratory Control Sample		50.0	**48.9**	ug/L	98	80-120		20	1.0	0.17
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.725	50.0	**46.7**	ug/L	92	75-125		20	1.0	0.17
Matrix Spike Duplicate	0.725	50.0	**47.6**	ug/L	94	75-125	2	20	1.0	0.17
Analyte: Selenium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.31
Laboratory Control Sample		50.0	**50.0**	ug/L	100	80-120		20	1.0	0.31
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.326	50.0	**51.3**	ug/L	102	75-125		20	1.0	0.31
Matrix Spike Duplicate	0.326	50.0	**52.2**	ug/L	104	75-125	2	20	1.0	0.31
Analyte: Silver/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			0.20 U	ug/L					0.20	0.037
Laboratory Control Sample		50.0	**48.7**	ug/L	97	80-120		20	0.20	0.037
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	<RL	50.0	**44.5**	ug/L	89	75-125		20	0.20	0.037
Matrix Spike Duplicate	<RL	50.0	**48.4**	ug/L	97	75-125	8	20	0.20	0.037
Analyte: Thallium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.027

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QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Thallium/USEPA-6020A (Continued)										
QC Batch: 1213629 (Continued) (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Laboratory Control Sample		50.0	**50.0**	ug/L	100	80-120		20	1.0	0.027
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	<RL	50.0	**49.5**	ug/L	99	75-125		20	1.0	0.027
Matrix Spike Duplicate	<RL	50.0	**50.3**	ug/L	101	75-125	2	20	1.0	0.027
Analyte: Vanadium/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			1.0 U	ug/L					1.0	0.066
Laboratory Control Sample		50.0	**48.6**	ug/L	97	80-120		20	1.0	0.066
1211081-01 [WG-17360-110512-EB-001]										
Matrix Spike	0.572	50.0	**48.6**	ug/L	96	75-125		20	1.0	0.066
Matrix Spike Duplicate	0.572	50.0	**50.8**	ug/L	100	75-125	4	20	1.0	0.066
Analyte: Zinc/USEPA-6020A										
QC Batch: 1213629 (3020A Digestion)							Analyzed: 11/10/2012		By: DSC	
Method Blank			**26**	ug/L					10	1.5
*Laboratory Control Sample		50.0	**50.2 B**	ug/L	100	80-120		20	10	1.5
1211081-01 [WG-17360-110512-EB-001]										
*Matrix Spike	9.92JB	50.0	**56.0 B**	ug/L	92	75-125		20	10	1.5
*Matrix Spike Duplicate	9.92JB	50.0	**54.4 B**	ug/L	89	75-125	3	20	10	1.5

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CHAIN OF CUSTODY RECORD

COC NO.: PL- 10039

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E-1211081

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Phone: (734) 453-5123 Fax: (734) 453-5201

47-7, Cart 5, 487W (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-TOS121-10412	Laboratory Name: TML
Project Name: Former Grand Rapids Metal Plant	Lab Contact: J. Rice
Project Location: Wyoming, MI	Lab Location: Grand Rapids MI
Chemistry Contact: P. Wiseman	Lab Quote No: -
Sampler(s): E. Batenburg	SSOW ID: 11980-TOS121-01
	Cooler No: -
	Carrier: Drop @ Lab
	Airbill No: -
	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: TCL VOCs	TCL SVOCs	PCBs	Site Specific Metals	MS/MSD Request	Comments/ Special Instructions:
01 1	WG-17360-110512-EB-001	11/5/12	1015	WG	G	3	3	1						7	X	X	XX	(12)		
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: 7

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	11-5-12	1251	1.		11-5-12	12:51
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)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRA | Work Order #: 1211081
Receipt Record Page/Line #: 47.7 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): WC 11/5/12

☑ Cooler ☐ Box ☐ Other _____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via
Tm 0950	1410	☑ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☑ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☑ Temperature Blank (TB) ☐ 1 Container
Cooler #	Time	☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
Cooler #	Time	☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container
Cooler #	Time	☐ None ☐ Present / Intact ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB) ☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		–	10.9
TB location: Representative / Not Representative			
1	11.6	–	11.6
2	11.9	–	11.9
3	11.0	–	11.0
Average °C			11.5

☑ Cooler ID on COC? ☑ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRA

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
		☑	Average sample temperature ≤6° C?
☑	☐	☑	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑		Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐		Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
11/5/12 0800	11/5/12 1425	Yes (No)

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA	Work Order #: 1211081
Receipt Log #: 47.7	Completed By (initials/date): WC 11/5/12
	Project Chemist:

COC ID #: PL: 10039 — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3, 6, 15

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1						✓		
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

Ph Strip Lot #: HC137671

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #: ____ — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES: 3, 6, 15

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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ANALYTICAL SERVICES REPORT

Prepared for:
CRA - Plymouth, Michigan
14496 Sheldon Road, Suite #200
Plymouth, MI 48170

Project:
Former GR Metal Plant; 11980-T05121-013

Work Orders:
1211154

Date:
November 16, 2012

Prepared by:
TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE
Grand Rapids, MI 49512-5503

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CASE NARRATIVE

CRA - Plymouth, Michigan
Former GR Metal Plant; 11980-T05121-013

SDG Executive Summary

This case narrative applies to samples received on November 08, 2012. All samples were scheduled for analysis in accordance with parameters outlined on the field chain of custody record, the TriMatrix bid form, and/or oral and written correspondence between CRA - Plymouth, Michigan and TriMatrix Laboratories, Inc..

Project Technical Issues/Problems

Project-related data qualification designations and reporting conventions are included in Attachment 1 - *Project Technical Narrative*.

QA/QC Data Qualifications/Narrations

Quality assurance issues and/or quality control data qualifications and narrations related to the analysis and reporting of this SDG/workorder(s) are presented in Attachment 2 - *Statement of Data Qualifications*. The absence of a statement page for a particular analyte group (*e.g.* Percent Solids) implies that no qualifying statements were generated for that analyte.

Data Review and Approval

All data was peer-reviewed by a second analyst, and then by appropriate data management staff against laboratory quality control requirements and project specifications. It was then reviewed and approved by the group supervisor/manager prior to further review by the project chemist.

Data Deliverables

The data deliverables, both hardcopy and/or electronic (EDD), that comprise this report are intended to comply with the documents referenced in the introductory section of this narrative. The EDD, if requested, will be issued separately from this hardcopy report.

This report relates only to the samples(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Conference (NELAC). Estimates of analytical uncertainties for the test results contained within the report are available upon request.

Gary L. Wood, Project Chemist

11/16/12

Date

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Sample Receipt and Login -- Work Order: 1211154

TriMatrix Laboratories received the cooler(s) for this work order on November 08, 2012, at 15:47. Receiving documents include field chain-of-custody (COC) record(s), sample receipt form(s), and Client Drop-Off shipping document(s). The condition of the custody seals, the type and location of the coolant, and the temperatures recorded for each cooler are presented on the TriMatrix Sample Receiving / Log-In Checklist. The receipt temperature of the samples was determined by using an infrared thermometer to record the temperature of three random samples of varying container types and the accompanying temperature blank, if present.

Samples were scheduled for the analyses listed on the corresponding field COC form, the TriMatrix bidform and/or oral and written correspondance between the client and TriMatrix Laboratories, Inc.. Field IDs and assigned laboratory identifiers are presented in the table below.

Field Sample Name	Laboratory Sample ID	Matrix	Date Sampled
SW-17360-110812-EB-009	1211154-01	Water	11/8/2012

No administrative issues were encountered during the receipt and analysis of this work order.

The following administrative issues were encountered during the receipt and analysis of this work order:

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CASE NARRATIVE

Attachment 1
Project Technical Narrative

Sample Result Reporting Convention

Sample results are reported as RL "U" (e.g. 0.001 U) if the target analyte was not detected above the MDL.

If a sample for an organic analyte is reanalyzed and also reported, the second analysis includes the suffix "RE*n*" where *n* = the first, second, etc. reanalysis.

Percent Solids and Metals Data Reporting

Unless otherwise noted, all soil samples requiring metals analysis are dried at 50° to 60° C to a constant weight prior to acid digestion. In order to report results on a dry weight basis, correction for percent solids is not applicable.

Data Qualifier Designation

If applicable, sample results are qualified with:

- a "J" flag if the analyte was detected, but the concentration is greater than the MDL and less than the RL;
- a "B" flag if the analyte was also detected at or above the RL in the associated method blank, and the sample concentration was less than five times the method blank result;
- an "E" flag if the analyte exceeded the instrument calibration range;
- an asterisk (*) if a report-generated statement of qualification applies; qualifying statements, if any, will be found in Attachment 2 to this narrative.

QC Batch and Analytical Batch Designation

A Quality Control (QC) Batch is a seven-digit number that associates all samples that have been prepared together (or analyzed together if there is no preparation). Quality Control batches are limited to no more than twenty samples, excluding batch QC (method blanks, control spikes, etc.). Some batches may contain multiple sets of method blanks (BLK) and laboratory control samples (BS), where a set of method quality control analyses were prepared in concert with each set of samples on a given day.

An Analytical Batch (or Sequence) is a seven-digit number that associates all samples analyzed as a set under one analytical run.

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CASE NARRATIVE

Attachment 2
Statement of Data Qualifications

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Qualification: The referenced method requires analysis occur immediately after sample collection. Because analysis was not performed in the field, the reported result must be considered estimated.

Analysis: SM 4500-H B 20th

Sample/Analyte: 1211154-01 SW-17360-110812-EB-009 pH

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**CRA - Plymouth, Michigan**	Work Order:	**1211154**
Project:	Former GR Metal Plant; 11980-T05121-013	Description:	Laboratory Services
Client Sample ID:	**SW-17360-110812-EB-009**	Sampled:	11/08/12 15:05
Lab Sample ID:	**1211154-01**	Sampled By:	E.B.
Matrix:	Water	Received:	11/08/12 15:47

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	MDL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Hardness as CaCO3	**344**	4	0	mg/L	1	SM 2340 C 20th	11/09/12 14:20	KAR	1213764
***pH**	**7.7**	1.0		pH Units	1	SM 4500-H B 20th	11/09/12 15:47	SKA	1214175

*See Statement of Data Qualifications

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical / Chemical Parameters by EPA / APHA / ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
Analyte: Hardness as CaCO3/SM 2340 C 20th										
QC Batch: 1213764 (Method Specific Preparation)							Analyzed: 11/09/2012		By: KAR	
Method Blank			2 U	mg/L					2	
Laboratory Control Sample		86.3	**85**	mg/L	98	92-110			2	
Laboratory Control Sample		200	**199**	mg/L	100	92-110			2	

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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-10046
PAGE 1 OF 1

1211154

CDRT 10 (4-33) (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 017360-T05121-1012	**Laboratory Name:** TML	**Lab Location:** Grand Rapids MI	**SSOW ID:** 11980-T05121-013
Project Name: RACER: Former Grand Rapids Metal Plant	**Lab Contact:** J. Rice	**Lab Quote No:** —	**Cooler No:** —
Project Location: Wyoming, MI			**Carrier:** Drop @ lab
Chemistry Contact: P. Wiseman			**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)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Hardness (6)	pH (3)	MS/MSD Request	Comments/ Special Instructions:
01	SW-17360-110812-EB-009	11/8/12	1505	SW	G	1		1						2	X	X		
2													13					
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:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	CRA	11-8-12	1547	1.	TriMatrix	11/8/12	1547
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)

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: CRC | Work Order #: 121154
Receipt Record Page/Line #: 4-33 | New / Add To | Project Chemist: JLR | Sample #s

Recorded by (initials/date): DN 11/8/12

☑ Cooler ☐ Box ☐ Other _____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) | ☐ See Additional Cooler Information Form

Cooler # / Time	Cooler # / Time	Cooler # / Time	Cooler # / Time
TM2523 / 1809			

Custody Seals:
- ☑ None
- ☐ Present / Intact
- ☐ Present / Not Intact

Coolant Location: Dispersed / Top / Middle / Bottom

Coolant/Temperature Taken Via:
- ☑ Loose Ice / Avg 2-3 containers
- ☐ Bagged Ice / Avg 2-3 containers
- ☐ Blue Ice / Avg 2-3 containers
- ☐ None / Avg 2-3 containers

Alternate Temperature Taken Via:
- ☐ Temperature Blank (TB)
- ☐ 1 Container

	Recorded °C	Correction Factor °C	Actual °C
Temp Blank:			
TB location: Representative / Not Representative			
1	4.7	0	4.7
2	7.3	0	7.3
3	9.4	0	9.4
Average °C			7.1

- ☐ Cooler ID on COC?
- ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By _____
☑	☐	Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☐	Other _____

COC Information

☐ TriMatrix COC ☑ Other CRC

COC ID Numbers: 2L-10046

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑	☐	Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Average sample temperature ≤6° C?
☐	☐	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Intials: _____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑		Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

- ☐ Bacteriological
- ☐ Air Bags
- ☐ EnCores / Methanol Pre-Preserved
- ☐ Formaldehyde/Aldehyde
- ☑ Green-tagged containers
- ☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
- ☐ NONE RECEIVED
- ☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☑	☐	☐	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
11/8/12	11/8/12	Yes / No

Log In Forms - Receiving.Log-In_Checklist revision: 3.4

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SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: CRA		Work Order #: 1211154	
Receipt Log #: 4-33	Completed By (initials/date): DN 11/8/12	Project Chemist: JLR	

COC ID #: PL-10446 — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1					✓	✓		
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

Ph Strip Lot #: ☑ HC137671 ☐ ____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #: ____ — Adjusted by: ____ Date: ____

DO NOT ADJUST pH FOR THESE CONTAINER TYPES

Container Type	5	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		~7	<2	<2	
COC Line #1								
COC Line #2								
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments:

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms -- Sample_Preserve_Verification

version: 2.0

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

ATTACHMENT C

ANALYTICAL DATA VALIDATION MEMORANDUM

CONESTOGA-ROVERS & ASSOCIATES

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Indianapolis, Indiana 46278
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www.CRAworld.com

MEMORANDUM

TO: Jeni Quigley

REF. NO.: 017360-T01Y12

FROM: Michael Richardson/tl/63/Det

DATE: January 9, 2013

E-Mail and Hard Copy if Requested

C.C.: Paul Wiseman

RE: Data Quality Assessment and Reduced Validation
Groundwater Monitoring - October and November 2012
Former Grand Rapids Metal Plant Grand Rapids, Michigan

The following details a quality assessment and validation of the analytical data resulting from the October and November, collection of 48 groundwater samples, three (3) surface water, and eight (8) quality control samples from the Former Grand Rapids Metal Plant Site in Grand Rapids, Michigan. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TriMatrix Laboratories, Inc. located in Grand Rapids, Michigan (TML) in accordance with the methodologies presented in Table 2.

The quality control criteria used to assess the data were established by the methods and the quality assurance project plan (QAPP). Application of quality assurance criteria was consistent with following guidance documents:

i. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-99/008, October 1999;

ii. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA-540/R-94/013, February 1994.

These guidelines are collectively referred to as "NFGs" in this Memorandum.

Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), polychlorinated biphenyls (PCB) and inorganics below the laboratory's report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J". These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum.

Sample Preservation and Holding Times

The sample holding time criteria for the analyses are summarized in Table 2. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved and delivered on ice and stored by the laboratory at the required temperature (0-6°C).

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The samples presented in Table 3 should be qualified due to laboratory contamination. The laboratory flagged the concentrations with a "B" which may be disregarded. The remaining method blank samples did not contain target compounds with concentrations that impacted the investigative samples.

Surrogate Compounds - Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recoveries could not be measured or evaluated in a number of samples due to dilutions required to successfully analyze the samples. No qualification of these samples was required. The surrogate recovery acceptance criteria were met for all samples that could be evaluated.

Matrix Spike/Matrix Spike Duplicate Analyses

To assess the long term accuracy and precision of the analytical methods on various matrices, matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods or the laboratory and the NFG. The samples selected for MS/MSD analysis are identified in Table 1.

In some sample batches, non-Site-specific samples were utilized as MS/MSDs. Qualification of samples associated with these MS/MSDs was not performed. If MS/MSD analyses could not be completed in an analytical batch due to insufficient sample volume; precision and accuracy were verified by the analysis of the laboratory control sample/laboratory control duplicate (LCS/LCD). The MS/MSD percent recoveries and associated RPD acceptance criteria identified above were met, indicating compliance with established precision and accuracy objectives.

Laboratory Control Sample/Laboratory Control Duplicate Analyses

The laboratory control sample and laboratory control duplicate (LCS/LCD) analyses serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS/LCD percent recoveries were evaluated against method and laboratory established control limits.

The LCS/LCD percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved with the exception of the qualified samples presented in Table 4.

Laboratory precision was verified by the relative percent difference (RPD) of the LCS/LCD when a matrix spike/matrix spike duplicate was not analyzed.

The RPDs were within the laboratory control limits, indicating that an acceptable level of overall laboratory precision was achieved.

Field Quality Assurance/Quality Control

The field quality assurance/quality control consisted of two (2) field duplicate sample sets and six (6) trip blank samples.

Field Duplicate Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one the RL value.

All field duplicate data RRDs were within acceptance criteria indicating that an adequate level of precision was achieved for the sampling event.

Trip Blank Samples

To monitor potential cross-contamination of VOC during sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

The samples that were qualified due to trip blank contamination are summarized in Table 5. No additional compounds of interest were reported in the trip blank samples that impacted investigative samples.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted with the exception of the following:

- SVOC data were rejected in a number of samples due to LCS percent recovery violations.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Sample Identification	*Location*	*Matrix*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*Analysis/Parameters*				
						TCL VOC	*TCL SVOC*	*Metals*	*Hexavalent Chromium*	*Trivalent Chromium*
TM-GR Work Order: 1210504										
GW-17360-102312-DD-001	MW46-12	groundwater	MS/MSD	10/23/2012	9:35:00 AM	X	X	X	X	X
GW-17360-102312-DD-002	MW46-12	groundwater	DUP (001)	10/23/2012	9:55:00 AM				X	
Trip Blank TM3003	Trip Blank	DI water	Trip Blank	10/23/2012	10/23/2012	X				
GW-17360-102312-DD-003	MW13-04	groundwater	-	10/23/2012	10:48:00 AM	X				
GW-17360-102312-DD-004	MW43-12	groundwater	-	10/23/2012	11:35:00 AM	X				
GW-17360-102312-DD-005	MW45-12	groundwater	-	10/23/2012	12:50:00 PM	X	X	X		
GW-17360-102312-DD-006	MW45-12	groundwater	DUP (005)	10/23/2012	1:00:00 PM	X	X	X		
Trip Blank TM3004	Trip Blank	DI water	Trip Blank	10/23/2012	10/23/2012	X				
GW-17360-102312-DD-007	MW44-12	groundwater	-	10/23/2012	3:20:00 PM	X	X	X		
GW-17360-102312-DD-008	MW38-12	groundwater	-	10/23/2012	4:30:00 PM	X				
GW-17360-102312-DD-009	MW37-12	groundwater	-	10/23/2012	5:00:00 PM	X		X		
TM-GR Work Order: 1210567										
GW-17360-102512-JV-010	87-9	groundwater	-	10/25/2012	9:52:00 AM	X				
GW-17360-102512-JV-011	MW7-03	groundwater	-	10/25/2012	10:30:00 AM	X				
GW-17360-102512-JV-012	86-3	groundwater	-	10/25/2012	11:08:00 AM	X				
GW-17360-102512-JV-013	PWDISCH	groundwater	-	10/25/2012	12:37:00 PM	X				
GW-17360-102512-JV-014	87-8	groundwater	-	10/25/2012	12:12:00 PM	X				
GW-17360-102512-JV-015	87-13	groundwater	-	10/25/2012	1:52:00 PM	X				
GW-17360-102512-EB-016	MW28-12	groundwater	-	10/25/2012	10:25:00 AM	X				
GW-17360-102512-EB-017	85-1	groundwater	MS/MSD	10/25/2012	11:55:00 AM	X		X		
GW-17360-102512-EB-018	85-7	groundwater	-	10/25/2012	12:35:00 PM	X		X		
GW-17360-102512-EB-019	85-2	groundwater	-	10/25/2012	4:15:00 PM	X		X		
GW-17360-102512-JV-020	MW6-03	groundwater	-	10/25/2012	2:35:00 PM	X				
GW-17360-102512-JV-021	MW8-04	groundwater	-	10/25/2012	3:42:00 PM	X				
GW-17360-102512-EB-022	MW15-04	groundwater	-	10/25/2012	4:35:00 PM	X				
TB-17360-102512-EB	Trip Blank	DI water	Trip Blank	10/25/2012	10/25/2012	X				

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Sample Identification	*Location*	*Matrix*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*Analysis/Parameters*				
						TCL VOC	*TCL SVOC*	*Metals*	*Hexavalent Chromium*	*Trivalent Chromium*
TM-GR Work Order: 1210587										
GW-17360-102612-JV-023	MW11S-05	groundwater	-	10/26/2012	9:28:00 AM	X				
GW-17360-102612-JV-024	MW11D-04	groundwater	-	10/26/2012	9:52:00 AM	X				
GW-17360-102612-JV-025	MW10-04	groundwater	-	10/26/2012	10:28:00 AM	X				
GW-17360-102612-JV-026	87-11	groundwater	-	10/26/2012	11:42:00 AM	X		X		
GW-17360-102612-JV-027	87-10	groundwater	-	10/26/2012	12:27:00 PM	X				
GW-17360-102612-EB-028	MW27-11	groundwater	-	10/26/2012	9:50:00 AM	X				
GW-17360-102612-EB-029	MW41-12	groundwater	-	10/26/2012	10:55:00 AM	X				
GW-17360-102612-EB-030	MW40-12	groundwater	-	10/26/2012	12:50:00 PM	X				
GW-17360-102612-EB-031	MW42-12	groundwater	-	10/26/2012	1:40:00 PM	X				
GW-17360-102612-EB-032	MW39-12	groundwater	-	10/26/2012	3:10:00 PM	X		X		
GW-17360-102612-JV-033	MW5-03	groundwater	-	10/26/2012	1:28:00 PM	X				
GW-17360-102612-JV-034	MW9-04	groundwater	-	10/26/2012	3:22:00 PM	X				
GW-17360-102612-EB-035	MW35-12	groundwater	-	10/26/2012	3:45:00 PM	X				
TB-17360-102612-EB	Trip Blank	DI water	Trip Blank	10/26/2012	10/26/2012	X				
TM-GR Work Order: 1210605										
Trip Blank	Trip Blank	DI water	Trip Blank	10/29/2012	10/29/2012	X				
GW-17360-102912-DD-036	85-6	groundwater	-	10/29/2012	11:40:00 AM	X	X			
GW-17360-102912-DD-037	MW2-03	groundwater	-	10/29/2012	1:20:00 PM	X				
GW-17360-102912-DD-038	MW1-03	groundwater	-	10/29/2012	1:55:00 PM	X				
GW-17360-102912-DD-039	MW30-12	groundwater	-	10/29/2012	3:00:00 PM	X				
GW-17360-102912-DD-040	MW29-12	groundwater	-	10/29/2012	4:10:00 PM	X				

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Sample Identification	*Location*	*Matrix*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*Analysis/Parameters*				
						TCL VOC	*TCL SVOC*	*Metals*	*Hexavalent Chromium*	*Trivalent Chromium*
TM-GR Work Order: 1210630										
GW-17360-103012-JV-041	88-4	groundwater	-	10/30/2012	9:10:00 AM	X				
GW-17360-103012-JV-042	88-3	groundwater	-	10/30/2012	9:52:00 AM	X				
GW-17360-103012-JV-043	88-2	groundwater	-	10/30/2012	10:20:00 AM	X				
GW-17360-103012-JV-044	MW32-12	groundwater	-	10/30/2012	11:38:00 AM	X				
GW-17360-103012-JV-045	MW31-12	groundwater	-	10/30/2012	12:05:00 PM	X				
GW-17360-103012-JV-046	MW36-12	groundwater	-	10/30/2012	1:58:00 PM	X				
GW-17360-103012-JV-047	MW17-06	groundwater	-	10/30/2012	4:05:00 PM	X				
SW-17360-103012-JV-048	C-1	groundwater	-	10/30/2012	3:35:00 PM	X				
SW-17360-103012-JV-049	C-2	groundwater	-	10/30/2012	2:45:00 PM	X				
SW-17360-103012-JV-050	C-3	groundwater	-	10/30/2012	3:10:00 PM	X				
TB-17360-103012-JV	Trip Blank	DI water	Trip Blank	10/30/2012	10/30/2012	X				
TM-GR Work Order: 1211057										
GW-17360-110212-BW-051	MW33-12	groundwater	-	11/2/2012	9:32:00 AM	X		X		
GW-17360-110212-BW-052	MW34-12	groundwater	-	11/2/2012	10:50:00 AM	X		X		

Notes:

DUP - Field Duplicate Sample of sample in parenthesis
MS/MSD - Matrix Spike/Matrix Spike Duplicate
QC - Quality Control
TCL - Target Compound List
VOC - Volatile Organic Compounds
SVOC - Semivolatile Organic Compounds

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Method* [1]	*Matrix*	*Holding Time*	*Preservation*
TCL VOC	SW-846 8260B	Water	- 14 days from sample collection to completion of analysis.	pH < 2 and Iced, 4 ± 2° C
TCL SVOC	SW-846 8270C	Water	- 7 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C
Metals		Water	- 180 days from sample collection to completion of analysis	pH < 2 and Iced, 4 ± 2° C
Antimony	SW-846 6020			
Arsenic	SW-846 6020			
Barium	SW-846 6020			
Beryllium	SW-846 6020			
Cadmium	SW-846 6020			
Chromium	SW-846 6020			
Cobalt	SW-846 6020			
Copper	SW-846 6020			
Iron	SW-846 6010C			
Lead	SW-846 6020			
Manganese	SW-846 6020			
Molybdenum	SW-846 6020			
Nickel	SW-846 6020			
Selenium	SW-846 6020			
Silver	SW-846 6020			
Thallium	SW-846 6020			
Vanadium	SW-846 6020			
Zinc	SW-846 6010C/6020			
Mercury	SW-846 7470A	Water	- 28 days from sample collection to completion of analysis	pH < 2 and Iced, 4 ± 2° C
Hexavalent Chromium	SW-846 7196	Water	- 24 hours from sample collection to completion of analysis.	Iced, 4 ± 2° C
Trivalent Chromium	SW-846 7196	Water	- 24 hours from sample collection to completion of analysis.	Iced, 4 ± 2° C

Notes

[1] Method References:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, and Promulgated updates, November 1986

TCL - Target Compound List
VOC - Volatile Organic Compounds
SVOC - Semivolatile Organic Compounds

TABLE 3

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Original Result*	*Qualified Result*	*Units*
TCL VOC	Chloroform	10/30/2012	0.17 J	GW-17360-102312-DD-001	0.49 J	1.0 U	µg/L
				GW-17360-102312-DD-003	0.71 J	1.0 U	µg/L
				GW-17360-102312-DD-004	0.31 J	1.0 U	µg/L
				GW-17360-102312-DD-005	0.16 J	1.0 U	µg/L
				GW-17360-102312-DD-006	0.16 J	1.0 U	µg/L
				GW-17360-102312-DD-007	0.14 J	1.0 U	µg/L
				GW-17360-102312-DD-008	0.15 J	1.0 U	µg/L
				GW-17360-102312-DD-009	0.16 J	1.0 U	µg/L
	Methyl acetate	10/30/2012	0.86 J	GW-17360-102312-DD-001	0.92 J	5.0 U	µg/L
				GW-17360-102312-DD-003	1.5 J	5.0 U	µg/L
				GW-17360-102312-DD-004	1.1 J	5.0 U	µg/L
				GW-17360-102312-DD-005	0.76 J	5.0 U	µg/L
				GW-17360-102312-DD-006	1.2 J	5.0 U	µg/L
				GW-17360-102312-DD-007	1.4 J	5.0 U	µg/L
				GW-17360-102312-DD-008	0.99 J	5.0 U	µg/L
				GW-17360-102312-DD-009	1.1 J	5.0 U	µg/L
	Methylene chloride	10/30/2012		GW-17360-102312-DD-001	0.28 J	1.0 U	µg/L
				GW-17360-102312-DD-004	0.27 J	1.0 U	µg/L
				GW-17360-102312-DD-005	0.27 J	1.0 U	µg/L
				GW-17360-102312-DD-006	0.25 J	1.0 U	µg/L
				GW-17360-102312-DD-007	0.28 J	1.0 U	µg/L
				GW-17360-102312-DD-008	0.47 J	1.0 U	µg/L
				GW-17360-102312-DD-009	0.29 J	1.0 U	µg/L
TCL VOC	Chloroform	11/2/2012	0.12 J	GW-17360-102512-JV-011	0.48 J	1.0 U	µg/L
				GW-17360-102512-JV-012	0.51 J	1.0 U	µg/L
				GW-17360-102512-JV-013	0.15 J	1.0 U	µg/L
				GW-17360-102512-JV-014	0.28 J	1.0 U	µg/L
				GW-17360-102512-JV-015	0.32 J	1.0 U	µg/L
				GW-17360-102512-EB-017	0.13 J	1.0 U	µg/L
				GW-17360-102512-EB-018	0.26 J	1.0 U	µg/L
				GW-17360-102512-EB-019	0.23 J	1.0 U	µg/L
				GW-17360-102512-JV-020	0.36 J	1.0 U	µg/L

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Original Result*	*Qualified Result*	*Units*
TCL VOC	Chloroform	11/2/2012	0.12 J	GW-17360-102512-EB-022	0.51 J	1.0 U	µg/L
	Methyl acetate	11/2/2012	0.51 J	GW-17360-102512-JV-013	0.83 J	5.0 U	µg/L
				GW-17360-102512-JV-014	0.45 J	5.0 U	µg/L
				GW-17360-102512-EB-018	0.75 J	5.0 U	µg/L
				GW-17360-102512-JV-021	0.64 J	5.0 U	µg/L
				GW-17360-102612-JV-023	1.0 J	5.0 U	µg/L
	Methylene chloride	11/2/2012	0.46 J	GW-17360-102512-JV-010	0.29 J	1.0 U	µg/L
				GW-17360-102512-JV-012	0.28 J	1.0 U	µg/L
				GW-17360-102512-EB-016	0.25 J	1.0 U	µg/L
				GW-17360-102512-EB-017	0.25 J	1.0 U	µg/L
				GW-17360-102512-JV-021	0.36 J	1.0 U	µg/L
TCL VOC	Methyl acetate	11/8/2012	0.98 J	GW-17360-103012-JV-041	0.94 J	5.0 U	µg/L
				GW-17360-103012-JV-042	0.93 J	5.0 U	µg/L
				GW-17360-103012-JV-043	0.92 J	5.0 U	µg/L
				GW-17360-103012-JV-044	0.86 J	5.0 U	µg/L
				GW-17360-103012-JV-045	0.86 J	5.0 U	µg/L
TCL VOC	Acetone	11/8/2012	2.5 J	SW-17360-103012-JV-048	7.1	7.1 U	µg/L
				SW-17360-103012-JV-050	4.7 J	5.0 U	µg/L
	Methyl acetate	11/8/2012	0.97 J	GW-17360-103012-JV-046	1.0 J	5.0 U	µg/L
				GW-17360-103012-JV-047	0.92 J	5.0 U	µg/L
				SW-17360-103012-JV-048	1.0 J	5.0 U	µg/L
				SW-17360-103012-JV-049	0.97 J	5.0 U	µg/L
				SW-17360-103012-JV-050	0.96 J	5.0 U	µg/L
TCL VOC	Chloroform	11/8/2012	0.16 J	GW-17360-110212-BW-051	0.58 J	1.0 U	µg/L
				GW-17360-110212-BW-052	0.41 J	1.0 U	µg/L
	Methyl acetate	11/8/2012	0.85 J	GW-17360-110212-BW-051	0.74 J	5.0 U	µg/L
				GW-17360-110212-BW-052	0.96 J	5.0 U	µg/L

TABLE 3

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Original Result*	*Qualified Result*	*Units*
Metals	Thallium	10/30/2012	0.034 J	GW-17360-102312-DD-001	0.093 J	1.0 U	µg/L
				GW-17360-102312-DD-005	0.084 J	1.0 U	µg/L
				GW-17360-102312-DD-006	0.085 J	1.0 U	µg/L
				GW-17360-102312-DD-007	0.074 J	1.0 U	µg/L
				GW-17360-102312-DD-009	0.11 J	1.0 U	µg/L
Metals	Selenium	10/31/2012	0.40 J	GW-17360-102512-EB-019	1.3	1.3 U	µg/L
	Thallium	10/31/2012	0.065 J	GW-17360-102512-EB-017	0.14 J	1.0 U	µg/L
				GW-17360-102512-EB-018	0.095 J	1.0 U	µg/L
				GW-17360-102512-EB-019	0.13 J	1.0 U	µg/L
Metals	Selenium	11/8/2012	0.80 J	GW-17360-102612-JV-026	0.59 J	1.0 U	µg/L
				GW-17360-102612-EB-032	0.91 J	1.0 U	µg/L
Metals	Antimony	11/14/2012	0.17 J	GW-17360-110212-BW-052	0.2 J	1.0 U	µg/L
	Chromium	11/14/2012	0.31 J	GW-17360-110212-BW-051	0.80 J	1.0 U	µg/L
				GW-17360-110212-BW-052	1.2	1.2 U	µg/L

Notes:

U - Qualified as Not Detected at the report limit
J - Estimated Concentration

TCL - Target Compound List
VOC - Volatile Organic Compounds

TABLE 4

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE RESULTS GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012 FORMER GR METAL PLANT GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*LCS Date*	*LCS %Rec*	*LCD %Rec*	*RPD*	*Control Limits %Rec*	*Control Limits RPD*	*Associated Sample ID*	*Qualified Result*	*Units*
TCL VOC	Xylenes, total	11/2/2012	85	-	-	86-119	-	GW-17360-102512-JV-010	3.0 UJ	µg/L
								GW-17360-102512-JV-011	3.0 UJ	µg/L
								GW-17360-102512-JV-012	3.0 UJ	µg/L
								GW-17360-102512-JV-013	3.0 UJ	µg/L
								GW-17360-102512-JV-014	3.0 UJ	µg/L
								GW-17360-102512-JV-015	3.0 UJ	µg/L
								GW-17360-102512-EB-016	3.0 UJ	µg/L
								GW-17360-102512-EB-017	3.0 UJ	µg/L
								GW-17360-102512-EB-018	3.0 UJ	µg/L
								GW-17360-102512-EB-019	3.0 UJ	µg/L
								GW-17360-102512-JV-020	3.0 UJ	µg/L
								GW-17360-102512-JV-021	3.0 UJ	µg/L
								GW-17360-102512-EB-022	3.0 UJ	µg/L
								TB-17360-102512-EB	3.0 UJ	µg/L
TCL VOC	Carbon disulfide	11/2/2012	180	170	6	70-131	20	GW-17360-103012-JV-046	0.25 J	µg/L
TCL SVOC	3,3'-Dichlorobenzidine	11/1/2012	0	-	-	55-135	-	GW-17360-102312-DD-001	R	µg/L
								GW-17360-102312-DD-005	R	µg/L
								GW-17360-102312-DD-006	R	µg/L
								GW-17360-102312-DD-007	R	µg/L
	3-Nitroaniline	11/1/2012	0	-	-	49-144	-	GW-17360-102312-DD-001	R	µg/L
								GW-17360-102312-DD-005	R	µg/L
								GW-17360-102312-DD-006	R	µg/L
								GW-17360-102312-DD-007	R	µg/L
	4-Nitroaniline	11/1/2012	0	-	-	49-144	-	GW-17360-102312-DD-001	R	µg/L
								GW-17360-102312-DD-005	R	µg/L
								GW-17360-102312-DD-006	R	µg/L
								GW-17360-102312-DD-007	R	µg/L
TCL SVOC	3,3'-Dichlorobenzidine	11/8/2012	40	-	-	55-135	-	GW-17360-102912-DD-036	1.0 UJ	µg/L

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO OUTLYING
LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	Analyte	LCS Date	LCS %Rec	LCD %Rec	RPD	Control Limits %Rec	Control Limits RPD	Associated Sample ID	Qualified Result	Units
	3-Nitroaniline	11/8/2012	36	-	-	49-144	-	GW-17360-102912-DD-036	1.0 UJ	µg/L
	4-Chloroaniline	11/8/2012	14	-	-	44-138	-	GW-17360-102912-DD-036	1.0 UJ	µg/L
	Acetophenone	11/8/2012	47	-	-	58-115	-	GW-17360-102912-DD-036	0.50 UJ	µg/L
	Benzaldehyde	11/8/2012	2	-	-	35-128	-	GW-17360-102912-DD-036	R	µg/L

Notes:

J - Estimated Concentration
UJ - Non-detect with an Estimated Report Limit
R - Rejected

LCS - Laboratory Control Spike
LCD - Laboratory Control Spike Duplicate
%Rec - Percent Recovery
RPD - Relative Percent Difference
TCL - Target Compound List
VOC - Volatile Organic Compounds
SVOC - Semivolatile Organic Compounds

TABLE 5

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO TRIP BLANK CONTAMINATION
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Trip Blank ID*	*Blank Date*	*Blank Result*	*Associated Sample ID*	*Original Result*	*Qualified Result*	*Units*
TCL VOC	Chloroform	Trip Blank TM3003	10/23/2012	0.12 J				
	Chloroform	Trip Blank TM3004	10/23/2012	0.15 J	GW-17360-102312-DD-001	0.49 J	1.0 U	µg/L
					GW-17360-102312-DD-003	0.71 J	1.0 U	µg/L
					GW-17360-102312-DD-004	0.31 J	1.0 U	µg/L
					GW-17360-102312-DD-005	0.16 J	1.0 U	µg/L
					GW-17360-102312-DD-006	0.16 J	1.0 U	µg/L
					GW-17360-102312-DD-007	0.14 J	1.0 U	µg/L
					GW-17360-102312-DD-008	0.15 J	1.0 U	µg/L
					GW-17360-102312-DD-009	0.16 J	1.0 U	µg/L
	Methyl acetate	Trip Blank TM3003	10/23/2012	0.84 J				
	Methyl acetate	Trip Blank TM3004	10/23/2012	0.86 J	GW-17360-102312-DD-001	0.92 J	5.0 U	µg/L
					GW-17360-102312-DD-003	1.5 J	5.0 U	µg/L
					GW-17360-102312-DD-004	1.1 J	5.0 U	µg/L
					GW-17360-102312-DD-005	0.76 J	5.0 U	µg/L
					GW-17360-102312-DD-006	1.2 J	5.0 U	µg/L
					GW-17360-102312-DD-007	1.4 J	5.0 U	µg/L
					GW-17360-102312-DD-008	0.99 J	5.0 U	µg/L
					GW-17360-102312-DD-009	1.1 J	5.0 U	µg/L
	Methylene chloride	Trip Blank TM3003	10/23/2012	0.75 J				
	Methylene chloride	Trip Blank TM3004	10/23/2012	0.44 J	GW-17360-102312-DD-001	0.28 J	1.0 U	µg/L
					GW-17360-102312-DD-004	0.27 J	1.0 U	µg/L
					GW-17360-102312-DD-005	0.27 J	1.0 U	µg/L
					GW-17360-102312-DD-006	0.25 J	1.0 U	µg/L
					GW-17360-102312-DD-007	0.28 J	1.0 U	µg/L
					GW-17360-102312-DD-008	0.47 J	1.0 U	µg/L
					GW-17360-102312-DD-009	0.29 J	1.0 U	µg/L

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO TRIP BLANK CONTAMINATION
GROUNDWATER MONITORING - OCTOBER/NOVEMBER 2012
FORMER GR METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Trip Blank ID*	*Blank Date*	*Blank Result*	*Associated Sample ID*	*Original Result*	*Qualified Result*	*Units*
TCL VOC	Chloroform	TB-17360-102512-EB	10/25/2012	0.16 J	GW-17360-102512-JV-011	0.48 J	1.0 U	µg/L
					GW-17360-102512-JV-012	0.51 J	1.0 U	µg/L
					GW-17360-102512-JV-013	0.15 J	1.0 U	µg/L
					GW-17360-102512-JV-014	0.28 J	1.0 U	µg/L
					GW-17360-102512-JV-015	0.32 J	1.0 U	µg/L
					GW-17360-102512-EB-017	0.13 J	1.0 U	µg/L
					GW-17360-102512-EB-018	0.26 J	1.0 U	µg/L
					GW-17360-102512-EB-019	0.23 J	1.0 U	µg/L
					GW-17360-102512-JV-020	0.36 J	1.0 U	µg/L
					GW-17360-102512-EB-022	0.51 J	1.0 U	µg/L
	Methylene chloride	TB-17360-102512-EB	10/25/2012	0.47 J	GW-17360-102512-JV-010	0.29 J	1.0 U	µg/L
					GW-17360-102512-JV-012	0.28 J	1.0 U	µg/L
					GW-17360-102512-EB-016	0.25 J	1.0 U	µg/L
					GW-17360-102512-EB-017	0.25 J	1.0 U	µg/L
					GW-17360-102512-JV-021	0.36 J	1.0 U	µg/L
TCL VOC	Methyl acetate	TB-17360-103012-JV	10/30/2012	0.89 J	GW-17360-103012-JV-041	0.94 J	5.0 U	µg/L
					GW-17360-103012-JV-042	0.93 J	5.0 U	µg/L
					GW-17360-103012-JV-043	0.92 J	5.0 U	µg/L
					GW-17360-103012-JV-044	0.86 J	5.0 U	µg/L
					GW-17360-103012-JV-045	0.86 J	5.0 U	µg/L
					GW-17360-103012-JV-046	1.0 J	5.0 U	µg/L
					GW-17360-103012-JV-047	0.92 J	5.0 U	µg/L
					SW-17360-103012-JV-048	1.0 J	5.0 U	µg/L
					SW-17360-103012-JV-049	0.97 J	5.0 U	µg/L
					SW-17360-103012-JV-050	0.96 J	5.0 U	µg/L

Notes:

U - Qualified as Not Detected at the report limit
J - Estimated Concentration

TCL - Target Compound List
VOC - Volatile Organic Compounds

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MEMORANDUM

TO: Jeni Quigley

REF. NO.: 17360

FROM: Rawa Fleisher/tl/64/Det

DATE: January 25, 2013

RE: Data Quality Assessment and Reduced Validation
Site-Wide Investigation – October and November 2012
Former Grand Rapids Metal Plant, Grand Rapids, Michigan

The following details a quality assessment and validation of the analytical data resulting from the October and November 2012, collection of 69 soil samples, 15 water samples, and 14 quality control samples from the Former Grand Rapids Metal Plant Site in Grand Rapids, Michigan. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at TriMatrix Laboratories in Grand Rapids, Michigan (TML) and ALS Environmental in Holland, Michigan (ALS) in accordance with the methodologies presented in Table 2.

The quality control criteria used to assess the data were established by the methods and the quality assurance project plan (QAPP). Application of quality assurance criteria was consistent with following guidance documents:

i. "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-99/008, October 1999;

ii. "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", EPA-540/R-94/013, February 1994.

These guidelines are collectively referred to as "NFGs" in this Memorandum.

Sample Quantitation

The laboratory reported detected concentrations of volatile organic compounds (VOC), semi-volatile organic compounds (SVOC) polychlorinated biphenyls (PCB) and inorganics below the laboratory's report limit (RL) but above the laboratory's method detection limit (MDL). The laboratory flagged these sample concentrations with a "J". These concentrations should be qualified as estimated (J) values unless qualified otherwise in this memorandum.

Sample Preservation and Holding Times

Sample holding time periods and preservation requirements are presented in Table 2.

Sample Preservation and Holding Times (continued)

The samples summarized in Table 3 should be qualified due to violation of sample holding time periods. The remaining samples were prepared and/or analyzed within the specified holding time periods.

Method Blank Samples

Method blank samples are prepared from a purified sample matrix and are processed concurrently with investigative samples to assess the presence and the magnitude of sample contamination introduced during sample analysis. Method blank samples are analyzed at a minimum frequency of one per analytical batch and target analytes should be non-detect.

The samples presented in Table 4 should be qualified due to laboratory contamination. TML flagged the concentrations with a "B" which may be disregarded. The remaining method blank samples did not contain target compounds with concentrations that impacted the investigative samples.

Surrogate Compounds - Organic Analyses

Individual sample performance for organic analyses was monitored by assessing the results of surrogate compound percent recoveries. Surrogate percent recoveries are reviewed against the laboratory developed control limits provided in the analytical report.

The surrogate recoveries could not be measured or evaluated in a number of samples due to dilutions required to successfully analyze the samples. No qualification of these samples was required. The surrogate recovery acceptance criteria were met for all samples that could be evaluated with the exception of the qualified samples presented in Table 5.

Matrix Spike/Matrix Spike Duplicate Analyses

To assess the long term accuracy and precision of the analytical methods on various matrices, matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and the relative percent difference (RPD) of the concentrations were determined. The organic MS/MSD percent recovery and RPD control limits are established by the laboratory. The inorganic control limits are defined by the methods or the laboratory and the NFG. The samples selected for MS/MSD analysis are identified in Table 1.

In some sample batches, non-Site-specific samples were utilized as MS/MSDs. Qualification of samples associated with these MS/MSDs was not performed. The samples that should be qualified due to violation of MS/MSD percent recovery criteria and/or RPD are outlined in Table 6. The MS/MSD percent recoveries could not be measured due in some samples to the dilutions required to successfully analyze the samples. No qualification was required. The MS/MSD percent recoveries and associated RPD acceptance criteria were met in the remaining sample analyses.

Laboratory Control Sample/Laboratory Control Duplicate Analyses

The laboratory control sample and laboratory control duplicate (LCS/LCD) analyses serve as a monitor of the overall performance in all steps of the sample analysis and are analyzed with each sample batch. The LCS/LCD percent recoveries were evaluated against method and laboratory established control limits.

Laboratory Control Sample/Laboratory Control Duplicate Analyses (Continued)

The LCS/LCD percent recoveries were within the laboratory control limits or did not warrant qualification, indicating that an acceptable level of overall performance was achieved with the exception of the qualified samples presented in Table 7.

Laboratory precision was verified by the relative percent difference (RPD) of the LCS/LCD when a matrix spike/matrix spike duplicate was not analyzed.

The RPDs were within the laboratory control limits, indicating that an acceptable level of overall laboratory precision was achieved.

Field Quality Assurance/Quality Control

The field quality assurance/quality control consisted of eight (8) trip blank samples and six (6) field duplicate sample sets.

Trip Blank Samples

To monitor potential cross-contamination of VOC during sample transportation and storage, a trip blank was submitted to the laboratory for VOC analysis with each shipping cooler containing multiple samples.

The samples that should be qualified due to trip blank contamination are summarized in Table 8. No additional target analytes were reported as detected in the trip blank sample(s).

Field Duplicate Samples

Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. The RPDs associated with these duplicate samples must be less than 50 and 100 percent for water and soil samples, respectively. If the reported concentration in either the investigative sample or its duplicate is less than five times the RL, the evaluation criteria is one or two times the RL value for water and soil samples, respectively.

Table 9 presents the RPDs of detected analytes in duplicate sample sets with qualifiers. The data indicate that an adequate level of precision was achieved for the sampling event.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted with the exception of the following:

- Several SVOC compounds were considered unusable in a number of samples due to LCS violations.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

								Analysis/Parameters							
Sample Identification	*Location*	*Matrix*	*Initial Sample Depth (ft. bgs)*	*Final Sample Depth (ft. bgs)*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*TCL VOC*	*TCL SVOC*	*TCL PCB*	*PNAs*	*Select Metals*	*Select Metals (Dissolved)*	*Hardness*	*pH*
ALS Lot No. 12101056															
Trip Blank	---	water	---	---	Trip Blank	10/31/2012	---	X							
GW-17360-103112-DD-175	SB199-12	water	16	---		10/31/2012	10:05:00 AM	X							
GW-17360-103112-DD-176	SB199-12	water	26	---		10/31/2012	10:45:00 AM	X							
GW-17360-103112-DD-177	SB199-12	water	36	---		10/31/2012	11:55:00 AM	X							
TML Lot No. 1210568															
S-17360-102512-DD-100	SB198-12	soil	0	2		10/25/2012	11:50:00 AM	X	X	X		X			
S-17360-102512-DD-102	SB198-12	soil	11	13		10/25/2012	12:15:00 PM	X	X	X		X			
S-17360-102512-DD-101	SB197-12	soil	0	2		10/25/2012	1:55:00 PM	X	X	X		X			
S-17360-102512-DD-103	SB197-12	soil	11	13		10/25/2012	2:25:00 PM	X	X	X		X			
S-17360-102512-DD-104	SB197-12	soil	11	13	DUP (103)	10/25/2012	2:35:00 PM	X	X	X		X			
GW-17360-102512-DD-105	SB197-12	water	15.5	---	MS/MSD	10/25/2012	3:30:00 PM	X	X	X			X		
S-17360-102512-DD-106	SB196-12	soil	0	2	MS/MSD-P	10/25/2012	4:10:00 PM	X	X	X		X			
S-17360-102512-DD-107	SB196-12	soil	11	13		10/25/2012	4:45:00 PM	X	X	X		X			
Trip Blank	—	soil	—	—	Trip Blank	10/25/2012	---	X							
Trip Blank	—	water	—	—	Trip Blank	10/25/2012	---	X							
TML Lot No. 1210603															
Trip Blank	—	soil	—	—	Trip Blank	10/26/2012	---	X							
S-17360-102612-DD-108	SB195-12	soil	0	2		10/26/2012	8:50:00 AM	X	X	X		X			
S-17360-102612-DD-109	SB195-12	soil	11	13		10/26/2012	9:20:00 AM	X	X	X		X			
GW-17360-102612-DD-110	SB195-12	water	16	---		10/26/2012	10:10:00 AM	X	X	X			X		
GW-17360-102612-DD-111	SB195-12	water	16	—	DUP (110)	10/26/2012	10:40:00 AM	X	X	X			X		

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

								Analysis/Parameters							
Sample Identification	*Location*	*Matrix*	*Initial Sample Depth (ft. bgs)*	*Final Sample Depth (ft. bgs)*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*TCL VOC*	*TCL SVOC*	*TCL PCB*	*PNAs*	*Select Metals*	*Select Metals (Dissolved)*	*Hardness*	*pH*
TML Lot No. 1210636															
Trip Blank	---	soil	---	---	Trip Blank	10/30/2012	---	X							
S-17360-103012-DD-112	SB192-12	soil	0	2	MS/MSD-P	10/30/2012	8:55:00 AM	X	X	X		X			
S-17360-103012-DD-113	SB192-12	soil	12	14		10/30/2012	9:10:00 AM	X	X	X		X			
GW-17360-103012-DD-114	SB192-12	water	16	---		10/30/2012	9:45:00 AM	X	X	X			X		
S-17360-103012-DD-115	SB191-12	soil	0	2		10/30/2012	10:20:00 AM	X	X	X		X			
S-17360-103012-DD-116	SB191-12	soil	12	14		10/30/2012	10:35:00 AM	X	X	X		X			
S-17360-103012-DD-117	SB194-12	soil	0	2		10/30/2012	11:05:00 AM	X	X	X		X			
S-17360-103012-DD-118	SB194-12	soil	11	13		10/30/2012	11:15:00 AM	X	X	X		X			
GW-17360-103012-DD-119	SB194-12	water	15	---		10/30/2012	11:45:00 AM	X	X	X			X		
S-17360-103012-DD-120	SB193-12	soil	0	2		10/30/2012	1:00:00 PM	X	X	X		X			
S-17360-103012-DD-121	SB193-12	soil	12.5	14.5		10/30/2012	1:10:00 PM	X	X	X		X			
S-17360-103012-DD-122	SB213-12	soil	0	2		10/30/2012	1:40:00 PM	X	X	X		X			
S-17360-103012-DD-123	SB213-12	soil	13	15		10/30/2012	1:50:00 PM	X	X	X		X			
S-17360-103012-DD-124	SB214-12	soil	0	2		10/30/2012	2:15:00 PM	X	X	X		X			
S-17360-103012-DD-125	SB214-12	soil	12	14		10/30/2012	2:25:00 PM	X	X	X		X			
GW-17360-103012-DD-126	SB214-12	water	16	---		10/30/2012	3:00:00 PM	X	X	X			X		
S-17360-103012-DD-127	SB220-12	soil	0	2		10/30/2012	4:00:00 PM	X		X	X	X			
S-17360-103012-DD-128	SB220-12	soil	14.5	16.5		10/30/2012	4:10:00 PM	X		X	X	X			
TML Lot No. 1211010															
SO-17360-103112-EB-149	SB203-12	soil	8	10		10/31/2012	11:15:00 AM			X					

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

								Analysis/Parameters							
Sample Identification	*Location*	*Matrix*	*Initial Sample Depth (ft. bgs)*	*Final Sample Depth (ft. bgs)*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*TCL VOC*	*TCL SVOC*	*TCL PCB*	*PNAs*	*Select Metals*	*Select Metals (Dissolved)*	*Hardness*	*pH*
TML Lot No. 1211011															
SO-17360-103112-EB-129	SB206-12	soil	0	2		10/31/2012	9:10:00 AM			X					
SO-17360-103112-EB-130	SB206-12	soil	2	4		10/31/2012	9:12:00 AM			X					
SO-17360-103112-EB-131	SB206-12	soil	4	6		10/31/2012	9:18:00 AM			X					
SO-17360-103112-EB-134	SB205-12	soil	0	2		10/31/2012	9:55:00 AM			X					
SO-17360-103112-EB-135	SB205-12	soil	2	4		10/31/2012	9:58:00 AM			X					
SO-17360-103112-EB-136	SB205-12	soil	4	6		10/31/2012	10:00:00 AM			X					
SO-17360-103112-EB-139	SB204-12	soil	0	2		10/31/2012	10:32:00 AM			X					
SO-17360-103112-EB-140	SB204-12	soil	2	4		10/31/2012	10:33:00 AM			X					
SO-17360-103112-EB-141	SB204-12	soil	4	6		10/31/2012	10:35:00 AM			X					
SO-17360-103112-EB-144	SB203-12	soil	0	2		10/31/2012	10:55:00 AM			X					
SO-17360-103112-EB-145	SB203-12	soil	0	2	DUP (144)	10/31/2012	10:57:00 AM			X					
SO-17360-103112-EB-146	SB203-12	soil	2	4	MS/MSD-P	10/31/2012	11:00:00 AM			X					
SO-17360-103112-EB-147	SB203-12	soil	4	6		10/31/2012	11:03:00 AM			X					
SO-17360-103112-EB-150	SB202-12	soil	0	2		10/31/2012	11:40:00 AM			X					
SO-17360-103112-EB-151	SB202-12	soil	2	4		10/31/2012	11:42:00 AM			X					
SO-17360-103112-EB-152	SB202-12	soil	4	6		10/31/2012	11:45:00 AM			X					
SO-17360-103112-EB-156	SB215-12	soil	6	8		10/31/2012	12:40:00 PM			X					
SO-17360-103112-EB-157	SB215-12	soil	8	10		10/31/2012	12:42:00 PM			X					
SO-17360-103112-EB-158	SB200-12	soil	0	2		10/31/2012	1:01:00 PM			X					
SO-17360-103112-EB-159	SB200-12	soil	2	4		10/31/2012	1:05:00 PM			X					
SO-17360-103112-EB-160	SB200-12	soil	2	4	DUP (159)	10/31/2012	1:07:00 PM			X					
SO-17360-103112-EB-161	SB200-12	soil	4	6		10/31/2012	1:10:00 PM			X					
SO-17360-103112-EB-164	SB201-12	soil	0	2	MS/MSD	10/31/2012	2:01:00 PM			X					
SO-17360-103112-EB-165	SB201-12	soil	2	4		10/31/2012	2:03:00 PM			X					
SO-17360-103112-EB-166	SB201-12	soil	4	6		10/31/2012	2:07:00 PM			X					

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

								Analysis/Parameters							
Sample Identification	*Location*	*Matrix*	*Initial Sample Depth (ft. bgs)*	*Final Sample Depth (ft. bgs)*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*TCL VOC*	*TCL SVOC*	*TCL PCB*	*PNAs*	*Select Metals*	*Select Metals (Dissolved)*	*Hardness*	*pH*
TML Lot No. 1211014															
Trip Blank	—	soil	---	—	Trip Blank	10/31/2012	---	X							
S-17360-103112-DD-169	SB189-12	soil	0	2		10/31/2012	2:35:00 PM	X	X	X		X			
S-17360-103112-DD-170	SB189-12	soil	10.5	12.5		10/31/2012	2:45:00 PM	X	X	X		X			
GW-17360-103112-DD-171	SB189-12	water	17			10/31/2012	3:45:00 PM	X	X	X			X		
S-17360-103112-DD-172	SB189-12	soil	14	16	MS/MSD-P	10/31/2012	3:10:00 PM	X	X	X		X			
TML Lot No. 1211039															
S-17360-110112-DD-173	SB219-12	soil	0	2		11/1/2012	8:40:00 AM	X		X	X	X			
S-17360-110112-DD-174	SB219-12	soil	0	2	DUP (173)	11/1/2012	8:45:00 AM	X		X	X	X			
S-17360-110112-DD-178	SB219-12	soil	15.5	17.5	MS/MSD	11/1/2012	8:50:00 AM	X		X	X	X			
Trip Blank	—	soil	—	—	Trip Blank	11/1/2012	---	X							
S-17360-110112-DD-179	SB216-12	soil	0	2		11/1/2012	9:30:00 AM	X		X	X	X			
S-17360-110112-DD-180	SB216-12	soil	14.5	16.5		11/1/2012	9:40:00 AM	X		X	X	X			
S-17360-110112-DD-181	SB217-12	soil	0	2		11/1/2012	10:00:00 AM	X		X	X	X			
S-17360-110112-DD-182	SB217-12	soil	14.5	16.5		11/1/2012	10:10:00 AM	X		X	X	X			
S-17360-110112-DD-183	SB218-12	soil	0	2		11/1/2012	10:45:00 AM	X		X	X	X			
S-17360-110112-DD-184	SB218-12	soil	15.5	17.5		11/1/2012	10:55:00 AM	X		X	X	X			
S-17360-110112-DD-185	SB207-12	soil	0	2	MS/MSD-P	11/1/2012	11:50:00 AM			X	X	X			
S-17360-110112-DD-186	SB207-12	soil	2	4		11/1/2012	11:55:00 AM			X	X	X			
S-17360-110112-DD-187	SB207-12	soil	4	6		11/1/2012	12:00:00 PM			X	X	X			
S-17360-110112-DD-188	SB207-12	soil	4	6	DUP (187)	11/1/2012	12:05:00 PM			X	X	X			
S-17360-110112-DD-189	SB207-12	soil	6	8		11/1/2012	12:10:00 PM			X	X	X			
S-17360-110112-DD-190	SB207-12	soil	8	10		11/1/2012	12:15:00 PM			X	X	X			
S-17360-110112-DD-191	SB212-12	soil	0	2		11/1/2012	12:50:00 PM			X	X	X			
S-17360-110112-DD-192	SB212-12	soil	2	4		11/1/2012	12:55:00 PM			X	X	X			
S-17360-110112-DD-193	SB212-12	soil	4	6		11/1/2012	1:00:00 PM			X	X	X			
S-17360-110112-DD-194	SB212-12	soil	6	8		11/1/2012	1:05:00 PM			X	X	X			
S-17360-110112-DD-195	SB212-12	soil	8	10		11/1/2012	1:10:00 PM			X	X	X			

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

								Analysis/Parameters								
Sample Identification	*Location*	*Matrix*	*Initial Sample Depth (ft. bgs)*	*Final Sample Depth (ft. bgs)*	*QC Samples*	*Collection Date (mm/dd/yyyy)*	*Collection Time (hr:min)*	*TCL VOC*	*TCL SVOC*	*TCL PCB*	*PNAs*	*Select Metals*	*Select Metals (Dissolved)*	*Hardness*	*pH*
TML Lot No. 1211034															
Trip Blank	—	soil	---	---	Trip Blank	11/1/2012	—	X							
S-17360-110112-DD-196	SB190-12	soil	0	2		11/1/2012	1:50:00 PM	X	X	X		X			
S-17360-110112-DD-197	SB190-12	soil	14	16		11/1/2012	1:55:00 PM	X	X	X		X			
GW-17360-110112-DD-198	SB190-12	water	17			11/1/2012	2:25:00 PM	X	X	X			X		
TML Lot No. 1211058															
GW-17360-110212-BW-199	MW52-12	water	---	---		11/2/2012	12:41:00 PM	X	X	X					
GW-17360-110212-BW-200	MW51-12	water	---	---		11/2/2012	1:05:00 PM	X	X	X					
GW-17360-110212-BW-201	MW50-12	water	---	---		11/2/2012	2:00:00 PM	X	X	X					
TML Lot No. 1211081															
WG-17360-110512-EB-001	MW53-12	water	---	---	MS/MSD-P	11/5/2012	10:15:00 AM	X	X	X		X			
TML Lot No. 1211154															
SW-17360-110812-EB-009	C-3	water	---	---		11/8/2012	3:05:00 PM							X	X

Notes:

ALS - ALS Laboratory
DUP - Field Duplicate Sample of sample in parenthesis
MS/MSD - Matrix Spike/Matrix Spike Duplicate
PCB - Polychlorinated biphenyls
PNA - Polynuclear Aromatic Compounds
QC - Quality Control
SVOC - Semivolatile Organic Compounds
TCL - Target Compound List
TML - TriMatrix Laboratory
VOC - Volatile Organic Compounds

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Method* [1]	*Matrix*	*Holding Time*	*Preservation* [2]
TCL VOC	SW-846 8260B	Soil	- 14 days from sample collection to completion of analysis	Methanol preserved Iced, 4 ± 2° C
TCL VOC	SW-846 8260B	Water	- 14 days from sample collection to completion of analysis.	pH < 2 and Iced, 4 ± 2° C
TCL SVOC, PNAs	SW-846 8270C	Soil	- 14 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C
TCL SVOC	SW-846 8270C	Water	- 7 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C
TCL PCB	SW-846 8082	Soil	- 14 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C
TCL PCB	SW-846 8082	Water	- 7 days from sample collection to extraction - 40 days from extraction to completion of analysis	Iced, 4 ± 2° C
Metals (Total / Dissolved)		Water	- 180 days from sample collection to completion of analysis	Iced, 4 ± 2° C
Antimony	SW-846 6020			
Arsenic	SW-846 6020			
Barium	SW-846 6020			
Beryllium	SW-846 6020			
Cadmium	SW-846 6020			
Chromium	SW-846 6020			
Cobalt	SW-846 6020			
Copper	SW-846 6020			
Iron	SW-846 6010B			
Lead	SW-846 6020			
Manganese	SW-846 6020			
Molybdenum	SW-846 6020			
Nickel	SW-846 6020			
Selenium	SW-846 6020			
Silver	SW-846 6020			
Thallium	SW-846 6020			
Vanadium	SW-846 6020			
Zinc	SW-846 6020			

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Method* [1]	*Matrix*	*Holding Time*	*Preservation* [2]
Metals (Total / Dissolved) - continued		Water	- 180 days from sample collection to completion of analysis	Iced, 4 ± 2° C
Mercury	SW-846 7471/7470	Water/Soil	- 28 days from sample collection to completion of analysis	Iced, 4 ± 2° C
General Chemistry				
Hardness	EPA-WW 130.2	Water	- 180 days from sample collection to completion of analysis	pH < 2 and Iced, 4 ± 2° C
pH	SW-846 9045 C	Water	- Analyze Immediately	Iced, 4 ± 2° C

Notes

[1] Method References:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, and Promulgated updates, November 1986

[2] pH preservativation is not required in soil samples.

SVOC - Semi-Volatile Organic Compounds
VOC - Volatile Organic Compounds
PCB - Polychlorinated biphenyls
PNA - Polynuclear Aromatic Compounds
TCL - Target Compound List
VOC - Volatile Organic Compounds

TABLE 3

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO VIOLATION OF HOLDING TIME PERIOD
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Holding Time*	*Holding Time Criteria*	*Sample ID*	*Qualified Result*	*Units*
General Chemistry	pH	24 hours	Immediately	SW-17360-110812-EB-009	7.7 J	s.u.
TCL PCBs	All Aroclors	10 days	7 days	GW-17360-102612-DD-110	UJ	mg/kg
		9 days	7 days	GW-17360-102612-DD-111	UJ	mg/kg
		27 days	7 days	S-17360-103112-DD-170	J/UJ	mg/kg
		10 days	7 days	GW-17360-110212-BW-199	UJ	mg/kg
		10 days	7 days	GW-17360-110212-BW-200	UJ	mg/kg
		10 days	7 days	GW-17360-110212-BW-201	UJ	mg/kg

Notes:

J - Estimated Concentration
UJ - Non-detect with an Estimated Report Limit
PCB - Polychlorinated biphenyls
TCL - Target Control List

TABLE 4

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Qualified Result*	*Units*
TCL VOC	Chloroform	11/3/2012	0.12	GW-17360-102512-DD-105	1.0 U	µg/L
	Methylene chloride		0.46		1.0 U	µg/L
	Methyl acetate		0.51		5.0 U	µg/L
TCL VOC	Methyl acetate	11/09/12	0.97	GW-17360-110112-DD-198	5.0 U	µg/L
				GW-17360-103012-DD-114	5.0 U	µg/L
				GW-17360-103012-DD-119	5.0 U	µg/L
				GW-17360-103012-DD-126	5.0 U	µg/L
				GW-17360-103112-DD-171	5.0 U	µg/L
TCL VOC	Methyl acetate	11/13/12	1.1	WG-17360-110512-EB-001	5.0 U	µg/L
				GW-17360-110212-BW-199	5.0 U	µg/L
				GW-17360-110212-BW-200	5.0 U	µg/L
				GW-17360-110212-BW-201	5.0 U	µg/L
TCL VOC	Acetone	11/13/12	1.7	GW-17360-110212-BW-201	12 U	µg/L
TCL SVOC	Anthracene	11/08/12	0.0014	S-17360-102512-DD-102	0.019 U	mg/kg
	Phenanthrene		0.0017		0.019 U	mg/kg
	Benzo(a)pyrene		0.0048		0.019 U	mg/kg
	Benzo(g,h,i)perylene		0.0059		0.037 U	mg/kg
	Indeno(1,2,3-cd)pyrene		0.0059		0.037 U	mg/kg
	Benzo(k)fluoranthene		0.0062		0.019 U	mg/kg
	Pyrene		0.0069		0.019 U	mg/kg
	Fluoranthene		0.0069		0.019 U	mg/kg
	Benzo(a)anthracene		0.0076		0.019 U	mg/kg
	Benzo(b)fluoranthene		0.008		0.019 U	mg/kg
	Chrysene		0.0087		0.019 U	mg/kg
	Di-n-butylphthalate		0.015		0.074 U	mg/kg
TCL SVOC	Indeno(1,2,3-cd)pyrene	11/08/12	0.0059	S-17360-102512-DD-107	0.040 U	mg/kg
	Benzo(a)anthracene		0.0076		0.075 U	mg/kg

TABLE 4

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Qualified Result*	*Units*
TCL SVOC	Dibenz(a,h)anthracene	11/8/2012	0.0045	S-17360-102512-DD-100	0.18 U	mg/kg
				S-17360-102512-DD-101	0.18 U	mg/kg
				S-17360-102512-DD-102	0.037 U	mg/kg
				S-17360-102512-DD-104	0.18 U	mg/kg
				S-17360-102512-DD-107	0.040 U	mg/kg
TCL SVOC	Diethyl phthalate	11/8/2012	0.0045	S-17360-102512-DD-100	0.096 U	mg/kg
				S-17360-102512-DD-101	0.089 U	mg/kg
				S-17360-102512-DD-102	0.019 U	mg/kg
				S-17360-102512-DD-103	0.12 U	mg/kg
				S-17360-102512-DD-104	0.10 U	mg/kg
				S-17360-102512-DD-106	0.18 U	mg/kg
				S-17360-102512-DD-107	0.020 U	mg/kg
TCL SVOC	Butyl benzylphthalate	11/8/2012	0.0062	S-17360-102612-DD-108	0.36 U	mg/kg
				S-17360-102612-DD-109	3.9 U	mg/kg
				S-17360-102512-DD-100	0.18 U	mg/kg
				S-17360-102512-DD-101	0.28 U	mg/kg
				S-17360-102512-DD-102	0.037 U	mg/kg
				S-17360-102512-DD-103	0.18 U	mg/kg
				S-17360-102512-DD-104	0.18 U	mg/kg
				S-17360-102512-DD-106	0.37 U	mg/kg
				S-17360-102512-DD-107	0.040 U	mg/kg
TCL SVOC	Di-n-octyl phthalate	11/8/2012	0.0066	S-17360-102512-DD-102	0.019 U	mg/kg
				S-17360-102512-DD-106	0.18 U	mg/kg
TCL SVOC	Butyl benzylphthalate	11/8/2012	0.0066	S-17360-103012-DD-115	0.18 U	mg/kg
				S-17360-103012-DD-116	0.035 U	mg/kg
				S-17360-103012-DD-118	0.035 U	mg/kg
				S-17360-103012-DD-121	0.035 U	mg/kg
				S-17360-103012-DD-124	0.18 U	mg/kg

TABLE 4

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Qualified Result*	*Units*
TCL SVOC	bis(2-Ethylhexyl)phthalate	11/13/2012	0.018	S-17360-102612-DD-108	0.36 U	mg/kg
				S-17360-102612-DD-109	3.9 U	mg/kg
				S-17360-102512-DD-100	0.18 U	mg/kg
				S-17360-102512-DD-101	0.18 U	mg/kg
				S-17360-102512-DD-102	0.037 U	mg/kg
				S-17360-102512-DD-103	0.18 U	mg/kg
				S-17360-102512-DD-104	0.18 U	mg/kg
				S-17360-102512-DD-106	0.37 U	mg/kg
				S-17360-102512-DD-107	0.040 U	mg/kg
TCL SVOC	Diethyl phthalate	11/15/2012	0.025	S-17360-110112-DD-196	0.017 U	mg/kg
				S-17360-110112-DD-197	0.017 U	mg/kg
				S-17360-103012-DD-112	0.090 U	mg/kg
				S-17360-103012-DD-113	0.017 U	mg/kg
				S-17360-103012-DD-115	0.092 U	mg/kg
				S-17360-103012-DD-116	0.019 U	mg/kg
				S-17360-103012-DD-117	0.091 U	mg/kg
				S-17360-103012-DD-118	0.018 U	mg/kg
				S-17360-103012-DD-121	0.019 U	mg/kg
				S-17360-103012-DD-123	0.018 U	mg/kg
				S-17360-103012-DD-124	0.089 U	mg/kg
				S-17360-103012-DD-125	0.017 U	mg/kg
				S-17360-103112-DD-169	0.018 U	mg/kg
				S-17360-103112-DD-172	0.019 U	mg/kg
TCL SVOC	Di-n-butylphthalate	11/19/2012	0.056	S-17360-103012-DD-112	0.36 U	mg/kg
				S-17360-103012-DD-113	0.069 U	mg/kg
				S-17360-103012-DD-115	0.37 U	mg/kg
				S-17360-103012-DD-116	0.086 U	mg/kg
				S-17360-103012-DD-117	0.36 U	mg/kg
				S-17360-103012-DD-118	0.071 U	mg/kg
				S-17360-103012-DD-121	0.070 U	mg/kg
				S-17360-103012-DD-123	0.070 U	mg/kg
				S-17360-103012-DD-125	0.069 U	mg/kg

TABLE 4

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO METHOD BLANK CONTAMINATION
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Qualified Result*	*Units*
TCL SVOC	bis(2-Ethylhexyl)phthalate	11/15/2012	0.13	S-17360-110112-DD-196	0.035 U	mg/kg
				S-17360-110112-DD-197	0.035 U	mg/kg
				S-17360-103012-DD-112	0.18 U	mg/kg
				S-17360-103012-DD-113	0.035 U	mg/kg
				S-17360-103012-DD-115	0.18 U	mg/kg
				S-17360-103012-DD-116	0.035 U	mg/kg
				S-17360-103012-DD-117	0.18 U	mg/kg
				S-17360-103012-DD-118	0.077 U	mg/kg
				S-17360-103012-DD-120	0.18 U	mg/kg
				S-17360-103012-DD-121	0.035 U	mg/kg
				S-17360-103012-DD-122	0.18 U	mg/kg
				S-17360-103012-DD-123	0.035 U	mg/kg
				S-17360-103012-DD-124	0.18 U	mg/kg
				S-17360-103012-DD-125	0.035 U	mg/kg
				S-17360-103112-DD-169	0.035 U	mg/kg
				S-17360-103112-DD-172	0.037 U	mg/kg
Select Metals	Zinc	11/10/2012	26	WG-17360-110512-EB-001	10 U	µg/L
Select Metals	Thallium (dissolved)	11/2/2012	0.069	GW-17360-102612-DD-110	1.0 U	µg/L
				GW-17360-102612-DD-111	1.0 U	µg/L
				GW-17360-102512-DD-105	1.0 U	µg/L

Notes:

U - Qualified as Not Detected at the report limit

SVOC - Semivolatile Organic Compounds
TCL - Target Compound List
VOC - Volatile Organic Compounds

TABLE 5

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VIOLATION OF SURROGATE RECOVERY ACCEPTANCE CRITERIA
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Surrogate*	*Surrogate % Rec*	*Control Limits % Rec*	*Sample ID*	*Qualified Result*	*Units*
PCB	Aroclor-1260	Decachlorobiphenyl	42	45-135	S-17360-103112-DD-170	0.034 J	mg/kg
	Aroclor-1254	Tetrachloro-m-xylene	78	56-123		0.35 UJ	mg/kg
	Aroclor-1221					0.35 UJ	mg/kg
	Aroclor-1232					0.35 UJ	mg/kg
	Aroclor-1248					0.35 UJ	mg/kg
	Aroclor-1016					0.35 UJ	mg/kg
	Aroclor-1242					0.35 UJ	mg/kg

Notes:

J - Estimated Concentration
UJ - Non-detect with an Estimated Report Limit

%Rec - Percent Recovery
PCB - Polychlorinated biphenyls

TABLE 6

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES AND/OR RELATIVE PERCENT DIFFERENCE SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012 FORMER GRAND RAPIDS METAL PLANT GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*MS %Rec*	*MSD %Rec*	*RPD*	*Control Limits %Rec*	*Control Limits RPD*	*Associated Sample ID*	*Qualified Result*	*Units*
TCL VOC	Acetone	55	73	28	56-144	18	S-17360-102512-DD-106	0.83 UJ	mg/kg
	Trichlorofluoromethane	178	167	6	50-155	13		0.019 J	mg/kg
TCL SVOC	Dibenz(a,h)anthracene	30	28	9	38-149	40	S-17360-110112-DD-178	0.36 UJ	mg/kg
Select Metals	Iron (dissolved)	69	67	0.7	75-125	20	GW-17360-102612-DD-110	37 J	µg/L
							GW-17360-102612-DD-111	22 J	µg/L
							GW-17360-102512-DD-105	520 J	µg/L
Select Metals	Barium	10	26	8	75-125	20	S-17360-103012-DD-112	19 J	µg/L
							S-17360-103012-DD-113	7.4 J	µg/L
							S-17360-103012-DD-115	44 J	µg/L
							S-17360-103012-DD-116	3.9 J	µg/L
							S-17360-103012-DD-117	32 J	µg/L
							S-17360-103012-DD-118	16 J	µg/L
							S-17360-103012-DD-120	21 J	µg/L
							S-17360-103012-DD-121	12 J	µg/L
							S-17360-103012-DD-122	21 J	µg/L
							S-17360-103012-DD-123	8.6 J	µg/L
							S-17360-103012-DD-124	31 J	µg/L
							S-17360-103012-DD-125	6.2 J	µg/L
							S-17360-103012-DD-127	35 J	µg/L
							S-17360-103012-DD-128	3.1 J	µg/L
							S-17360-103112-DD-169	17 J	µg/L
							S-17360-103112-DD-170	5.6 J	µg/L
							S-17360-103112-DD-172	7.4 J	µg/L

TABLE 6

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO OUTLYING
MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES AND/OR RELATIVE PERCENT DIFFERENCE
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*MS %Rec*	*MSD %Rec*	*RPD*	*Control Limits %Rec*	*Control Limits RPD*	*Associated Sample ID*	*Qualified Result*	*Units*
Select Metals	Lead	101	145	29.0	75-125	20	S-17360-110112-DD-173	48 J	mg/kg
							S-17360-110112-DD-174	46 J	mg/kg
							S-17360-110112-DD-178	1.2 J	mg/kg
							S-17360-110112-DD-179	11000 J	mg/kg
							S-17360-110112-DD-180	2.3 J	mg/kg
							S-17360-110112-DD-181	68 J	mg/kg
							S-17360-110112-DD-182	2.0 J	mg/kg
							S-17360-110112-DD-183	62 J	mg/kg
							S-17360-110112-DD-184	3.9 J	mg/kg
							S-17360-110112-DD-185	91 J	mg/kg
							S-17360-110112-DD-186	47 J	mg/kg
							S-17360-110112-DD-187	470 J	mg/kg
							S-17360-110112-DD-188	530 J	mg/kg
							S-17360-110112-DD-189	10 J	mg/kg
							S-17360-110112-DD-190	4.4 J	mg/kg
							S-17360-110112-DD-191	47 J	mg/kg
							S-17360-110112-DD-192	9.1 J	mg/kg
							S-17360-110112-DD-193	5.0 J	mg/kg
							S-17360-110112-DD-194	9.9 J	mg/kg
							S-17360-110112-DD-195	3.3 J	mg/kg

Notes:

J - Estimated Concentration
UJ - Non-detect with an Estimated Report Limit

%Rec - Percent Recovery
MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
SVOC - Semivolatile Organic Compounds
TCL - Target Compound List
VOC -Volatile Organic compounds

TABLE 7

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*LCS Date*	*LCS %Rec*	*LCD %Rec*	*RPD*	*Control Limits %Rec*	*Control Limits RPD*	*Associated Sample ID*	*Qualified Result*	*Units*
TCL VOC	Xylenes (total)	11/2/12	85	---	---	86-119	---	GW-17360-102512-DD-105	3.0 UJ	µg/L
								Trip Blank	3.0 UJ	µg/L
TCL VOC	Trichlorofluoromethane	11/08/12	189	---	---	82-123	---	S-17360-102512-DD-104	0.035 J	mg/kg
								S-17360-102512-DD-106	0.019 J	mg/kg
TCL VOC	Methyl acetate	11/09/12	69	---	---	75-123	---	S-17360-110112-DD-196	0.26 UJ	mg/kg
								S-17360-110112-DD-197	0.26 UJ	mg/kg
								Trip Blank	0.25 UJ	mg/kg
								Trip Blank	0.25 UJ	mg/kg
								S-17360-110112-DD-173	0.47 UJ	mg/kg
								S-17360-110112-DD-174	0.29 UJ	mg/kg
								S-17360-110112-DD-178	0.27 UJ	mg/kg
								S-17360-110112-DD-179	0.28 UJ	mg/kg
								S-17360-110112-DD-180	0.29 UJ	mg/kg
								S-17360-110112-DD-181	0.27 UJ	mg/kg
								S-17360-110112-DD-182	0.29 UJ	mg/kg
								S-17360-110112-DD-183	0.24 UJ	mg/kg
								S-17360-110112-DD-184	0.27 UJ	mg/kg
								S-17360-103112-DD-169	0.26 UJ	mg/kg
								S-17360-103112-DD-170	0.27 UJ	mg/kg
								S-17360-103112-DD-172	0.28 UJ	mg/kg
								Trip Blank	0.25 UJ	mg/kg
TCL VOC	Trichlorofluoromethane	11/09/12	186	---	---	82-123	---	S-17360-110112-DD-197	0.022 J	mg/kg
								S-17360-110112-DD-173	0.065 J	mg/kg
								S-17360-110112-DD-179	0.024 J	mg/kg
								S-17360-110112-DD-182	0.017 J	mg/kg
								S-17360-103112-DD-172	0.026 J	mg/kg

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO OUTLYING
LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	Analyte	LCS Date	LCS %Rec	LCD %Rec	RPD	Control Limits %Rec	Control Limits RPD	Associated Sample ID	Qualified Result	Units
TCL SVOC	Benzaldehyde	11/13/12	2	---	---	35-128	---	GW-17360-102512-DD-105	R	µg/L
	4-Chloroaniline		14	---	---	44-138	---		5.0 UJ	µg/L
	3,3'-Dichlorobenzidine		40	---	---	55-135	---		5.0 UJ	µg/L
	Acetophenone		47	---	---	58-115	---		2.5 UJ	µg/L
	3-Nitroaniline		36	---	---	49-144	---		5.0 UJ	µg/L
TCL SVOC	Benzaldehyde	11/13/12	2	---	---	35-128	---	GW-17360-102612-DD-110	R	µg/L
	4-Chloroaniline		14	---	---	44-138	---	GW-17360-102612-DD-111	1.0 UJ	µg/L
	3,3'-Dichlorobenzidine		40	---	---	55-135	---	GW-17360-103012-DD-114	1.0 UJ	µg/L
	Acetophenone		47	---	---	58-115	---	GW-17360-103012-DD-126	0.50 UJ	µg/L
	3-Nitroaniline		36	---	---	49-144	---		1.0 UJ	µg/L
TCL SVOC	Benzaldehyde	11/10/12	2	---	---	35-128	---	GW-17360-103012-DD-119	R	µg/L
	4-Chloroaniline		14	---	---	44-138	---		1.0 UJ	µg/L
	3,3'-Dichlorobenzidine		40	---	---	55-135	---		10 UJ	µg/L
	Acetophenone		47	---	---	58-115	---		0.50 UJ	µg/L
	3-Nitroaniline		36	---	---	49-144	---		1.0 UJ	µg/L
TCL SVOC	Caprolactam	11/08/12	35	---	---	44-130	---	S-17360-102612-DD-108	0.73 UJ	mg/kg
								S-17360-102612-DD-109	7.8 UJ	mg/kg
								S-17360-102512-DD-100	0.36 UJ	mg/kg
								S-17360-102512-DD-101	0.36 UJ	mg/kg
								S-17360-102512-DD-102	0.074 UJ	mg/kg
								S-17360-102512-DD-103	0.37 UJ	mg/kg
								S-17360-102512-DD-104	0.37 UJ	mg/kg
								S-17360-102512-DD-106	0.73 UJ	mg/kg
								S-17360-102512-DD-107	0.081 UJ	mg/kg

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO OUTLYING
LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	Analyte	LCS Date	LCS %Rec	LCD %Rec	RPD	Control Limits %Rec	Control Limits RPD	Associated Sample ID	Qualified Result	Units
TCL SVOC	Phenol	11/08/12	44	---	---	53-120	---	S-17360-102612-DD-108	1.8 UJ	mg/kg
								S-17360-102612-DD-109	20 UJ	mg/kg
								S-17360-102512-DD-100	0.90 UJ	mg/kg
								S-17360-102512-DD-101	0.89 UJ	mg/kg
								S-17360-102512-DD-102	0.19 UJ	mg/kg
								S-17360-102512-DD-103	0.92 UJ	mg/kg
								S-17360-102512-DD-104	0.92 UJ	mg/kg
								S-17360-102512-DD-106	1.8 UJ	mg/kg
								S-17360-102512-DD-107	0.20 UJ	mg/kg
TCL SVOC	Caprolactam	11/15/12	17	---	---	23-76	---	GW-17360-110112-DD-198	1.0 UJ	µg/L
								GW-17360-103112-DD-171	1.0 UJ	µg/L
								GW-17360-110212-BW-199	20 UJ	µg/L
								GW-17360-110212-BW-200	5.0 UJ	µg/L
								GW-17360-110212-BW-201	10 UJ	µg/L
TCL SVOC	4-Nitroaniline	11/15/12	0	---	---	52-143	---	WG-17360-110512-EB-001	R	µg/L
	Caprolactam		18	---	---	23-76	---		1.0 UJ	µg/L
	3,3'-Dichlorobenzidine		2	---	---	55-135	---		R	µg/L

SUMMARY OF QUALIFIED SAMPLE RESULTS DUE TO OUTLYING
LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	Analyte	LCS Date	LCS %Rec	LCD %Rec	RPD	Control Limits %Rec	Control Limits RPD	Associated Sample ID	Qualified Result	Units
TCL SVOC	Benzaldehyde	11/15/12	7	6	3	10-126	20	S-17360-110112-DD-196	R	mg/kg
								S-17360-110112-DD-197	R	mg/kg
								S-17360-103012-DD-112	R	mg/kg
								S-17360-103012-DD-113	R	mg/kg
								S-17360-103012-DD-115	R	mg/kg
								S-17360-103012-DD-116	R	mg/kg
								S-17360-103012-DD-117	R	mg/kg
								S-17360-103012-DD-118	R	mg/kg
								S-17360-103012-DD-120	R	mg/kg
								S-17360-103012-DD-121	R	mg/kg
								S-17360-103012-DD-122	R	mg/kg
								S-17360-103012-DD-123	R	mg/kg
								S-17360-103012-DD-124	R	mg/kg
								S-17360-103012-DD-125	R	mg/kg
								S-17360-103112-DD-169	R	mg/kg
								S-17360-103112-DD-170	R	mg/kg
								S-17360-103112-DD-172	R	mg/kg

Notes:

J - Estimated Concentration
UJ - Non-detect with an Estimated Report Limit
R - Rejected

%Rec - Percent Recovery
LCD - Laboratory Control Spike Duplicate
LCS - Laboratory Control Spike
RPD - Relative Percent Difference
SVOC - Semivolatile Organic Compounds
TCL - Target Compound List
VOC - Volatile Organic Compounds

TABLE 8

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO TRIP BLANK CONTAMINATION
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Trip Blank ID*	*Blank Date*	*Blank Result*	*Associated Sample ID*	*Original Result*	*Qualified Result*	*Units*
TCL VOC	Methylene chloride	Trip Blank	11/01/12	0.14	S-17360-110112-DD-197	0.13	0.13 U	mg/kg
					S-17360-110112-DD-173	0.35	0.35 U	mg/kg
					S-17360-110112-DD-179	0.12	0.12 U	mg/kg
					S-17360-110112-DD-184	0.10 J	0.11 U	mg/kg

Notes:

U - Qualified as Not Detected at the report limit
J - Estimated Concentration

TCL - Target Compound List
VOC - Volatile Organic Compounds

TABLE 9

SUMMARY OF QUALIFIED SAMPLE DATA DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
SITE-WIDE INVESTIGATION - OCTOBER AND NOVEMBER 2012
FORMER GRAND RAPIDS METAL PLANT
GRAND RAPIDS, MICHIGAN

Parameter	*Analyte*	*Criteria*	*RPD / Diff*	*Sample ID*	*Qualified Result*	*Field Duplicate Sample ID*	*Qualified Result*	*Units*
Select Metals	Manganese (dissolved)	Diff	1.13	GW-17360-102612-DD-110	2.1 J	GW-17360-102612-DD-111	0.97 J	µg/L
Select Metals	Antimony	RPD	148	S-17360-102512-DD-103	4.0 J	S-17360-102512-DD-104	0.59 J	mg/kg
TCL VOC	Trichloroethene	RPD	118	S-17360-102512-DD-103	4.3 J	S-17360-102512-DD-104	1.1 J	mg/kg
TCL VOC	Trichloroethene	RPD	180	S-17360-110112-DD-173	0.49 J	S-17360-110112-DD-174	0.026 J	mg/kg

Notes:

J - Estimated Concentration

Diff - Difference
RPD - Relative Percent Difference
TCL - Target Compound List
VOC - Volatile Organic Compounds