Storm Water Improvements Work Plan

RACER Bay City Industrial Land

Revitalizing Auto Communities Environmental Response Trust

April 29, 2022

DRAFT

→ The Power of Commitment

Contents

1. Introduction **1**
- 1.1 Purpose 1
- 1.2 Site Description 1
- 1.3 Background 2
- 1.4 Existing Storm Water Controls 3

2. Proposed Site Storm Water Management Improvements and Modifications **3**
- 2.1 Preparation of Health and Safety Plan 4
- 2.2 Contractor Procurement 4
- 2.3 Permitting/Agreements 4
- 2.4 Mobilization/Site Preparation 4
- 2.5 Demolition 4
- 2.6 Fill Placement 4
- 2.7 Swale Modifications 5
  - 2.7.1 CSC Swale Modifications 5
  - 2.7.2 MSA Swale Construction 5
- 2.8 New Storm Water Outfall 6
- 2.9 New HDPE Storm Water Pipe 6
- 2.10 Liner Quality Assurance Quality Control 6
- 2.11 Site Restoration and Demobilization 6

3. Materials Management **7**
- 3.1 Soil 7
- 3.2 Construction Water Management 7
- 3.3 Decontamination 7

4. Monitoring **8**

5. Reporting/Document Preparation **8**

6. Schedule **8**

Figure index

Figure 1.1 Site Location
Figure 1.2 Site Plan
Figure 2.1 Conceptual Site Layout

DRAFT

Appendices

Appendix A Design Drawings
Appendix B Permits/Agreements
Appendix C Facility Environmental Assessment Summary
Appendix D Proposed Backfill Characterization
Appendix E As-Recorded Drawings of Multi-Layer Cap
Appendix F Bay City Discharge Permit

DRAFT

1. Introduction

1.1 Purpose

This report presents the proposed storm water management improvements work plan (Work Plan) for the Revitalizing Auto Communities Environmental Response Trust (RACER) Bay City Industrial Land (Site or Property) located at the north end of Crotty Street, Bay City, Michigan. These improvements are necessary to separate storm water management facilities between the Site and the adjoining General Motors LLC (GM LLC) Bay City Plant (Storm Water Separation). The storm water separation work is a required condition of the GM bankruptcy.

This Work Plan identifies the work to be performed by and on behalf of RACER to isolate the Site storm water management system from the GM LLC Bay City Plant storm water system. Currently, storm water collected on the Site drains to a storm water line on the GM LLC Bay City Plant property. The Work Plan includes the following information:

– Proposed storm water management improvements to the Site
– Materials management related to construction of the modified storm water system improvements on the Site

Implementing the improvements on the Site will require modification of the multi-layer cap, slurry/deep soil mixing wall (Barrier Wall), and sheet pile wall, which are part of the approved and completed corrective measures/remedial actions. See the Corrective Measures/Remedial Action Plan (CM/RAP) Completion Report, September 23, 2016, GHD, which was approved by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly Michigan Department of Environmental Quality (MDEQ), for more details regarding the approved and completed corrective measures/remedial actions.

An existing 42-inch storm water line located in part on the GM LLC property and part on the Site serves a portion of the GM LLC site and the RACER Site. A catch basin in the central portion of the Site drains into the 42-inch storm sewer which crosses from the GM LLC site and runs through the Site. Approximately 265 feet of the 42-inch storm sewer passes through the barrier wall and PCB containment area on the Site creating a potential migration pathway for contaminated groundwater. GM LLC plans to line the approximately 265-foot section of the existing 42-inch storm water line that passes thru the PCB containment area to prevent potentially contaminated groundwater from infiltrating into and migrating through the storm sewer system. This lining represents a supplement to the already approved and completed corrective measures/remedial actions for the Site by mitigating a potential migration pathway for PCB contaminated groundwater.

It is noted that certain details included in this Work Plan are subject to change based on constructability recommendations received from bidders to implement the work and/or changes GM LLC may make to its storm water management plans for the Bay City Plant that could influence conditions at the Site. EGLE will be informed of material changes.

1.2 Site Description

The Site is approximately 10 acres. Figure 1.1 presents the RACER Site Location and Figure 1.2 presents the Site Plan. The Site was a portion of a larger, approximately 116-acre automotive components manufacturing facility (Larger Facility) previously owned and operated by General Motors Corporation (GMC) prior to its June 2009 bankruptcy filing. The remainder of the Larger Facility was acquired by GM LLC and is referred to herein as the GM LLC Bay City Plant. The Property is bounded to the north by the Saginaw River, to the south and east by the GM LLC Bay City Plant and to the west by property owned by CSX Transportation. The Site is surrounded by a mix of industrial and commercial properties.

The Property is primarily comprised of two former areas:

– Machine Storage Area (MSA), which was a peninsula of land (approximately 5 acres in size) that has been completely surrounded by a Barrier Wall

– Former Crotty Street Channel (CSC) (approximately 5 acres in size), which was formerly owned by CSX Transportation and GMC, and was connected to the Saginaw River prior to the remedial actions completed in 2000, which included filling and surrounding it with a sheet pile wall.

1.3 Background

On June 1, 2009, General Motors Corporation (GMC) filed for Chapter 11 protection under the U.S. Bankruptcy Code. On July 10, 2009, GMC was renamed Motors Liquidation Company (MLC) and on the same day some of the operating assets of MLC were sold to a newly formed company "General Motors Company." General Motors Company changed its name to General Motors LLC (GM LLC) on October 16, 2009. Assets not sold to GM LLC remained the property of MLC, in its capacity as debtor in possession in the bankruptcy case. An Environmental Response Trust Consent Decree and Settlement Agreement (Settlement Agreement) was entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of In re Motors Liquidation Company, et al., Debtors, Case No. 09 50026 (REG), among the Debtors, the United States of America, certain states including the State of Michigan, the Saint Regis Mohawk Tribe, and EPLET, LLC, (not individually but solely in its representative capacity as Administrative Trustee of the Trust).

Pursuant to the terms of the Settlement Agreement, RACER Trust became effective on March 31, 2011, and interest in the 89 sites formerly owned by GM LLC, including this Site, was transferred to RACER at that time to conduct and manage environmental clean-up, and position these sites for redevelopment.

A small bicycle factory began operations at the Larger Facility in 1892 and later evolved into the automotive components manufacturing facility. GMC began operations at the Larger Facility in 1918 manufacturing steel and cast iron camshafts, aluminum channel plates, oil pumps, transmission valves, piston pins, and cast aluminum products.

In 1988 a barrier wall was installed that surrounds the entire perimeter of the MSA physically isolating soil and groundwater in this area from the remainder of the Larger Facility and from the Saginaw River.

Under a 1992 Consent Judgment, GMC built a storm water/non-contact cooling water treatment system to eliminate PCB discharges to the Saginaw River. The treatment system treated all storm water, non-contact cooling water and extracted groundwater from the Larger Facility. A Remedial Investigation (RI)/Feasibility Study (FS)/Remedial Action Plan (RAP) was completed covering the entire Larger Facility.

In 1998, the RAP was revised and resubmitted to MDEQ. The CSC, northwest of the Larger Facility and not subject to the 1992 Consent Judgment, was investigated voluntarily by GMC. GMC formerly owned half the CSC channel while CSX owned the other half. GMC acquired CSX's half of the channel and proposed a RAP to contain impacts at the CSC to MDEQ in 1999. MDEQ approved remedies were constructed in 1999 and 2000 and consisted of:

– **Sheet Pile Wall –** Beginning at the northern end of the MSA the Sheet Pile wall is keyed into the MSA Barrier Wall prior to leaving the shoreline in a westward direction. The sheet pile wall extends in a westerly direction across the former mouth of the CSC to RACER's western property limits, continuing south down the west side of the RACER Property, and then turns east and connects to the Barrier Wall on RACER Property.
– **Capping -** A multi-layer cap has been placed over the area contained by the sheet pile wall, and the MSA Barrier Wall. The cap covers almost all of the MSA and the CSC and consists of the following layers, from the base up to the ground surface:
    - Grading layer
    - 6-inch sand bedding
    - 40-mil HDPE liner
    - Geonet layer for subsurface drainage above the liner
    - 12-inch sand layer
    - 6-inch vegetated, topsoil cover

DRAFT

Since March 31, 2011, on-going operation and maintenance (O&M) activities at the Site have been performed by RACER. As a result of the bankruptcy process, it was necessary to "separate" the RACER Property from the GM LLC Bay City Plant. "Separation" consists of providing for separate utilities for each property (electricity, storm, and sanitary), managing storm water, treating impacted groundwater, and providing a separate access for each site. A separate entrance, electricity, and groundwater treatment system and discharge connection to the Bay City sanitary sewer system were installed in 2015 and have since been operated and maintained by RACER.

1.4 Existing Storm Water Controls

A multi-layer cap over the MSA and the CSC prevents the infiltration of storm water to the underlying groundwater and is graded such that a portion of storm water is directed to two storm water collection inlets in the MSA. Storm water that infiltrates through the soil layer of the cap will drain via the geonet layer and collect in two storm water inlets. Collected storm water is routed through subsurface pipes to the GM LLC Bay City Plant storm water/groundwater treatment system (which includes lagoons for primary settling and multi-media filters and Granular Activated Carbon (GAC)) where it is treated and discharged back into the lagoons until discharge is necessary to the Saginaw River under GM LLC's NPDES permit MI0001121.

2. Proposed Site Storm Water Management Improvements and Modifications

The proposed Site storm water improvements and modifications are conceptually illustrated in Figure 2.1. On the west side of the Site these consist of:

– Place fill above the existing cap, regrade, install new liner above existing liner, fusion weld the new liner to the existing liner and construct a river rock drainage swale running the length of the CSC which will allow for storm water run-off to enter the swale and gravity drain to the proposed new northwest outfall; requires modification and repairs to the multi-layer cap.
– Construction of a new HDPE storm water outfall through the existing sheet pile wall at the northwest corner of the Site; requires modification and repairs to the multi-layer cap and sheet pile wall.

The proposed storm water improvements and modifications on the east side of the Site consist of:

– Plugging the existing connection to the GM LLC Bay City Plant storm sewer (ST-41) and the Inlet Slip (two catch basins outlet directly into the Inlet Slip)
– Decommissioning and demolishing small structures in the southeast portion of the MSA.
– Regrading along the RACER/GM LLC property line; including the placement of fill above and below the HDPE Liner, as needed, reshaping an existing swale, and constructing a new swale; requires modification and repairs to the multi-layer cap.
– Installation of a 12" HDPE storm water pipe beneath the multi-layer cap and across the MSA (through the Barrier Wall) to drain surface water from the east swale to the west swale and out the new storm water outfall; requires disturbing, (opening a portion of the cap, including cutting the liner) and subsequently repairing the multi-layer cap and Barrier Wall.

The following sections describe the activities included in this Work Plan and more details are provided in Appendix A. More specific means and methods and definitive schedule will be requested from the contractors who will submit bids for this work. Accordingly, specific details in the below may vary. Significant acceptable variations proposed by the selected contractor will be communicated to EGLE.

DRAFT

2.1 Preparation of Health and Safety Plan

To ensure that all on-Site work is completed safely, a Site-specific Health and Safety Plan (HASP) has already been prepared for the Site by GHD for GHD's personnel. The selected contractor(s) will prepare a HASP, including identifying a Site health and safety officer and job safety analysis (JSA) for its personnel for the storm water improvement and modification activities. The hazard analysis will identify the potential hazards, evaluate the level of personal protective equipment that will be used during the clean-up activities, and describe the personnel decontamination procedures required to control any potential personal exposures during implementation of this Work Plan.

The contractor's HASP will be prepared and implemented consistent with Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120.

2.2 Contractor Procurement

Bidding documents will be prepared, and competitive bids will be obtained from prequalified contractors. One or more qualified, OSHA 29 CFR 1910.120 trained contractors will be procured to implement the storm water modifications. The division of responsibilities, if any, will be determined through the competitive bidding process.

2.3 Permitting/Agreements

All applicable permits and agreements will be obtained before conducting work which will include: a Bay County soil erosion and sedimentation control permit (to be obtained by the contractor), a U.S. Army Corp permit (provided in Appendix B.1), an EGLE/USACE floodplain permit (provided in Appendix B.2), a Facility Encroachment Agreement with CSX (provided in Appendix B.3) and any other permits that may be required. A No Exposure Certification (NEC) application for exclusion of coverage under the NPDES Storm Water Discharges Associated with Industrial Activity was submitted on January 18, 2022, however, the application was determined by EGLE to not be necessary and was withdrawn by EGLE on February 3, 2022.

2.4 Mobilization/Site Preparation

Upon mobilization to the Site, the contractor will establish security controls and designate work zones (exclusion zone, contamination reduction zone, isolated stockpiles of excavated soils (to be replaced under the cap), and support zone) to minimize tracking of impacted materials. The contractor will install a temporary orange safety fence or caution tape, with warning signs, as necessary to define the work zones.

2.5 Demolition

There are two small existing structures, as well as a utilities tunnel in the immediate vicinity of the concrete area that will be decommissioned and demolished as part of the proposed work. An assessment of these structures was completed to determine specific decommissioning and demolition requirements. A copy of the assessment is provided in Appendix C.

2.6 Fill Placement

Approximately 1,200 cubic yards of fill are proposed for the CSC to be placed above the existing cap to re-shape the existing drainage patterns and facilitate installation of a river rock swale to promote surface water drainage (as further discussed in the next Section). Details for the proposed filling activities are provided in Appendix A on drawings 3, 4, and 5. One possible source of fill is from RACER's Nodular site. Characterization of the available fill was conducted in December 2017 and deemed suitable for re-use as general backfill. The results were presented in a memorandum which is provided in Appendix D.

DRAFT

With the proposed placement of fill, the finished grades/elevations of various extractions wells, monitoring wells, and maintenance access locations will need to be modified. Details for the required modifications will be included in the bidding documents, which will be finalized in May 2022.

2.7 Swale Modifications

2.7.1 CSC Swale Modifications

On the west side of the Site, the existing CSC drainage swale will be re-graded with additional fill, as necessary, and new liner installed above and fusion welded to the existing liner to capture all surface water drainage. Water collected from the cap will drain in the modified swale toward a new storm water outfall located at the northwest corner of the Site. The existing liner will be cut and new sections of 40-mil HDPE liner placed and fusion welded along the seams. Seams will be tested as specified in Section 2.10. The portion of existing liner below the newly installed liner will remain in-place. The bottom of the swale will consist of river rock. Approximately 2-ft from the new storm water outfall the river rock swale will transition to a 15-inch storm water drainage pipe that will extend through the sheet pile wall at the northwest corner of the Site, which is further discussed in Section 2.8.

Details for the CSC swale modifications are provided in Appendix A, drawings 3, 4, and 5. Details for necessary repairs to the liner are provided in Appendix A, drawing C01.

2.7.2 MSA Swale Construction

Within the MSA, approximately 500-ft of existing drainage swale along the RACER/GM LLC property line will be re-graded, including placement of fill above and below the HDPE Liner to promote surface water drainage to a new inlet that will direct water across the MSA (through a new 12-inch diameter HDPE pipe as discussed in Section 2.9), under the multi-layer cap, through the Barrier Wall and connect to the western CSC river rock swale enroute to the proposed northwest outfall (Further discussed in Section 2.8). Existing as-recorded drawings of the multi-layer cap (provided in Appendix E) identify that the existing liner was terminated at the interior of the Barrier Wall, however, available construction photos and recent Site inspections confirmed that the liner was extended and placed (not attached) against the concrete pad along the RACER/GM LLC property boundary. The existing liner between the existing concrete pad and along the swale will be replaced to slope towards the new inlet. New sections of 40-mil HDPE liner will be attached to the existing liner and fusion welded at the seams. Seams will be tested as specified in Section 2.10. An anchor trench will be constructed to terminate the liner parallel to a new concrete curb and gutter to be installed by GM LLC.

On the east side of the Site, next to the GM LLC inlet slip, there is a concrete paved area with two existing catch basins which collect water and discharge into the GM LLC inlet slip. As part of the proposed work, a swale will be constructed between the concrete paved area and the GM LLC/RACER property boundary, along the GM LLC inlet slip, that will collect water that drains off the concrete driveway and direct it southeast. From there the swale will take a 90-degree bend to the west to direct flow towards the new inlet that will transport water across the MSA (through a new 12-inch diameter HDPE pipe as discussed in Section 2.9). In order to construct the portion of the swale that is directed to the west, a portion of the concrete driveway will be removed. When determined appropriate in the construction sequence, the existing catch basins on the concrete paved area will be removed or bulkheaded to prevent any further storm water from entering the GM LLC inlet slip.

Management of any material beneath the existing liner that is generated from the reshaping the swales is addressed in Section 3.1.

Details for the MSA swale modifications are provided in Appendix A, drawings 3, 6, and 7. Details for necessary repairs to the liner are provided in Appendix A, drawing C01.

DRAFT

2.8 New Storm Water Outfall

A new storm water outfall will be constructed in the northwest portion of the Site. Construction will include installing a three-foot section of 15-inch diameter HDPE pipe, cutting the existing liner and re-installing a new liner below river rock swale and extrusion welding liner to the inlet of the 15-inch diameter HDPE pipe, and cutting a slot through the sheet pile wall to drop in the 15-inch diameter HDPE pipe. The outfall is required to be watertight which will be addressed by pouring a concrete wall around and above the pipe to seal the gap in the sheet pile wall. A waterstop product will be installed around the pipe and at the concrete edges to ensure a watertight seal. Details for the watertight outfall are provided in Appendix A, drawing C02.

Management of any material beneath the existing liner that is generated from installation of the outfall is addressed in Section 3.1.

2.9 New HDPE Storm Water Pipe

Approximately 477-ft of 12-inch diameter HDPE pipe will be installed to transmit surface water drainage from the east side of the Site across the MSA (under the multi-layer cap and through the western portion of the Barrier Wall) and connect to the CSC river rock swale enroute to the new outfall. Where required, the existing liner will be cut and laid back to allow for the open trench installation of the storm water pipe and maintenance access port.

A maintenance access port will be constructed of an HDPE “T” with a 12-inch HDPE riser pipe to the ground surface. The HDPE pipe joints will be extrusion welded to ensure a watertight connection. Following installation of the pipe but before the pipe is covered, the pipe will be pressure tested to confirm there are no leaks. At the inlet and outlet for the pipe, the pipe will pass through the liner. An HDPE boot collar will be used at each penetration of the liner to ensure a watertight connection. Details for the HDPE pipe penetrations through the liner are provided in Appendix A, drawing C01 and C02.

Standard bedding material will be placed in the open cut trench to provide a competent base for the pipe installation. The trench will be backfilled with structural fill and then compacted. After backfilling and compaction, material removed from below the liner to facilitate the installation of the storm water pipe will be placed back under the cap, regraded, and the liner above the new storm water pipe will be repaired. The liner will be repaired by placing new sections of 40-mil HDPE liner and fusion welding the seams. Seams will be tested as specified in Section 2.10.

Management of any material beneath the existing liner that is generated from the installation of the HPDE storm water pipe is addressed in Section 3.1.

Following completion of the storm water improvements, the current storm water connection to the GM LLC Bay City Plant storm water system (ST-41), located on the East side of the Site, will be cut and capped.

2.10 Liner Quality Assurance Quality Control

Liner seams will be tested to confirm quality assurance and quality control and will include:

– Test seams in shear and peel in accordance with GRI Test Method GM29
– Non-destructive seam testing of double fusion seams with an enclosed channel by air pressure according to ASTM D5820 or single welded seams by vacuum testing according to ASTM D5641/D5641M
– Destructive seam testing in peel and sheer in accordance with GRI GM14 and ASTM D6392, using a calibrated field tensiometer and duplicate field samples will be submitted to a laboratory for confirmatory testing.

2.11 Site Restoration and Demobilization

Once the work is completed, the contractor will remove any temporary fencing, temporary structures, equipment, and other materials and supplies brought onto the Site to complete the storm water modifications. All disturbed surface areas will be stabilized reseeded as soon as possible.

3. Materials Management

3.1 Soil

Soil generated from work conducted below the existing liner will be stored on-Site in contained areas and placed back below the liner that was cut to facilitate the installation of the 12-inch HDPE pipe. Temporary staging of excavated soil will be completed to prevent potentially contaminated soils from any threat of run-off. Once the excess soil has been placed and regraded below the liner, the liner will be repaired with the placement of a new section of 40-mil HDPE liner and extrusion welding the seams. Following liner repair, the remainder of the multi-layer cap will be re-constructed over the liner. Seams will be tested as specified in Section 2.10.

3.2 Construction Water Management

To facilitate the installation of the 12-inch and 15-inch diameter HDPE pipes and river rock swale, as well as the placement of fill over concrete area, construction water management is anticipated.

Any groundwater extracted from below the multi-layer cap that cannot be reasonably re-infiltrated will be containerized, filtered using 20-micron bag filters to remove suspended solids, treated in the on-Site groundwater treatment system, and discharged. If quantities of water exceed the system's capability, alternate treatment/disposal methods will be identified.

Similarly, any storm water accumulation on temporary soil staging pads used for the placement of material from below the multi-layer cap that cannot be reasonably infiltrated will be containerized, filtered to remove suspended solids, and treated in the on-Site groundwater treatment system.

Sediments and filter bags will be characterized and disposed of off-Site at a suitable disposal Facility.

3.3 Decontamination

Decontamination will be required for equipment that comes in contact with PCB-impacted material, i.e., material below the HDPE liner. This may include the excavator and front-end loader (whole machine or select components), and may include roll-off boxes, haul truck beds, and small equipment.

Decontamination will be conducted in accordance with 40 CFR 761.79(c)(2) by swabbing surfaces that have contacted PCBs with a solvent (diesel or Pine sol) or completing a double wash/rinse. Decontamination materials will be solidified and disposed of at the following Subtitle D disposal facility:

Whitefeather Landfill (Republic Services)
2401 E Whitefeather Road, Pinconning, MI 48650
License No. 9578

People's Landfill (Waste Management)
4143 East Rathbun Road, Birch Run, MI
License No. 9100

If a disposal facility is proposed other than the facility listed above, details for the disposal facility will be provided to EGLE for review and approval.

DRAFT

4. Monitoring

If any water is discharged pursuant to the City of Bay City discharge permit for treated water, required monitoring will be completed. A copy of the City of Bay City discharge permit is provided in Appendix F.

5. Reporting/Document Preparation

Upon the completion of this Work Plan, a completion report will be prepared to present a summary of the completed work. The report will include a summary of the work completed, a summary of field observations, quantities of materials, as-built details, certificates of disposal, and as-built drawings, as applicable.

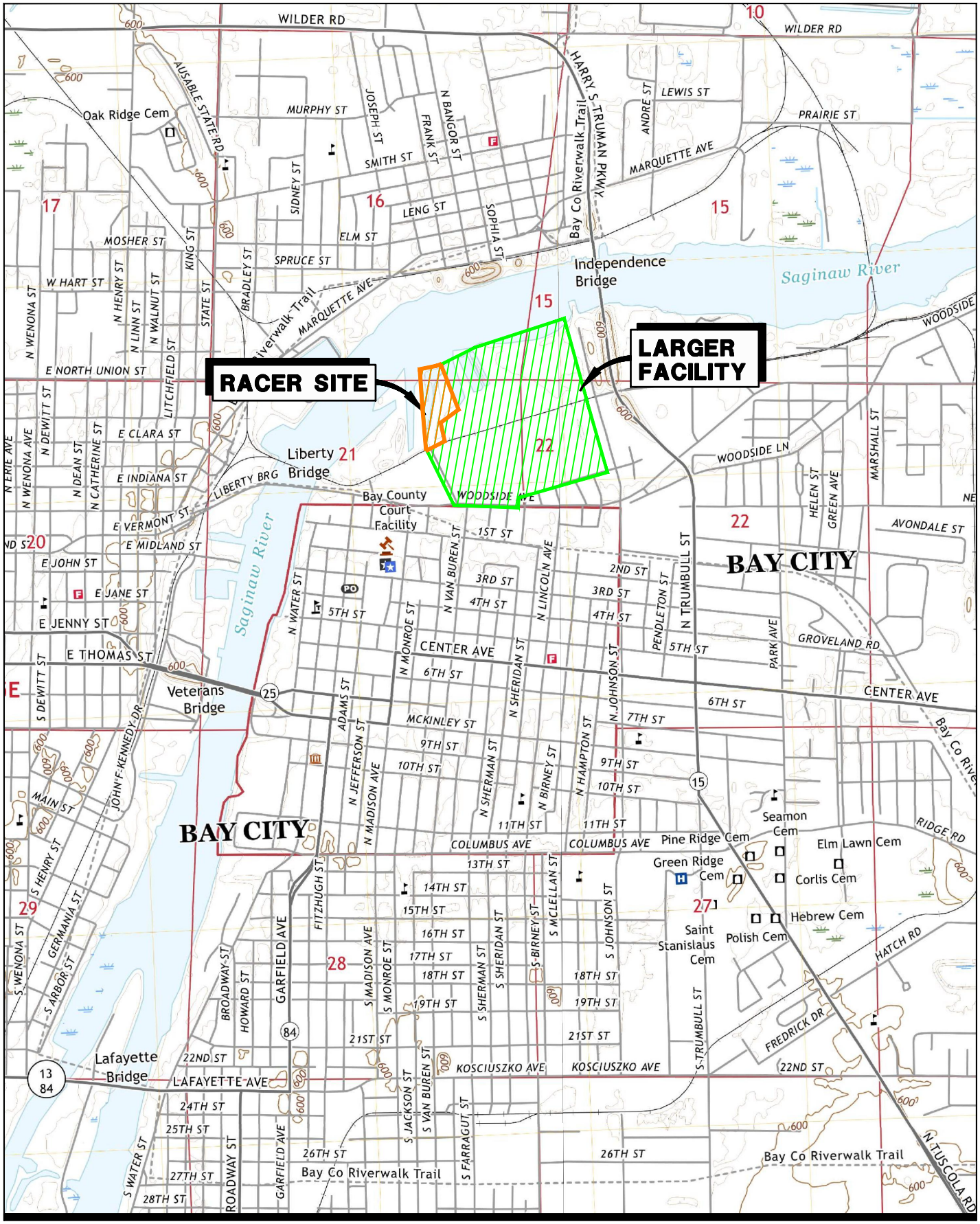
In addition, an amended Declaration of Restrictive Covenant will be prepared and submitted to EGLE for review.

6. Schedule

Pending approval of the proposed work, a contractor will be procured to complete the work and any additional applicable permits will be obtained. The work will be initiated as soon as practicable but during a time of the year with suitable, dry weather conditions. The current target to start work is no later than August 1, 2022.

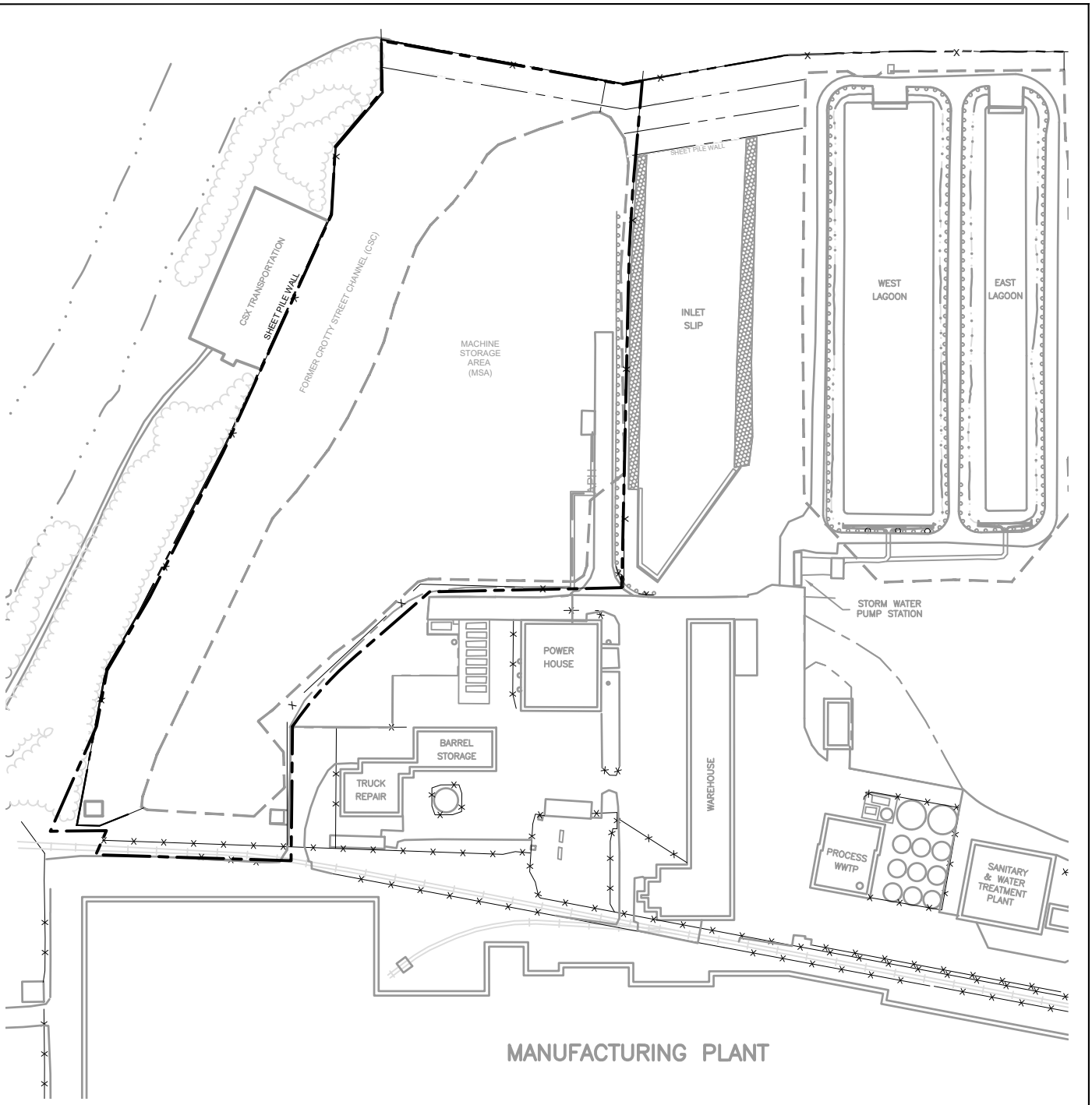
DRAFT

Figures



Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11208058\Digital_Design\ACAD 2020\Figures\RPT001\11208058-GHD-0000-RPT-EN-0104_WA-001.DWG
Plot Date: 18 April 2022 8:41 AM

Data Source: U.S.G.S. QUADRANGLE MAPS;
BAY CITY, MI, 2019 AND ESSEXVILLE, MI, 2019



LEGEND

- FENCE
- GUARDRAIL
- RAILROAD
- TREELINE
- SHORELINE
- BARRIER (DEEP SOIL MIXING)
- SHEET PILE WALL
- APPROXIMATE RACER PROPERTY BOUNDARY

0 100 200 ft

N

GHD

RACER TRUST - BAY CITY INDUSTRIAL LAND
BAY CITY, MICHIGAN

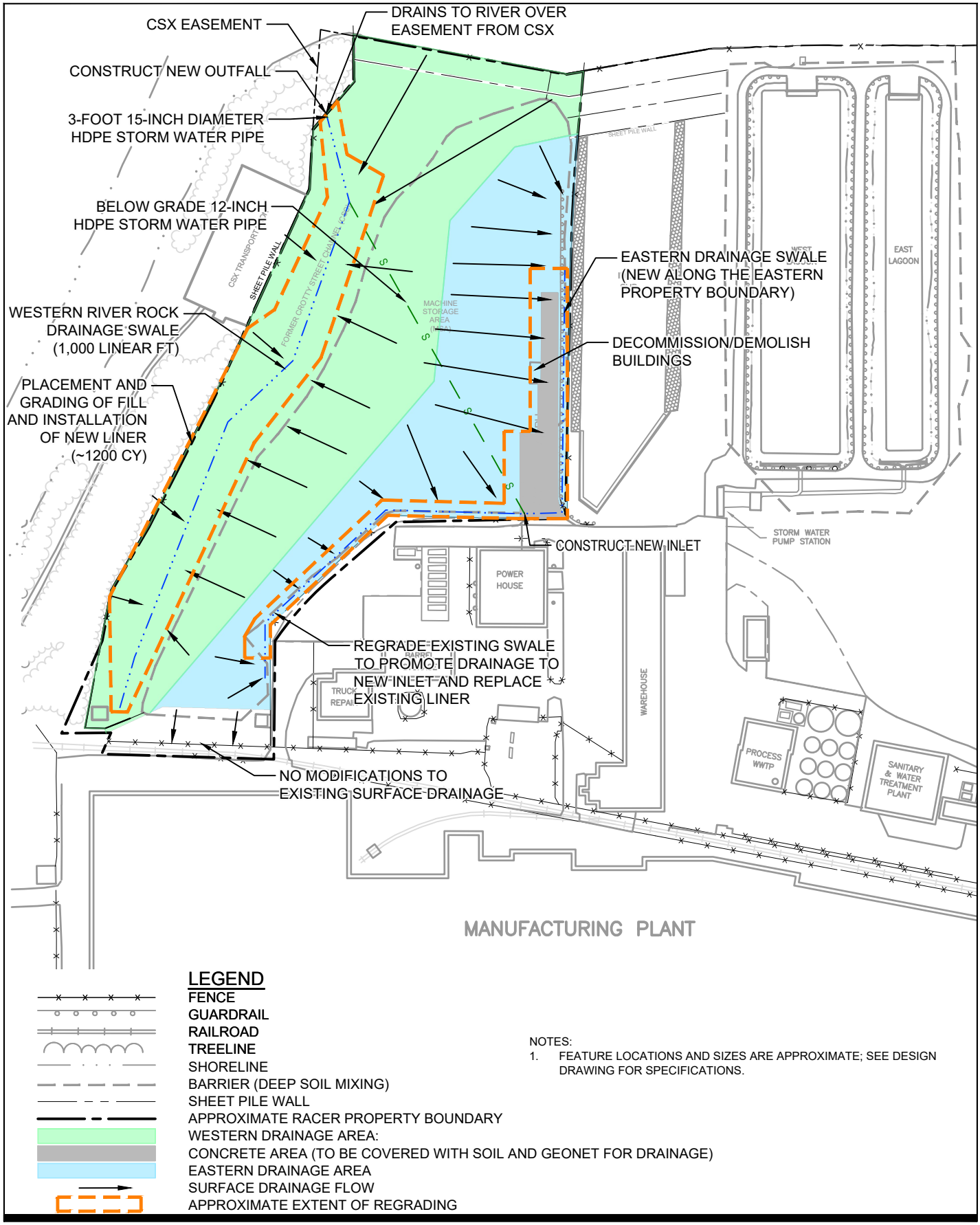
Project No. **11208058**
Date **April 2022**

RACER SITE PLAN

FIGURE 1.2

Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11208058\Digital_Design\ACAD 2020\Figures\RPT001\11208058-GHD-0000-RPT-EN-0105_WA-001.DWG
Plot Date: 18 April 2022 8:42 AM

Data Source: McLAREN HART ENVIRONMENTAL ENGINEERING CORP.
DATE: 08/29/94 DRAWING: 7900B216 ALL ELEVATIONS IN NAVD88



LEGEND

- FENCE
- GUARDRAIL
- RAILROAD
- TREELINE
- SHORELINE
- BARRIER (DEEP SOIL MIXING)
- SHEET PILE WALL
- APPROXIMATE RACER PROPERTY BOUNDARY
- WESTERN DRAINAGE AREA:
- CONCRETE AREA (TO BE COVERED WITH SOIL AND GEONET FOR DRAINAGE)
- EASTERN DRAINAGE AREA
- SURFACE DRAINAGE FLOW
- APPROXIMATE EXTENT OF REGRADING

NOTES:
1. FEATURE LOCATIONS AND SIZES ARE APPROXIMATE; SEE DESIGN DRAWING FOR SPECIFICATIONS.

0 100 200 ft

N

GHD

RACER TRUST - BAY CITY INDUSTRIAL LAND
BAY CITY, MICHIGAN

Project No. **11208058**
Date **April 2022**

CONCEPTUAL SITE LAYOUT WITH STORM MANAGEMENT IMPROVEMENTS

FIGURE 2.1

Filename: \\ghdnet\ghd\CA\Waterloo\Projects\662\11208058\Digital_Design\ACAD 2020\Figures\RPT001\11208058-GHD-0000-RPT-EN-0106_WA-001.DWG
Plot Date: 28 April 2022 3:12 PM

Data Source: McLAREN HART ENVIRONMENTAL ENGINEERING CORP.
DATE: 08/29/94 DRAWING: 7900B216 ALL ELEVATIONS IN NAVD88

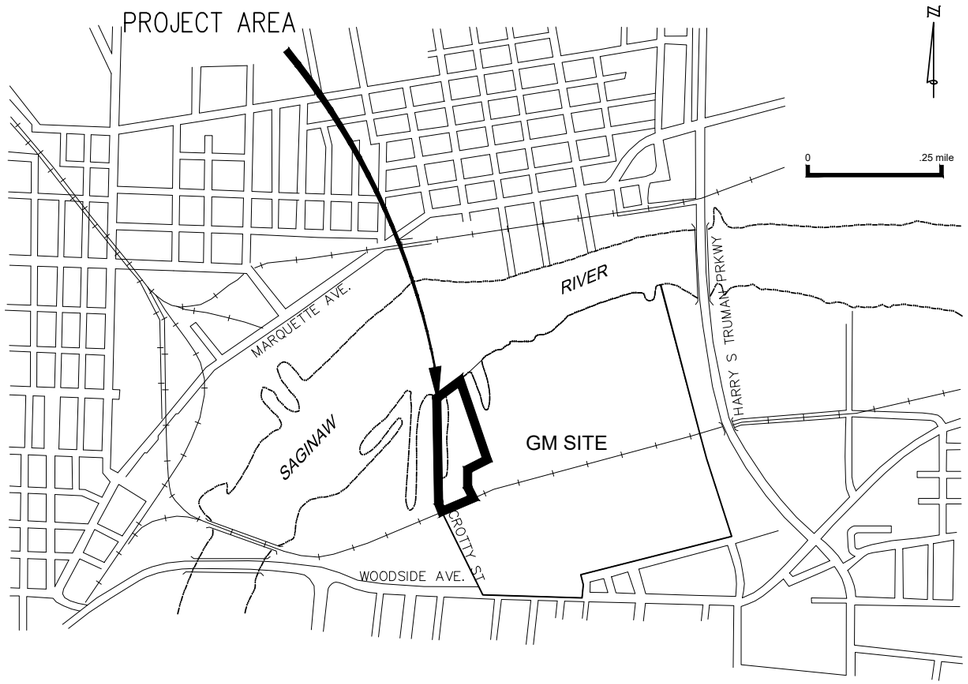
Appendices

Appendix A

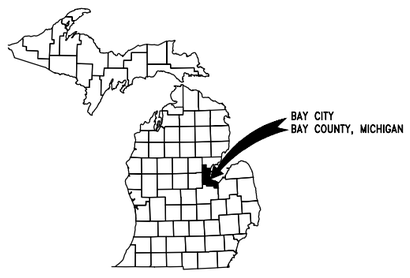
Design Drawings

BAY CITY GMPT
BAY CITY, MICHIGAN
RACER Trust Bay City GMPT

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND SHEET
3	SITE PLAN
4	WEST SWALE – PROFILE & DETAILS
5	WEST SWALE – CROSS SECTIONS
6	EAST SWALE – PROFILE & DETAILS
7	EAST SWALE – CROSS SECTIONS
8	PIPE CROSSING – PROFILE & DETAILS
9	PROJECT OVERVIEW AERIAL



LOCATION MAP
N.T.S.



KEY MAP
NO SCALE

FLOODPLAIN INFORMATION

BANGOR TOWNSHIP	
CITY OF BAY CITY	
BAY COUNTY, MICHIGAN	
MAP NUMBER:	26017C0332E
EFFECTIVE DATE:	SEPTEMBER 17, 2010
FLOOD ZONE:	AE
BASE FLOOD ELEVATION:	585.1 NAVD 88
100-YEAR FLOOD ELEVATION:	581.9 NAVD 88
TOPOGRAPHIC SURVEY DATUM:	NGVD 29
NAVD 88 TO NGVD 29 CONVERSION:	+0.6 FT
BASE FLOOD ELEVATION:	585.7 NGVD 29
100-YEAR FLOOD ELEVATION:	582.5 NGVD 29

UTILITY NOTE

FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CONTRACT THE MISS DIG SYSTEM, INC. BY PHONE AT 811 OR 800-482-7171 OR VIA THE WEB AT EITHER ELOCATE.MISSDIG.ORG FOR SINGLE ADDRESS OR RTE.MISSDIG.ORG, A MINIMUM OF 3 BUSINESS DAYS PRIOR TO EXCAVATION, EXCLUDING WEEKENDS AND HOLIDAYS.

UTILITY CONTACTS

TELEPHONE
AT&T
C/O ENGINEERING DEPARTMENT
ROOM 525A
309 S. WASHINGTON AVE.
SAGINAW, MI 48607
(989) 776-4070

PLANNING/ZONING
CITY OF BAY CITY
PLANNING AND CONSTRUCTION
301 WASHINGTON AVE.
BAY CITY, MI 48078
(989) 894-8180

GAS
CONSUMERS ENERGY
2400 WEISS ST.
SAGINAW, MI 48602
(989) 791-5869

WATER
CITY OF BAY CITY
WATER DISTRIBUTION DEPT.
800 S. WATER ST.
BAY CITY, MI 48708
(989) 894-8320

ELECTRIC
BAY CITY ELECTRIC LIGHT & POWER
900 S. WATER ST
BAY CITY, MI 48708
(989) 894-8104

SEWER
CITY OF BAY CITY
SEWER MAINTENANCE
800 S. WATER ST.
BAY CITY, MI 48708
(989) 891-1200

CONTRACT FOR:

OHM
Advancing Communities
201 E Ellsworth St, Unit 100 | Midland, MI 48640
P (989) 956-2020

PREPARED UNDER THE SUPERVISION OF:

Andrew VanWormer

6201052683
Registration No.

Date

REVISIONS

PROJECT NO.	SHEET NO.
4018-13-0011	1 OF 9

WATER & SEWER UTILITY SYMBOLS

EXISTING

- ST — STORM MANHOLE
- SQUARE CATCH BASIN
- ROUND CATCH BASIN
- CULVERT
- CULVERT W/O END SECTION
- CULVERT W/END SECTION
- S — SANITARY MANHOLE
- CO — CLEAN OUT
- GW — GATE VALVE & WELL
- GATE VALVE & BOX
- W — WATER STOP BOX
- FIRE HYDRANT
- MP — METER PIT
- WATER METER
- SH — SPRINKLER HEAD
- IR — IRRIGATION VALVE

PROPOSED

- STORM MANHOLE
- INLET/CATCH BASIN
- CULVERT END SECTION
- SANITARY MANHOLE
- GV&W — GATE VALVE & WELL
- GV&B — GATE VALVE & BOX
- TSV&W — TAPPING SLEEVE VALVE & WELL
- TSV&B — TAPPING SLEEVE VALVE & BOX
- FIRE HYDRANT

REAL ESTATE SYMBOLS

- CONTIGUOUS PROPERTY SYMBOL
- XXXX — PARCEL NUMBER BOX
- NO ROW IMPACTS

MISCELLANEOUS UTILITY SYMBOLS

EXISTING

- GUY WIRE
- GP — GUY POLE
- U — UTILITY POLE
- UTILITY POLE W/LIGHT
- LIGHT/DECOR LAMP POLE
- FLOOD LIGHT
- GAS VALVE
- GAS VENT
- G — GAS METER
- GAS RISER
- TRAFFIC SIGNAL
- PEDESTRIAN RISER
- TRANSFORMER PAD
- PRIVATE UTILITY MANHOLE
- RAILROAD CROSSING
- ELECTRIC METER
- PB — PHONE BOOTH
- TS — TRAFFIC SIGNAL CONTROLLER
- HAND HOLE
- ELECTRIC RISER
- TELEPHONE RISER
- C — CABLE TV RISER
- MONITORING WELL
- UNDERGROUND MARKER

MISCELLANEOUS SYMBOLS

EXISTING

- RIPRAP
- SIGN
- FLOW DIRECTION
- STUMP
- WETLAND
- CONIFEROUS TREE — CL 1 1" TO 5", CL 2 6" TO 17", CL 3 18" TO 35", CL 4 36" AND UP
- DECIDUOUS TREE
- CONIFEROUS SHRUB
- DECIDUOUS SHRUB
- SB# — SOIL BORING
- SECTION CORNER
- MON — MONUMENT
- IRON ROD/PIPE
- PK — PK NAIL
- BM# — BENCHMARK
- TP# — TRAVERSE POINT
- MAIL/NEWSPAPER BOX
- FP — FLAG POLE
- POST
- HAZARDOUS OR FLAMMABLE MATERIAL — USED WITH UNDERGROUND GAS & ELECTRICAL LINES
- CAUTION – CRITICAL UNDERGROUND UTILITY — USED WITH TELEPHONE & FIBER OPTIC LINES

PROPOSED

- RIPRAP
- SIGN
- FLOW DIRECTION
- XX XX XXX — STRUCTURE NUMBER WM SAN STM
- ADA SIDEWALK RAMP

UTILITY PATTERN

EXISTING

- ELEC — ELECTRICAL *
- 6" (COMPANY) GAS — GAS\OIL
- (COMPANY) CABLE/TEL — CABLE/TELEPHONE *
- FIBER OPTIC — FIBER OPTIC *
- 12" WM — WATER
- 12" SAN — SANITARY
- 12" STM — STORM

PROPOSED

- 12" — STORM/SANITARY/WATER
- 12" — PRIMARY UTILITY WILL HAVE A CONTINUOUS LINESTYLE, WITH THE SECONDARY UTILITY MATCHING ITS RESPECTIVE EXISTING UTILITY LINESTYLE

*OH = OVERHEAD , UG = UNDERGROUND

ROW PATTERN

EXISTING

- ROW — ROW
- SECTION
- PROPERTY/PARCEL

PROPOSED

- ROW — ROW

TOPO PATTERN

EXISTING

- HEDGE/TREE
- FENCE
- GUARDRAIL
- CENTERLINE OF DITCH
- RAILROAD
- WETLAND/EDGE OF WATER

PROPOSED

- GRADING LIMIT (SLOPE STAKE)
- CENTERLINE OF DITCH
- GUARDRAIL
- FENCE

REMOVAL LEGEND

- SIDEWALK REMOVAL
- HMA SURFACE REMOVAL
- PAVEMENT REMOVAL
- COLD MILLING HMA SURFACE
- HMA BASE CRUSHING AND SHAPING
- EXCAVATION, EARTH, MODIFIED
- CURB AND GUTTER, REM
- TREE, REM
- S-XXXXXX — SALVAGE
- B-XXXXXX — BULKHEAD
- A-XXXXXX — ABANDON
- R-XXXXXX — REMOVE
- ADJ-XXXXXX — ADJUST
- REL-XXXXXX — RELOCATE
- REC-XXXXXX — RECONSTRUCT
- R B/O-XXXXXX — REMOVE BY OTHERS
- ADJ B/O-XXXXXX — ADJUST BY OTHERS
- REL B/O-XXXXXX — RELOCATE BY OTHERS

IF NECESSARY FOR CLARITY

- (S) — SALVAGE
- (B) — BULKHEAD
- (A) — ABANDON
- (C) — CLEARING
- (R) — REMOVE
- (REL) — RELOCATE
- (REC) — RECONSTRUCT
- (REL B/O) — RELOCATE BY OTHERS
- (ADJ B/O) — ADJUST BY OTHERS

SPECIAL LEGEND

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

DATE 4/21/2022 | PROJ NUMBER 4018-13-0011 | ENG OHM | PROJ MGR AV | CADD MCH | COUNTY BAY | MUNICIPALITY BAY CITY

RACER
Bay City
LEGEND SHEET

SHEET 2 OF 9

COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

DRAWING PATH: P:\4000_4100\4018\30011_racer_bay_city_amp\dwg\Design\2019 redesign mch\FINAL\RACER_LEG.dwg Apr 27, 2022 - 10:30am

JOB BENCHMARK # 200 WEST CORNER OF CONCRETE ENVIROMENTAL WELL #5 (EW8) ELEV 591.35
JOB BENCHMARK # 201 WEST CORNER OF CONCRETE ENVIRONMENTAL WELL #10 (EW10) ELEV 590.86
JOB BENCHMARK # 202 WEST CORNER OF CONCRETE ENVIRONMENTAL WELL #7 (EW7) ELEV 590.69
JOB BENCHMARK # 203 WEST CORNER OF CONCRETE ENVIRONMENTAL WELL #6 (EW6) ELEV 592.58

GRAPHIC SCALE: 1 inch = 80 feet
0 40 80 160 240

WEST SWALE GRADING LIMITS (TYP)
179 CYD OF 2" TO 4" DIA RIVER ROCK
SWALE @ 0.3%
EW-15
EX RIM 586.95
PR SURFACE 587.00
SANITARY MH
EX RIM 584.89
PR SURFACE 585.00
EW-14
EX RIM 585.49
PR SURFACE 584.80
ADJUST SANITARY STRUCTURE WITH 1' ADDITIONAL HEIGHT
TP# 100
WEST DITCH ALI STA 7+95
PIPE ALI STA 5+78
3 FT OF 15" WELDED HDPE PIPE @ 1.0%
1 EA CULV END SECT, 15 INCH
CSX EASEMENT
10 CYD OF 4" TO 6" DIA RIPRAP
100-YEAR FLOOD ELEV 582.5
CSX PROPERTY
SAGINAW RIVER
OHWM ELEV= 581.6
(4/8/2020)
115.0'
EW-13
SWALE @ 0.3%
SHEET PILE WALL (TYP)
EX SLURRY WALL
VENT RISER (TYP)
EW-6
BM# 203
1" DIA AIR LINE
2" DIA FORCEMAIN &
CONDUIT (TYP)
EW-7
BM# 202
DR STRUCTURE COVER, ADJ
DRAINAGE STRUCTURE, ADJ, ADD DEPTH
DR STRUCTURE, COVER, TYPE Q
#120387
EX 10" STM
PLUG EX 15" PIPE SOUTHEAST
AND EX 10" PIPE NORTH,
FILL STORM STRUCTURE WITH
FLOWABLE FILL
EX 14"S STM
EW-8
BM# 200
EW-9
EW-10
BM# 201
42" GM LLC STM
ST CB 500T
CAP LIMITS
PROPERTY LINE
APPROXIMATE LOCATION OF SLURRY WALL
12" PIPE ACCESS TEE
℄ 9.0' OFF GM CONC
ST CB 5003 (RACER ST-41)
REMOVE EX GM LIGHT POLE,
COORDINATE WITH PR GM WORK
PR STRUCTURE ADJUST,
COORDINATE WITH PR GM WORK
EAST SWALE GRADING LIMITS (TYP)
APPROXIMATE LINER REMOVAL LIMITS
PLUG EX 15" PIPE NORTHWEST
PR STRUCTURE ADJUST,
COORDINATE WITH PR GM WORK
SWALE @ 0.26%
℄ 9.0' OFF GM CONC
GM PROPERTY
PROPOSED GM WORK
(NEW CURB AND FENCE LINE)
261 CYD OF 2" TO 4" DIA RIVER ROCK
EAST SWALE ALI STA 6+52
PIPE ALI STA 20+70
ST CB 5004
CONC DRIVE
PR STRUCTURE ADJUST,
COORDINATE WITH PR GM WORK
CUT, REMOVE, AND BULKHEAD PIPE
DUCT FOR SWALE CONSTRUCTION,
COORDINATE WITH GM WORK
1' OF CONCRETE TO REMAIN BETWEEN
SWALE AND PR GM CURB WORK
168 SYD PAVT, REM
477 FT OF OPEN CUT INSTALLATION
WELDED HDPE PIPE @ 0.18%
2 EA CULV END SECTION, 12 INCH
DR STRUCTURE COVER, ADJ
DRAINAGE STRUCTURE, ADJ, ADD DEPTH
DR STRUCTURE, COVER, TYPE Q
CAP LIMITS
APPROXIMATE LOCATION OF SLURRY WALL
PLUG EX 6" PIPE SOUTH,
FILL STORM STRUCTURE WITH FLOWABLE FILL
14 SYD PAVT, REM
REMOVE EXISTING BUILDING
PLUG EX 6" PIPE EAST AND NORTH,
FILL STORM STRUCTURE WITH FLOWABLE FILL
GM INLET SLIP
SWALE @ 0.3%

NOTE: ANY SURFACE SPOILS WILL BE DISPOSED OF ON SITE IN UPLAND AREAS ABOVE THE 100-YR FLOODPLAIN PENDING ACCEPTABLE RESULTS FROM ANY REQUIRED SOIL TESTING PROCEDURES. EXCAVATED TRENCH MATERIAL AND ANY CONCRETE REMOVAL WILL BE PLACED IN SAME TRENCH AS BACKFILL MATERIAL.

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

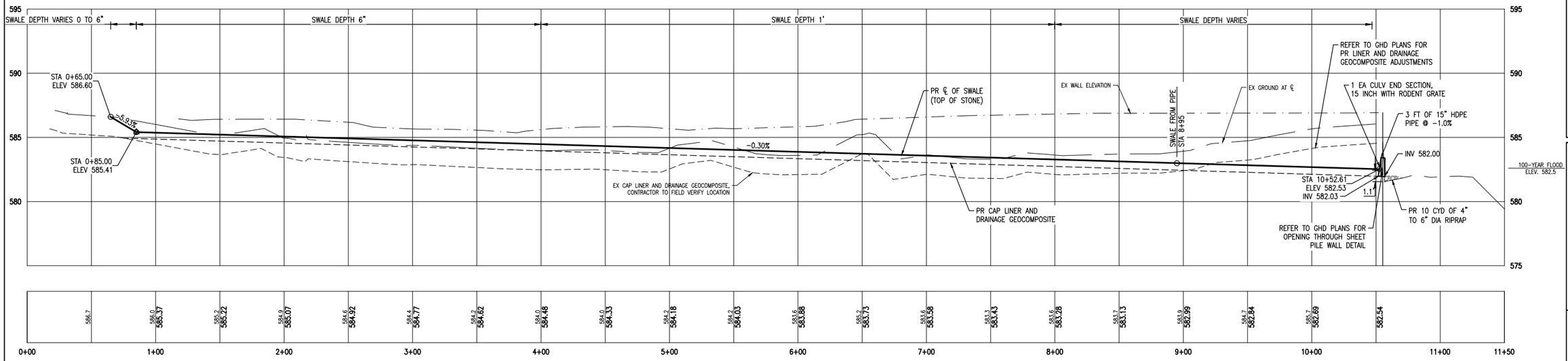
DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
4/21/2022	4018-13-0011	OHM	AV	MCH	BAY	BAY CITY

RACER
Bay City
SITE PLAN

SHEET 3 OF 9

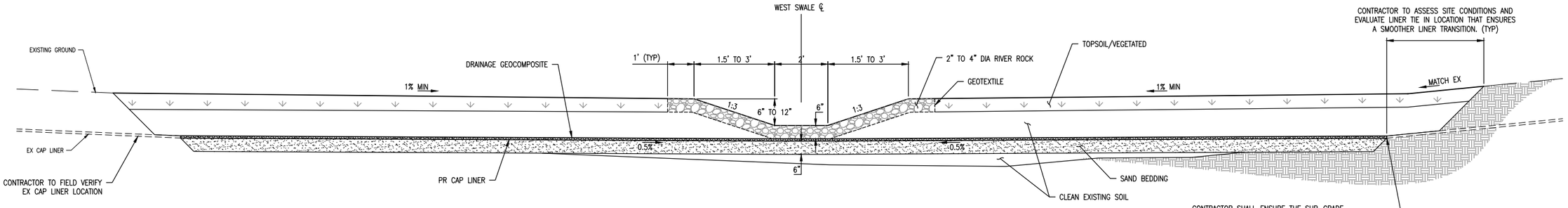
COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

DRAWING PATH: P:\4000_4100\4018130011_racer_bay_city_qmp\dwg\Design\2019 redesign mch\FINAL\RACER_CON.dwg Apr. 27, 2022 - 10:40am



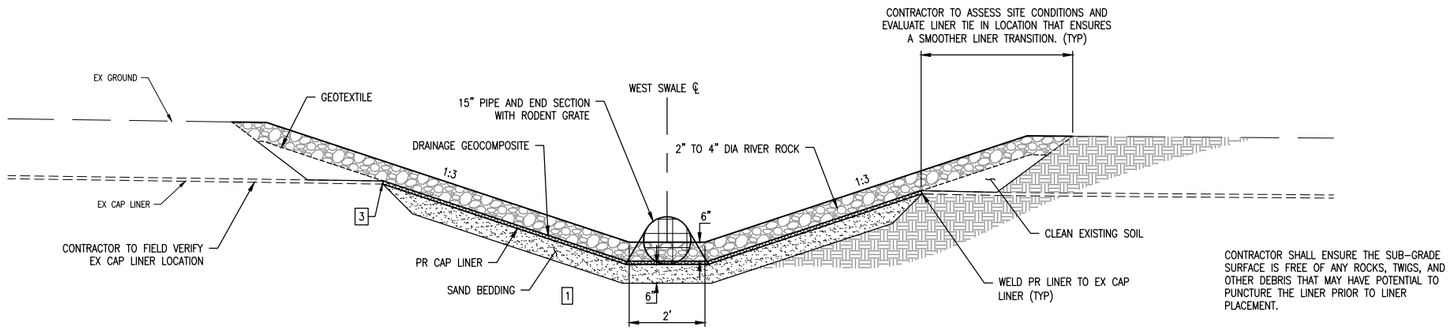
WEST SWALE ALIGNMENT PROFILE

SCALE 1:80



WEST SWALE TYPICAL SECTION

NO SCALE



WEST SWALE OUTLET DETAIL

NO SCALE

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
4/21/2022	4018-13-0011	OHM	AV	MCH	BAY	BAY CITY

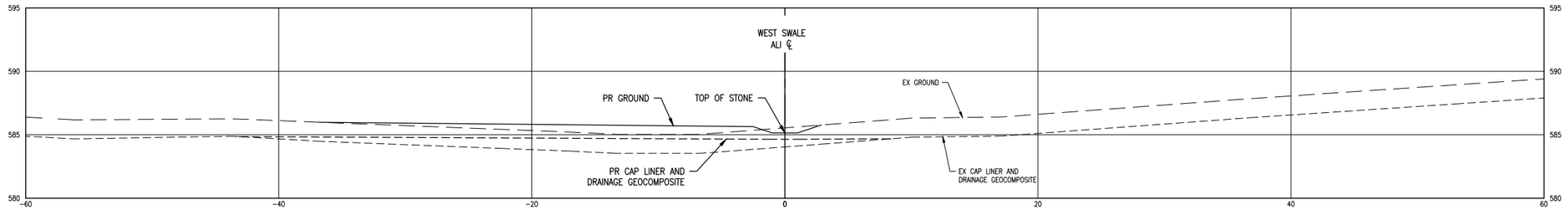
RACER
Bay City

WEST SWALE – PROFILE & DETAILS

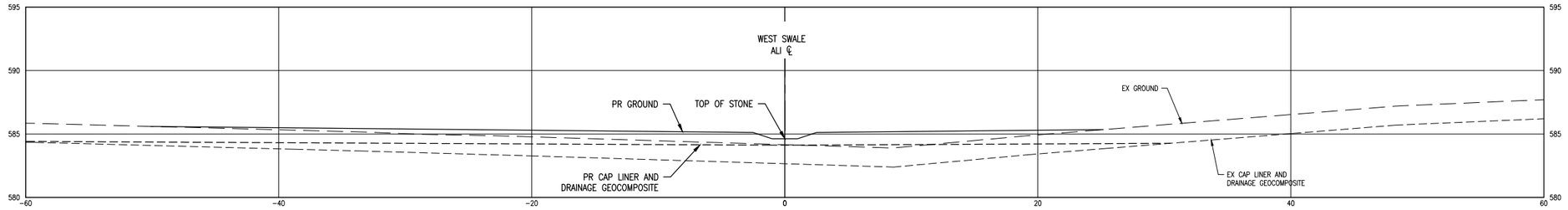
SHEET 4 OF 9

COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM.

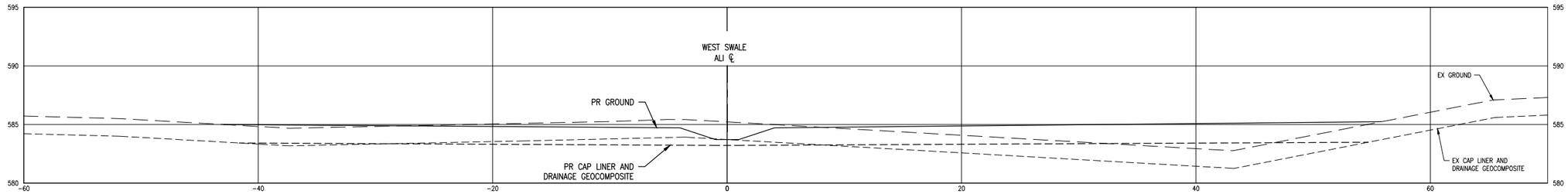
DRAWING PATH: P:\4000_4100\4018130011_racer_bay_city_gmp\dwg\Design\2019 redesign mch\FINAL\RACER_CON.dwg Apr 27, 2022 - 10:40am



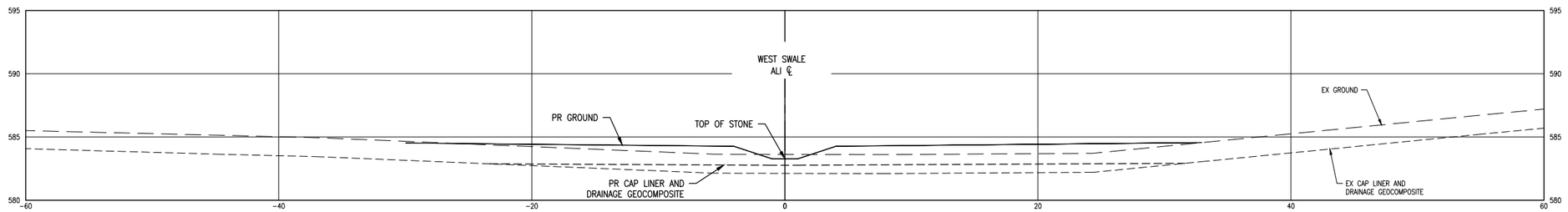
WEST SWALE – STA 1+75



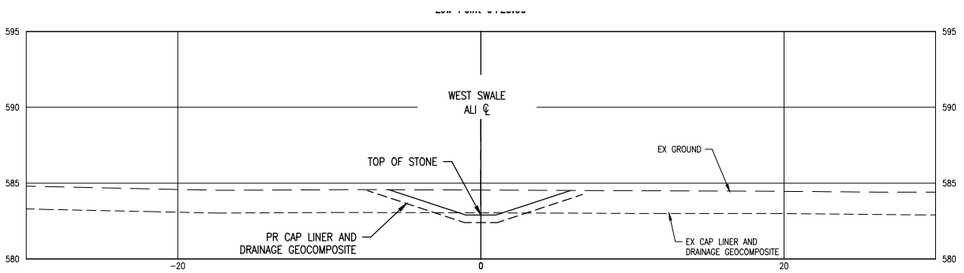
WEST SWALE – STA 3+50



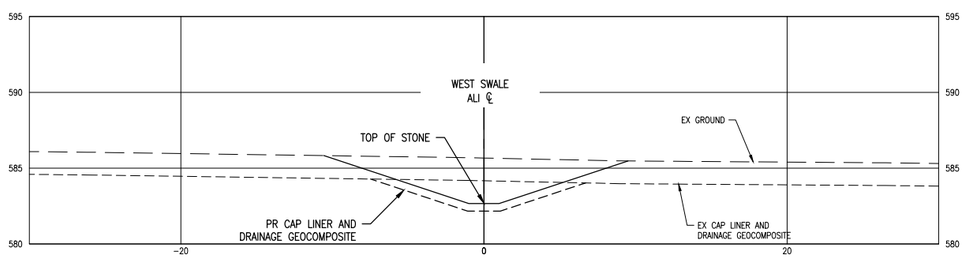
WEST SWALE – STA 5+50



WEST SWALE – STA 8+00



WEST SWALE – STA 9+25



WEST SWALE – STA 10+00

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
4/21/2022	4018-13-0011	OHM	AV	MCH	BAY	BAY CITY

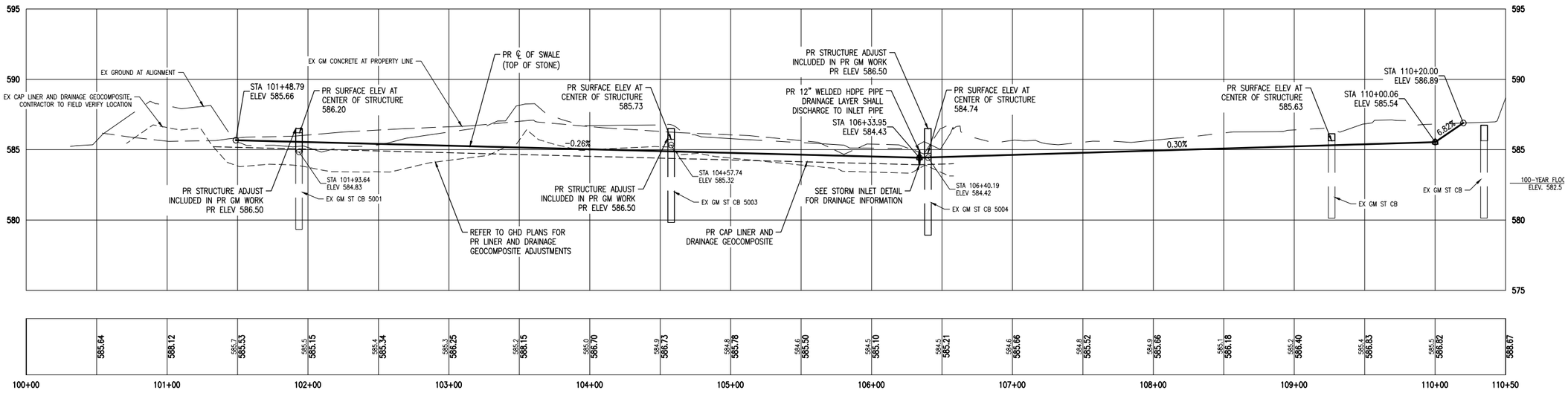
RACER
Bay City

WEST SWALE – CROSS SECTIONS

SHEET 5 OF 9

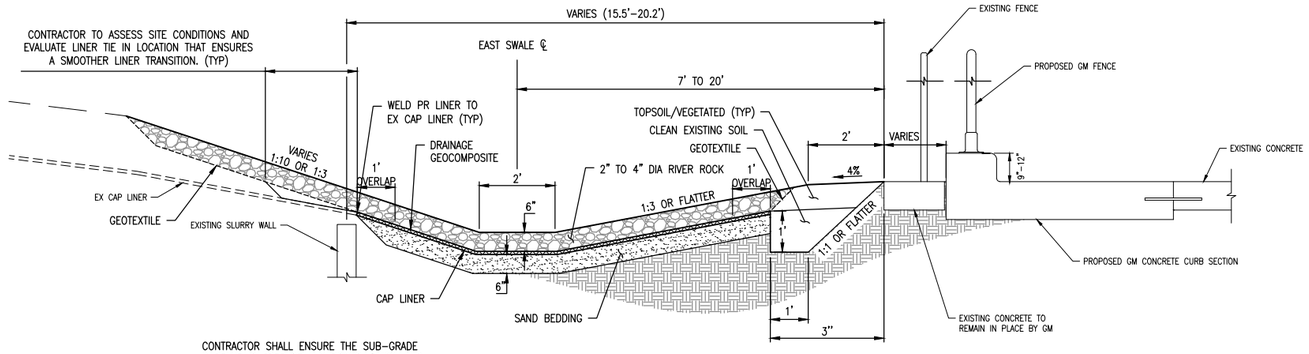
COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM.

DRAWING PATH: P:\4000_4100\4018130011_racer_bay_city_grnp\dwg\Design\2019 redesign mch\FINAL\RACER_CON.dwg Apr 27, 2022 - 10:40am



EAST SWALE ALIGNMENT PROFILE

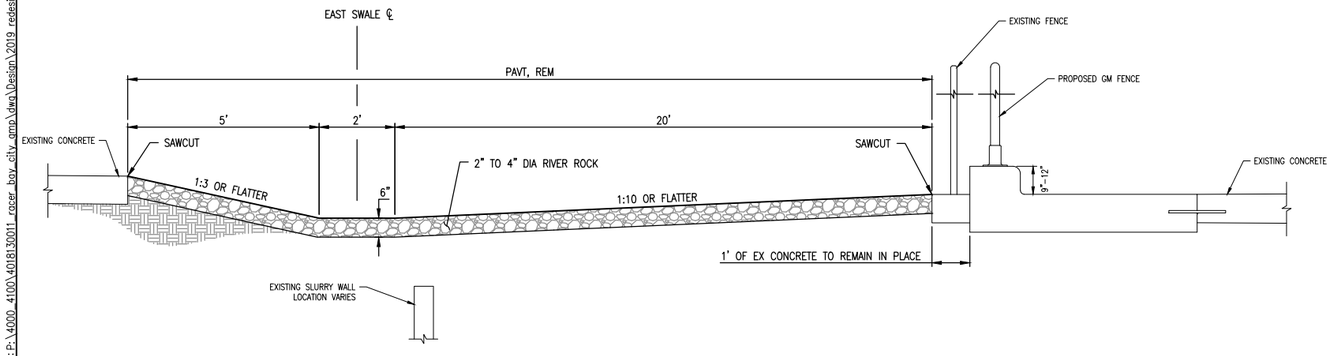
SCALE 1:80



CONTRACTOR SHALL ENSURE THE SUB-GRADE SURFACE IS FREE OF ANY ROCKS, TWIGS, AND OTHER DEBRIS THAT MAY HAVE POTENTIAL TO PUNCTURE THE LINER PRIOR TO LINER PLACEMENT.

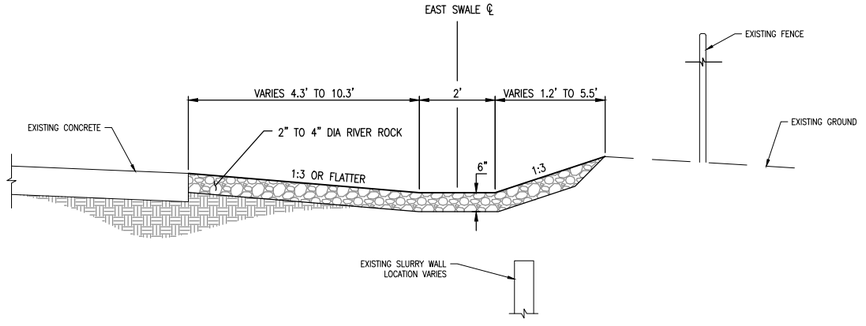
EAST SWALE TYPICAL SECTION

NO SCALE



EAST SWALE DETAIL AT CONCRETE DRIVEWAY ENTRANCE

NO SCALE



EAST SWALE DETAIL ALONG INLET SLIP

NO SCALE

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
4/21/2022	4018-13-0011	OHM	AV	MCH	BAY	BAY CITY

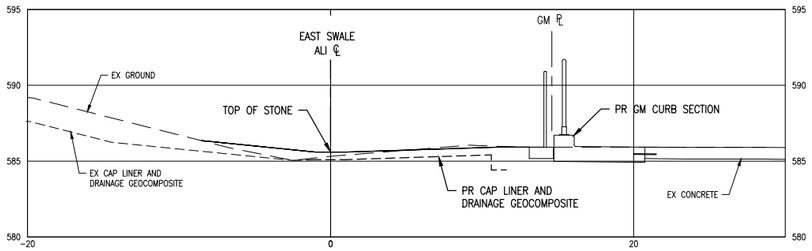
RACER
Bay City

EAST SWALE - PROFILE & DETAILS

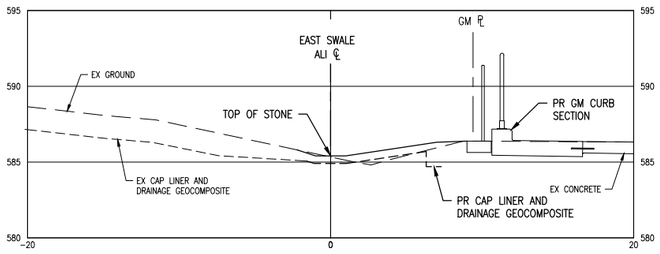
SHEET 6 OF 9

COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM.

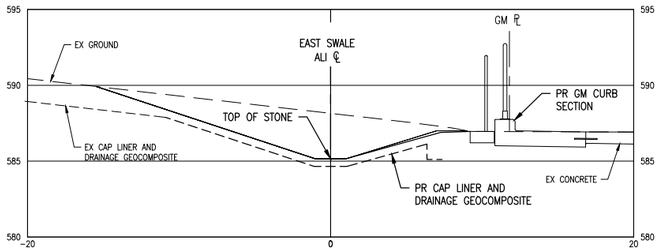
DRAWING PATH: P:\4000_4100\4018130011_racer_bay_city_gmp\dwg\Design\2019 redesign mch\FINAL\RACER_CON.dwg Apr 27, 2022 - 10:40am



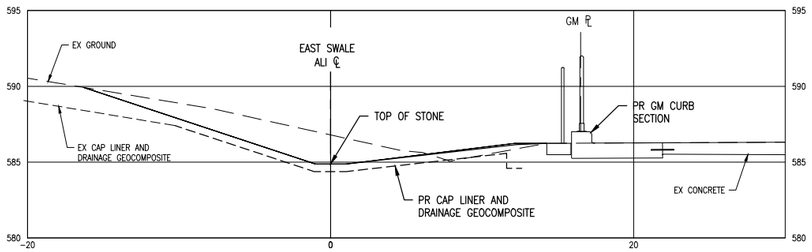
EAST SWALE – STA 101+75



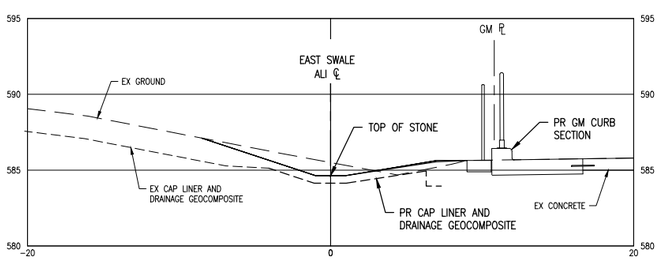
EAST SWALE – STA 102+50



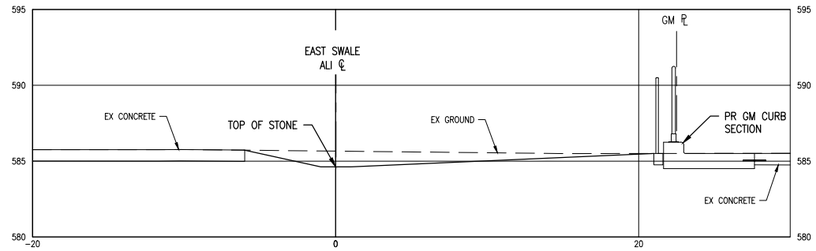
EAST SWALE – STA 103+50



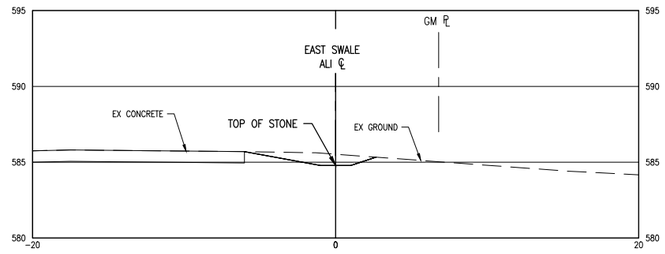
EAST SWALE – STA 104+56



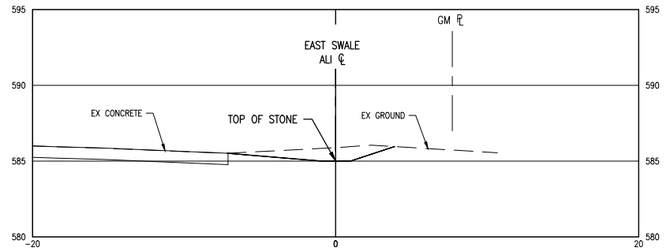
EAST SWALE – STA 105+50



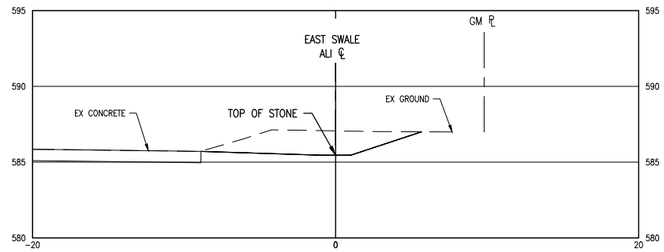
EAST SWALE – STA 107+00



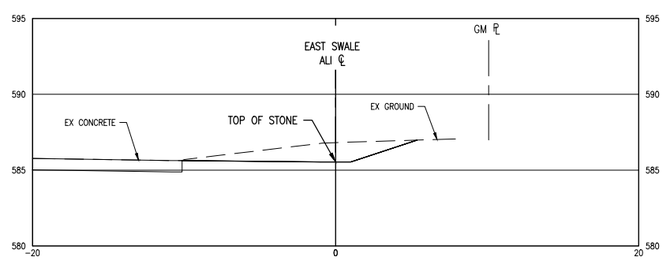
EAST SWALE – STA 107+50



EAST SWALE – STA 108+25



EAST SWALE – STA 109+75



EAST SWALE – STA 110+00

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
4/21/2022	4018-13-0011	CHM	AV	MCH	BAY	BAY CITY

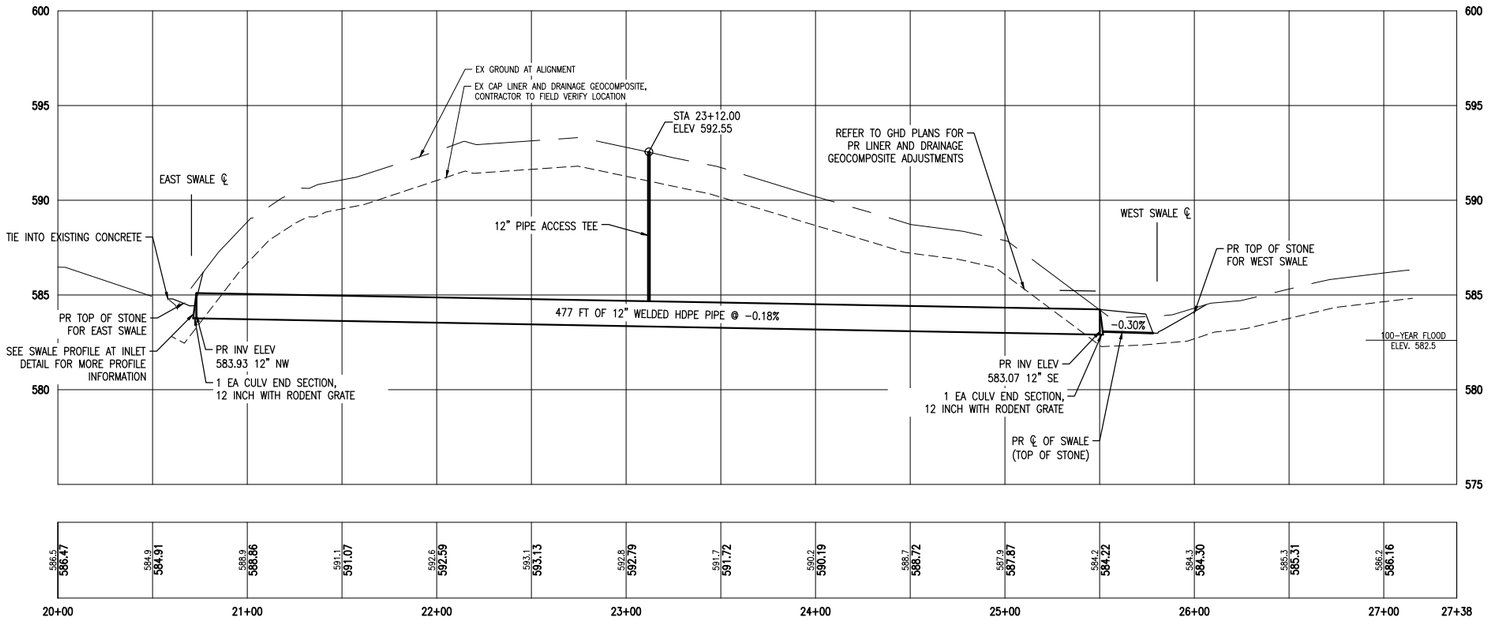
RACER
Bay City

EAST SWALE – CROSS SECTIONS

SHEET 7 OF 9

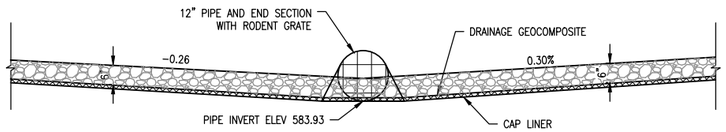
COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

DRAWING PATH: P:\4000_4100\4018\13001_racer_bay_city_amp\dwg\Design\2019 redesign mch\FINAL\RACER CON.dwg Apr 27, 2022 - 10:41am



CROSS PIPE ALIGNMENT PROFILE

SCALE 1:80



STORM INLET DETAIL

NOT TO SCALE

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

DATE	4/21/2022
PROJ NUMBER	4018-13-0011
ENG	OHM
PROJ MGR	AV
CADD	MCH
COUNTY	BAY
MUNICIPALITY	BAY CITY

RACER
Bay City

PIPE CROSSING - PROFILE & DETAILS

SHEET 8 OF 9

COPYRIGHT 2016 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

DRAWING PATH: P:\4000-4100\4018130011 racer bay city gmb\dwg\Design\2019 redesign mch\FINAL\RACER CON.dwg Apr 27, 2022 - 10:41am

PROJECT OVERVIEW AERIAL
SCALE 1:80

OHM
ARCHITECTS ENGINEERS PLANNERS
201 E Ellsworth St, Unit 100
Midland, MI 48640
P (989) 956-2020
OHM-ADVISORS.COM

REVISIONS:

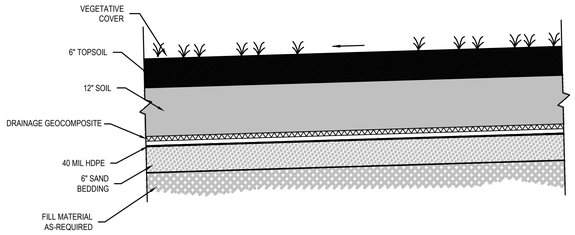
MUNICIPALITY: BAY CITY
COUNTY: BAY
CADD: MCH
PROJ MGR: AV
ENG: CHM
PROJ NUMBER: 4018-11-0011
DATE: 4/21/2022

RACER
Bay City
PROJECT OVERVIEW AERIAL

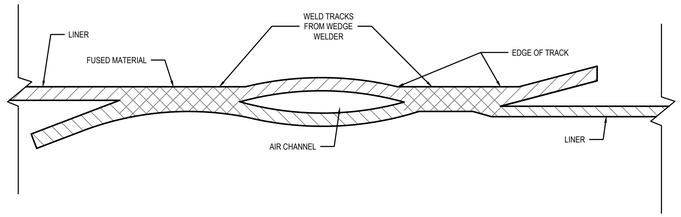
SHEET: 9 OF 9

COPYRIGHT 2018 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

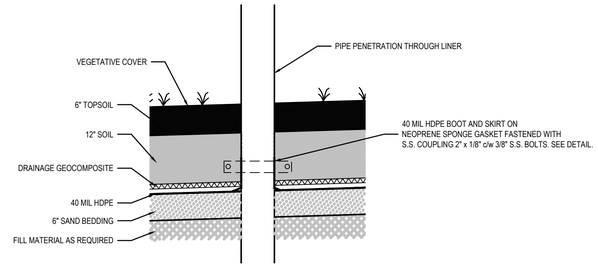
DRAWING PATH: P:\4000-4100\4018130011 racer bay city gmp\Design\2019 redesign mch\FINAL\RACER_CON.dwg Apr 27, 2022 - 10:41am

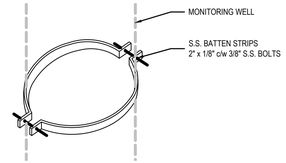


DETAIL 1 STANDARD COVER
N.T.S.

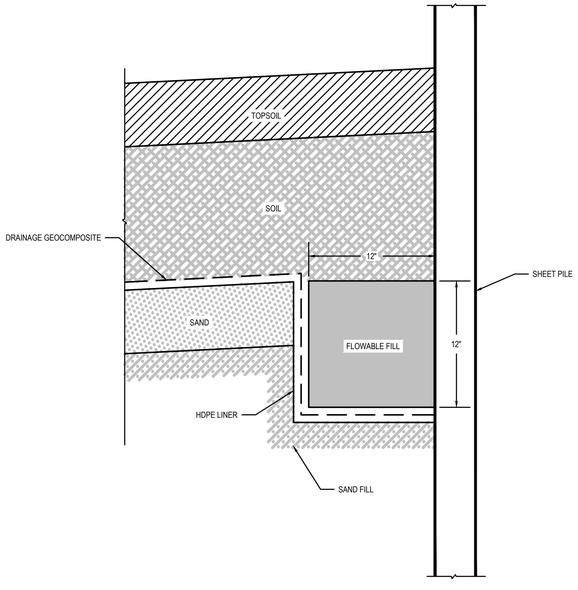


DETAIL 2 LINER REPAIR - CROSS SECTION OF SEAM
N.T.S.

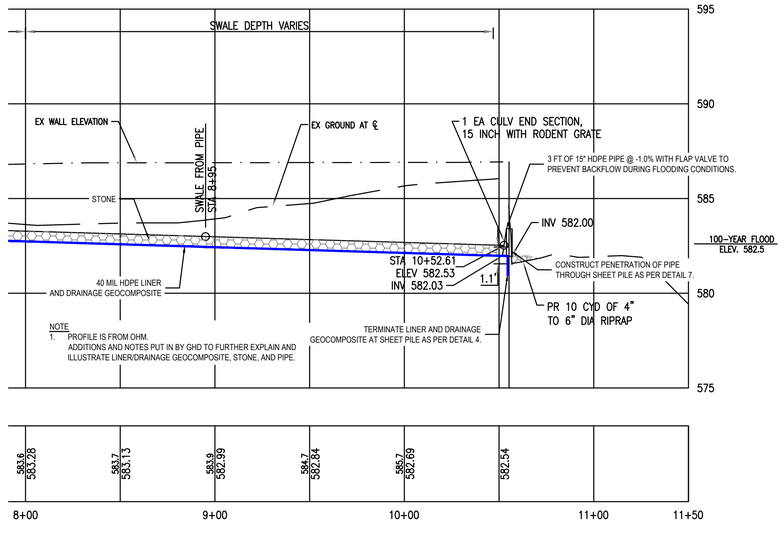




DETAIL 3 S.S. BATTEN STRIPS FOR LINER BOOT (ROUND PENETRATIONS)
N.T.S.



DETAIL 4 TERMINATION OF LINER AND DRAINAGE GEOCOMPOSITE AT SHEET PILE
N.T.S.



NOTE
1. PROFILE IS FROM OHM. ADDITIONS AND NOTES PUT IN BY GHD TO FURTHER EXPLAIN AND ILLUSTRATE LINER/DRAINAGE GEOCOMPOSITE, STONE, AND PIPE.

DETAIL 5 WEST DITCH ALIGNMENT PROFILE NEAR NEW OUTLET
N.T.S.

DRAFT

GHD Inc.
26850 Haggerty Road
Farmington Hills MI 48331 USA
T 1 248 893 3454 **W** www.ghd.com

Conditions of Use
This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Bar is one inch on original size sheet
0 1"

No.	Issue	Checked	Approved	Date
1	ISSUED IN SUPPORT OF WORK PLAN TO EGLE	N.Q.	J.B.	04/22/2022

Author	N.Q.	Designer	J.B.
Drafting Check	M.W.	Design Check	R.H.
Project Manager	J.P.	Project Director	M.T.

Client
RACER TRUST
BAY CITY, MICHIGAN

Project
BAY CITY INDUSTRIAL LAND

Date	Scale
Apr 28/22	N.T.S.

Project No.
11208058

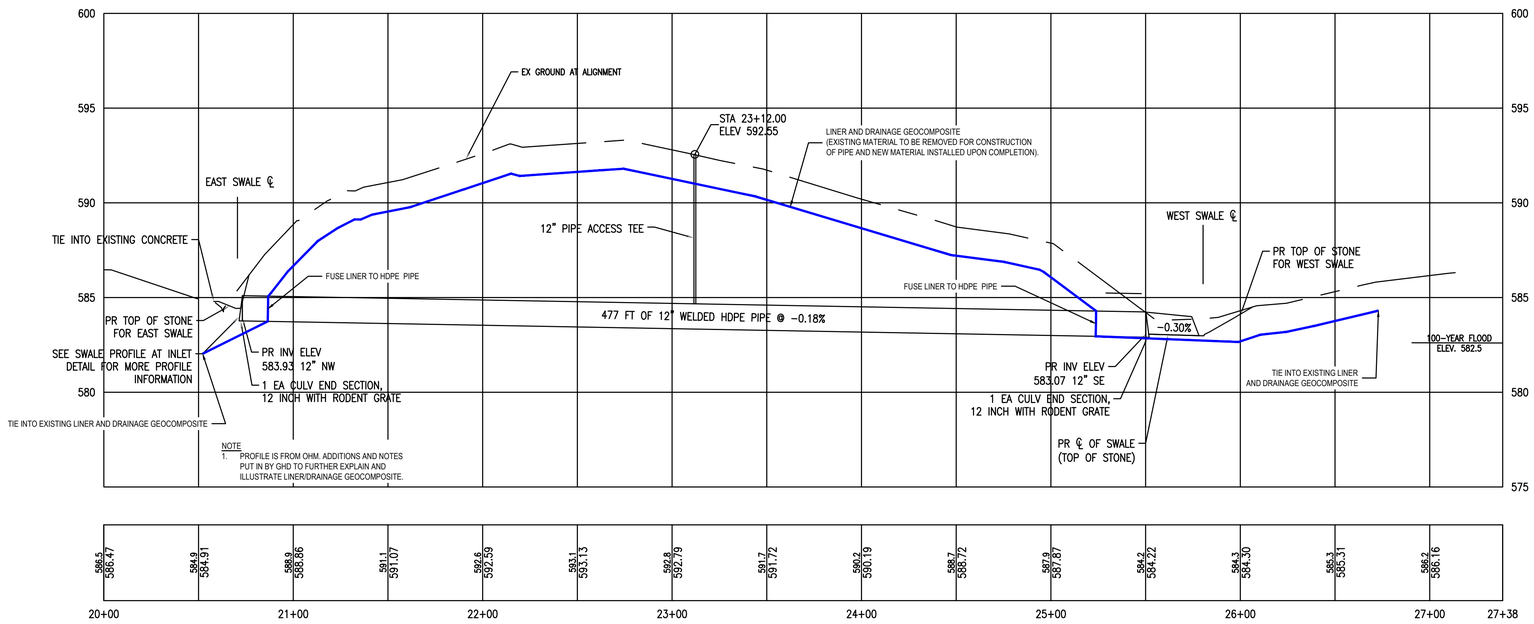
Title
GENERAL DETAILS (1 OF 3)

Size
ANSI D

Sheet No.
C-01

Sheet of 3

Plot Date: 28 April 2022 - 12:52 PM Plotted By: Nicholas Queh! Path and Filename: N:\CA\Waterloo\Projects\66211208058\Digital_Design\ACAD 2020\Sheets\RPT002\11208058-GHD-0000-RPT-CI-0101_WA-002.dwg

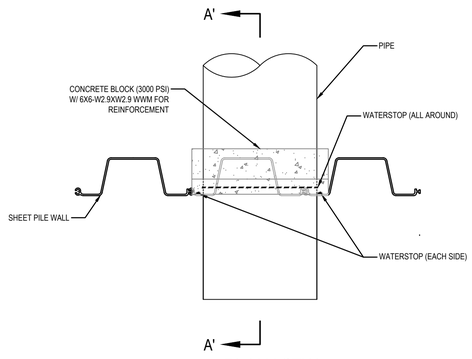


CROSS PIPE ALIGNMENT PROFILE

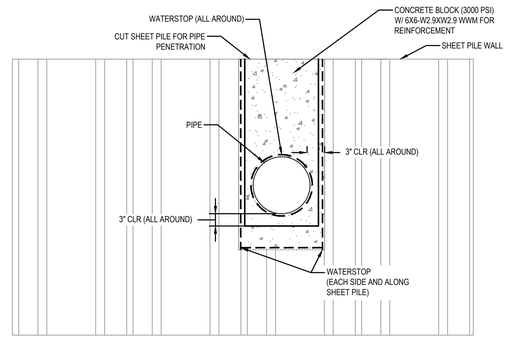
SCALE 1:80

DETAIL 6 12" CROSS-PIPE ALIGNMENT PROFILE

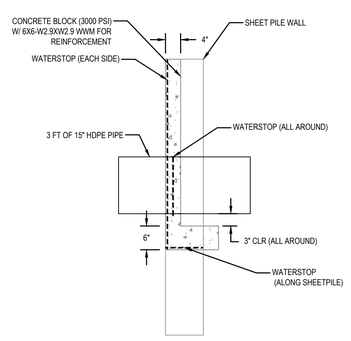
N.T.S.



PLAN VIEW



ELEVATION VIEW



SECTION A'-A'

DETAIL 7 TYPICAL SHEET PILE PENETRATION

N.T.S.

DRAFT

GHD Inc.
26850 Haggerty Road
Farmington Hills MI 48331 USA
T 1 248 893 3454 **W** www.ghd.com

www.ghd.com

Conditions of Use

This document and the ideas and designs incorporated herein, as an instrument of professional service, is the property of GHD. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.

Bar is one inch on original size sheet

0 1"

No.	Issue	Checked	Approved	Date
1	ISSUED IN SUPPORT OF WORK	N.Q.	J.B.	04/22/2022
	PLAN TO EGLE			

Author	N.Q.	Designer	J.B.
Drafting Check	M.W.	Design Check	R.H.
Project Manager	J.P.	Project Director	M.T.

Client

RACER TRUST
BAY CITY, MICHIGAN

Project

BAY CITY
INDUSTRIAL LAND

Date	Scale
Apr 28/22	N.T.S.

Project No.
11208058

Title
GENERAL DETAILS
(2 OF 3)

Size
ANSI D

Sheet No
C-02

Sheet
of 3

Plot Date: 28 April 2022 - 12:52 PM Plotted By: Nicholas Quehl Path and Filename: N:\CA\Waterloo\Projects\66\21\1208058\Digital_Design\ACAD 2020\Sheets\RPT002\11208058-GHD-0000-RPT-CI-0101_WA-002.dwg

Appendix B

Permits/Agreements

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, DETROIT DISTRICT
477 MICHIGAN AVENUE
DETROIT, MI 48226-2550

August 3, 2020

REPLY TO
ATTENTION OF:
Engineering & Technical Services
Regulatory Office
File No. LRE-2014-00344-20-N19

Grant Trigger
Racer Trust
500 Woodward Avenue, Suite 1510
Detroit, Michigan 48226

Dear Mr. Trigger:

Please refer to your letter dated April 28, 2020 requesting a modification of the authorized work in Saginaw River at 905 Woodside, in Bay City, Michigan. In our letter dated October 7, 2019, we verified that your proposed work was authorized by our regulations for nationwide permits.

We have reviewed your project and we have verified that this modified proposal complies with, and is therefore authorized under the nationwide permits as published in the Federal Register. You may proceed with the work per the following project description, attached drawings, and attached general and special conditions:

Install a 15 inch diameter storm sewer outfall through the existing steel seawall at an invert of approximately 582.9 feet IGLD 1985. Discharge approximately 10 cubic yards of riprap in a 5-foot long by 4-foot wide area at the mouth of the outfall.

This authorization is contingent upon compliance with the following terms and conditions:

a. The enclosed Nationwide Permit General Conditions.

b. The following special conditions:

1. If you discover any unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately stop work in that area and notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
2. All dredged and/or excavated materials will be disposed of in upland location(s) landward of the Ordinary High Water Mark with no placement in, or return to, any waterway or wetland.
3. All fill shall consist of clean, inert materials from an upland source. The fill material must be free from toxic substances, fines, oil and grease, debris, wood, general refuse, plaster, and other pollutants, and shall contain no broken asphalt, oil-based material, or metal.

4. After completion of construction, all disturbed areas shall be permanently stabilized by seeding with native plants and/or by the planting of trees or shrubs native to the area and, if possible, already represented on the site.
5. Prior to beginning any dredging, the permittee shall install commercial-grade silt curtains that extend from a floating boom on the lake surface down to the bed of the waterway. The silt curtain shall continuously and completely enclose the dredge area. The silt curtain shall be properly anchored onshore, and anchored offshore at 25-foot intervals to provide a stable and functional barrier. The silt curtain shall be maintained in effective working condition until all dredging is completed and turbidity has returned to background levels. In the event that the silt curtain remains in place overnight, the applicant will coordinate proper marking of the silt curtain with the USCG and their requirements (e.g. lighting, reflective paints, etc.) will become special conditions under this permit.

Any proposed further revision or modification to the project may not qualify for the authorization. If you contemplate any changes or additional activities from those depicted on the plans, please submit them to this office for authorization review prior to any construction. Upon completion of the work, you must fill in and return the enclosed COMPLETION REPORT.

We are obligated to provide recipients of permit verifications with a jurisdictional determination (JD) when requested to do so. The Corps of Engineers has the following options with respect to JDs: (1) Approved Jurisdictional Determinations (AJD), which are considered “official” JDs and can be administratively appealed; (2) Preliminary Jurisdictional Determinations (PJD), which are non-binding JDs and advise an affected party that the Corps of Engineers believes there may be waters of the United States on the property that fall under the Corps’ regulatory authority and enables the Corps and a permit applicant or other affected party to resolve certain jurisdiction and permit issues without expending time on making an official determination of the Corps’ jurisdiction; and (3) No Jurisdiction Determination (NJD), which is used in situations where issuance of a JD is deemed unnecessary by a permit applicant or other affected party because Corps’ jurisdiction is undisputed (e.g., work is in a navigable water of the United States) or not subject to question. The NJD option requires less documentation than a PJD and likewise enables the Corps and a permit applicant or other affected party to resolve jurisdiction and permit issues without expending time on an official determination of the Corps’ jurisdiction.

Per the information in your application, we have determined that your project will occur in a navigable water of the United States subject to the Detroit District, U.S. Army Corps of Engineers’ regulatory authority under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Our listing of navigable waters under the Corps’ regulatory authority within the Detroit District’s geographic area can be found at: http://www.lre.usace.army.mil/Missions/Regulatory-Program-and-Permits. As there was no question regarding the Corps’ regulatory jurisdiction during our evaluation of the application, we do not intend to include a JD with this permit verification. Our intent to not issue a JD in this instance does not preclude you from requesting a PJD or an AJD

at any time. As noted above, an AJD would provide an official determination of jurisdictional waters on a site and can be administratively appealed.

This verification is valid until the NWP is modified, reissued, or revoked. All existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2022. It is incumbent on you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. If you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP.

As per 33 CFR 325, Appendix A, representatives from this office are allowed to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of the Nationwide Permit.

Should you have any questions, please contact me at the above address, by E-Mail at Mirja.M.Marshall@usace.army.mil, or by telephone at (313) 226-7735. In all communications, please refer to File Number LRE-2014-00344-20-N19.

We are interested in your thoughts and opinions concerning your experience with the Detroit District, Corps of Engineers Regulatory Program. If you are interested in letting us know how we are doing, you can complete an electronic Customer Service Survey from our web site at: http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey. Alternatively, you may contact us and request a paper copy of the survey that you may complete and return to us by mail or fax. Thank you for taking the time to complete the survey. We appreciate your feedback.

Sincerely,

Mirja Marshall

Date: 2020.08.03 10:03:27 -04'00'

Mirja M. Marshall
Project Manager
Permit Evaluation Eastern Branch

Enclosures

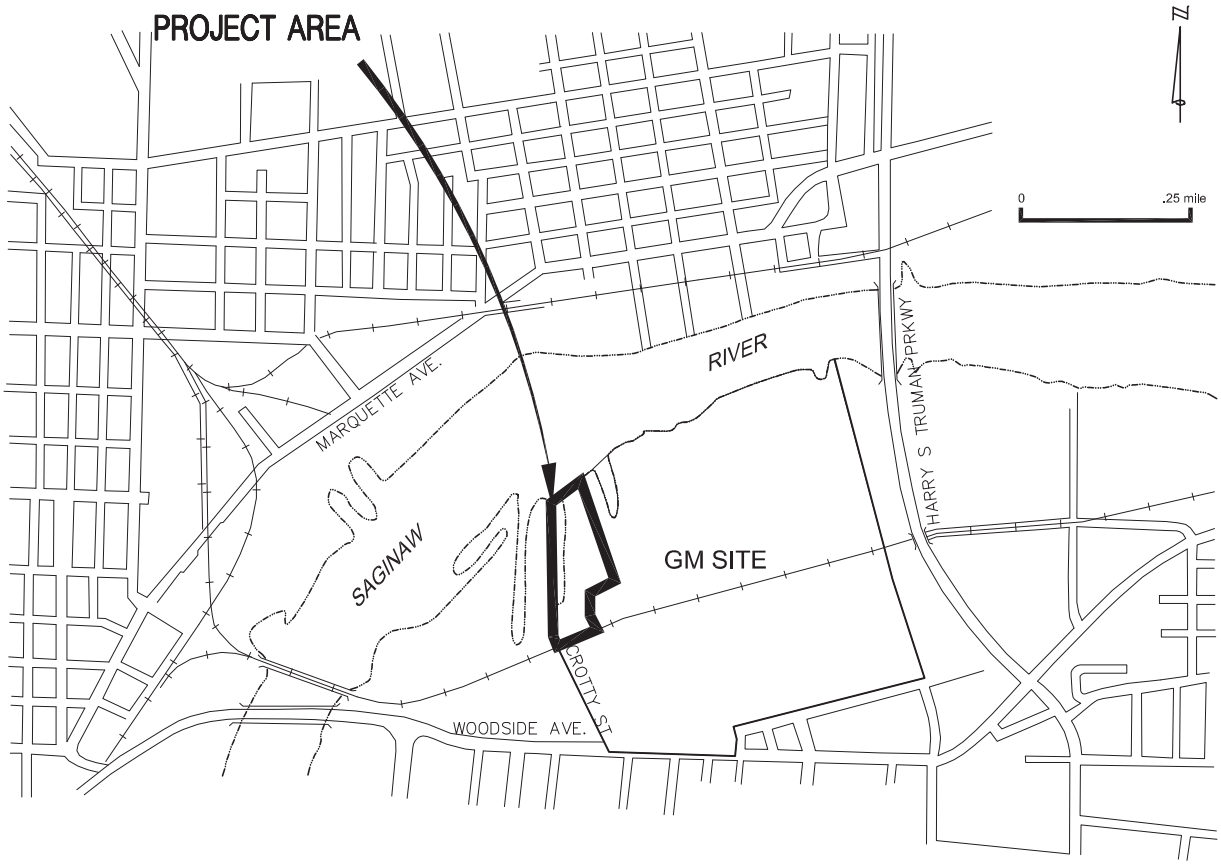
Copy Furnished

Andrew VanWormer (OHM Advisors)
EGLE, 09-905 Woodside Ave-Bay
Enforcement
NOAA

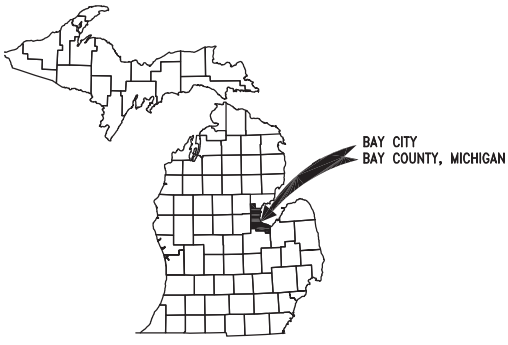
BAY CITY GMPT
BAY CITY, MICHIGAN

RACER Trust Bay City GMPT

E NUMBER: LRE-2014-00344-20-N19
r Trust - Outfall
naw River, Bay City
County, Michigan
ET 1 OF 2

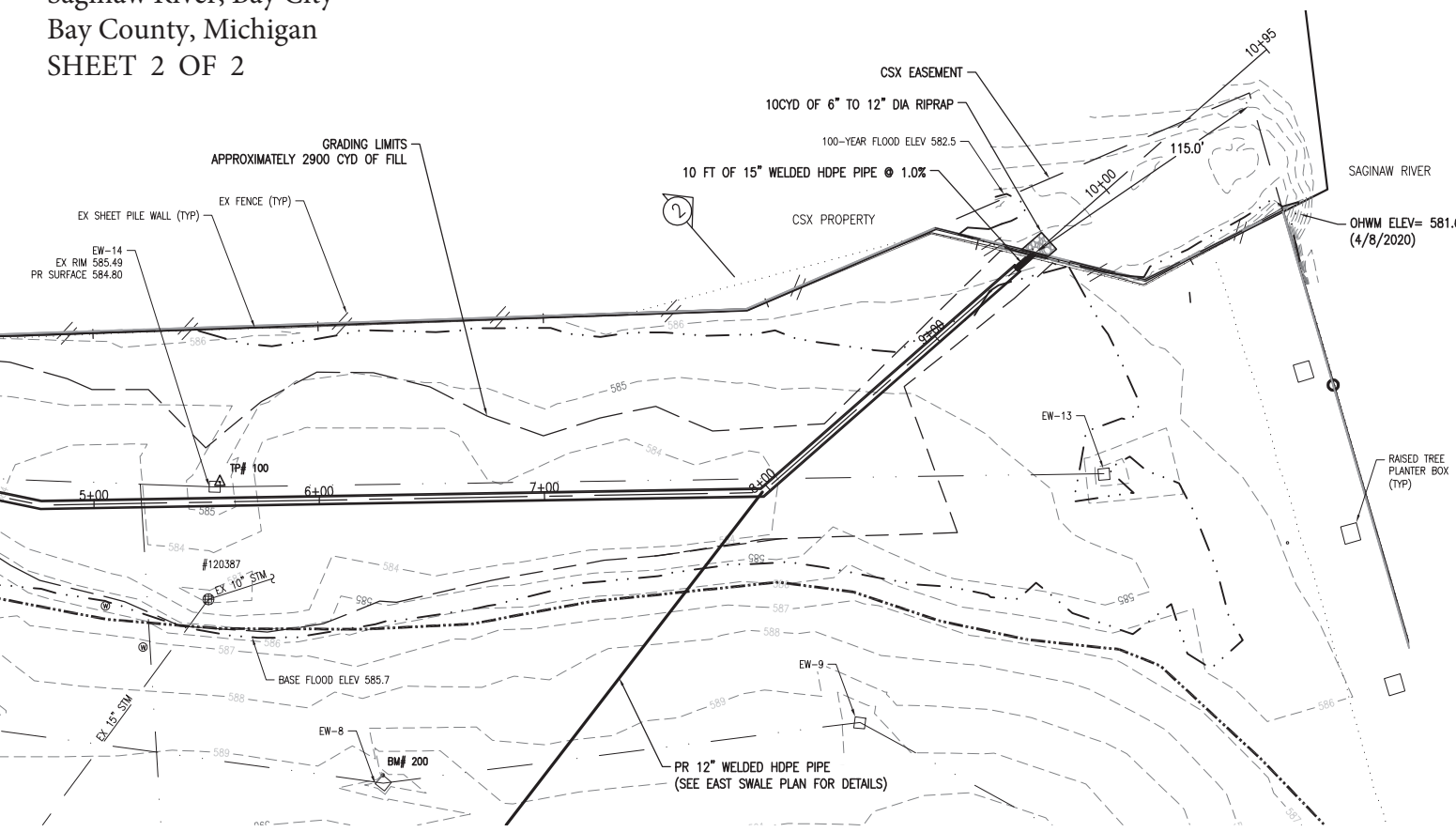


LOCATION MAP
N.T.S.



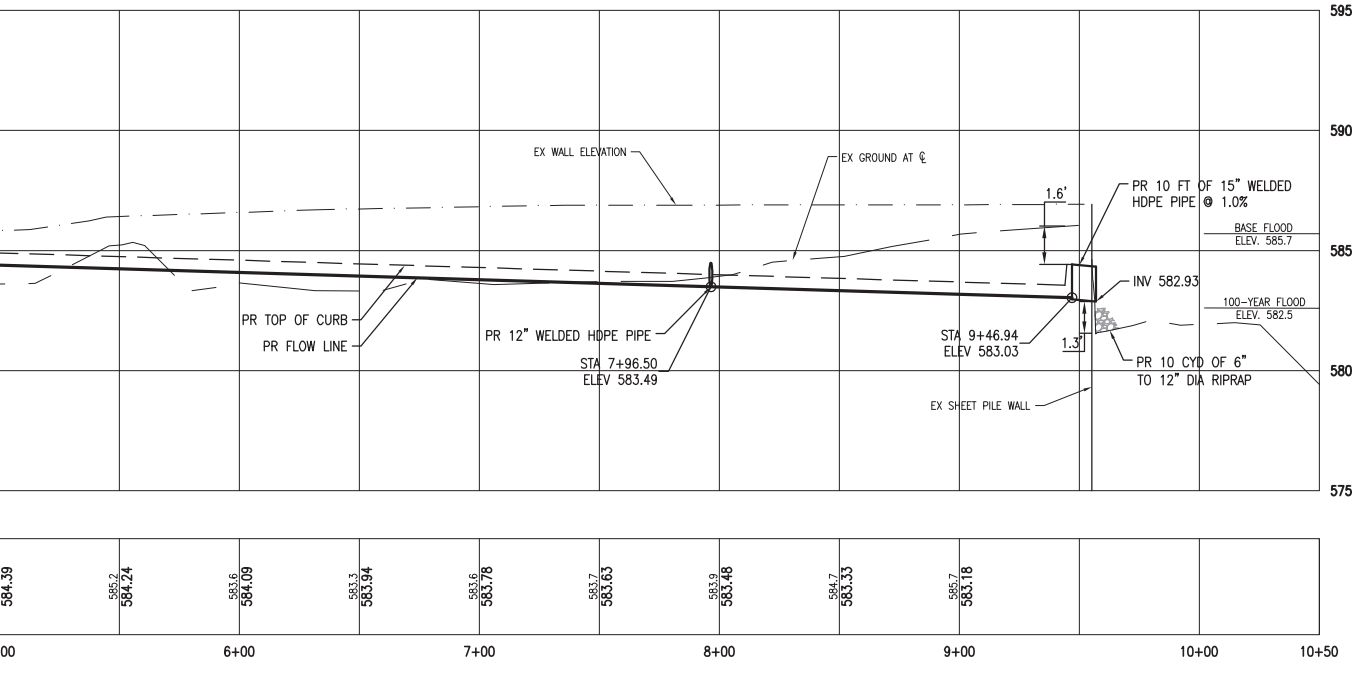
KEY MAP
NO SCALE

FILE NUMBER: LRE-2014-00344-20-N19
Racer Trust - Outfall
Saginaw River, Bay City
Bay County, Michigan
SHEET 2 OF 2



WEST DITCH SITE PLAN
SCALE 1:80

NOTE: ANY SURFACE SPOILS WILL BE DISPOSED OF ON SITE IN UPLAND AREAS ABOVE THE 100-YR FLOODPLAIN PENDING ACCEPTABLE RESULTS FROM ANY REQUIRED SOIL TESTING PROCEDURES. EXCAVATED TRENCH MATERIAL WILL BE PLACED IN SAME TRENCH AS BACKFILL MATERIAL.



TCH ALIGNMENT PROFILE
SCALE 1:80

REVISIONS:

DATE 4/14/2020
PROJ NUMBER 4018-13-0011
ENG OHM
PROJ MGR AV
CADD MCH
COUNTY BAY
MUNICIPALITY BAY CITY
RACER

SHEET

A. Nationwide Permit General Conditions:

To qualify for NWP authorization, the permittee must comply with the following general conditions, as appropriate. These conditions are selected from those published in the Federal Register that are particularly relevant to the construction and/or operation of this particular authorized activity. The complete text is available at our website http://www.lre.usace.army.mil/Missions/RegulatoryProgramandPermits.aspx under "Detroit Regulatory Quick" select "Detroit District General Permit Types" and then choose "Nationwide Permits with Michigan Regional Conditions" OR "Nationwide Permits with Indiana Regional Conditions"; or, you may contact the Detroit District directly for the information. We have done our best to verify that your project complies with the others, where applicable.

1. Navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre- construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which ''may affect'' a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur.

(e) Authorization of an activity by an NWP does not authorize the ''take'' of a threatened or endangered species as defined under the ESA. In the absence of

separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with ‘‘incidental take’’ provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where ‘‘take’’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word ‘‘harm’’ in the definition of ‘‘take’’ means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether ‘‘incidental take’’ permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/ THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____

(Transferee) (Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required

by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

B. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

.

NATIONWIDE PERMIT COMPLETION REPORT

CELRE-ERE

Chief, Compliance and Enforcement Branch
Regulatory Office
U.S. Army Corps of Engineers
477 Michigan Avenue
Room 603
Detroit, MI 48226-2550

Dear Sir:

You are hereby notified that work verified as qualifying for Nationwide Permit under File No. LRE-2014-00344-20-N19 to install an outfall at 905 Woodside, in Bay City, Bay County, Michigan, issued to Racer Trust was completed in accordance with the verification on:

_____.
(Date work completed)

_____
(Permittee's Signature)

I M P O R T A N T

1. This COMPLETION REPORT MUST BE MAILED to the above addressee within 10 days after completion of work covered by the NATIONWIDE PERMIT to insure an accurate Government record of data affecting navigation.

2. Where dredging soundings are made of projects which include dredging, a copy of the soundings should accompany this report. If the soundings are measured from the water surface and have not been corrected to International Great Lakes Datum plane, the hour and date soundings was made should be noted on sounding reports.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
WATER RESOURCES DIVISION
PERMIT

Issued To:

Grant Trigger, Racer Trust
500 Woodward Ave Suite 1510
Detroit, MI 48226

Permit No: **WRP023463 v.1**
Submission No.: **HNX-MHDN-EH6YF**
Site Name: **09-905 Woodside Ave-Bay**
Issued: **June 30, 2020**
Revised:
Expires: **June 30, 2025**

This permit is being issued by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); specifically:

- ☒ **Part 301, Inland Lakes and Streams**
- ☐ **Part 303, Wetlands Protection**
- ☐ **Part 315, Dam Safety**
- ☐ **Part 323, Shorelands Protection and Management**
- ☐ **Part 325, Great Lakes Submerged Lands**
- ☐ **Part 353, Sand Dunes Protection and Management**
- ☒ **Part 31, Water Resources Protection (Floodplain Regulatory Authority)**

Permission is hereby granted, based on permittee assurance of adherence to State of Michigan requirements and permit conditions, to:

Authorized Activity:

Regrade the lower western portion of the property to collect runoff in 950 linear feet of concrete curbed ditch. Runoff in the curbed ditch will be conveyed onto the adjacent CSX Corporation property (through an obtained easement) and discharged into the Saginaw River through 10 linear feet of 15" pipe and a 15’ long riprap outfall. Construct a swale along the east property line adjacent to GM's property. The water will be collected and conveyed through 510 linear feet of open cut 12" pipe to the concrete curbed ditch where it will then be discharged through the same outlet to the Saginaw River. Three concrete curbed sections will be added to connect the adjacent GM property to the existing storm catchbasins. Areas where a pipe was placed using open cut methods will be restored with clean soil. Runoff will be monitored a minimum of 6 months to check for leaching PCBs.

Waterbody Affected: Saginaw River
Property Location: Bay County, Bay City, Town/Range/Section 14N05E16

Authority granted by this permit is subject to the following limitations:

A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit by completing and forwarding the attached preaddressed postcard to the office addressed thereon.
J. This permit shall not be assigned or transferred without the written approval of EGLE.
K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.

Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.

R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.

S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.

T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).

U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.

V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.

W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.

X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.

Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1. Authority granted by this permit does not waive permit or program requirements under Part 91 of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit www.mi.gov/eglestormwater and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
2. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct the activity.
3. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
4. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
5. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.

6. A storm water discharge permit may be required under the Federal Clean Water Act for construction activities that disturb one or more acres of land and discharge to surface waters. For sites over five (5) acres, the permit coverage may be obtained by a Part 91, Soil Erosion and Sedimentation Control (SESC) permit, or coverage as an Authorized Public Agency (APA), and filing a “Notice of Coverage” form to the EGLE's Water Resource Division. For sites with disturbance from one acre up to five acres, storm water coverage is automatic once the SESC permit is obtained or if work is being conducted by an APA. These one to five acre sites are not required to apply for coverage, but are required to comply with storm water discharge permit requirements. Information on the storm water discharge permit is available from the Water Resource Division's Storm Water Permit Program at www.michigan.gov/soilerosion under the “Construction Strom Water Info”.
7. The permittee is responsible for acquiring all necessary easements or rights-of-way before commencing any work authorized by this permit. All construction operations relating to or part of this project shall be confined to the existing right-of-way limits or other acquired easements.
8. All raw areas in uplands resulting from the permitted construction activity shall be effectively stabilized with sod and/or seed and mulch (or other technology specified by this permit or project plans) in a sufficient quantity and manner to prevent erosion and any potential siltation to surface waters or wetlands. Temporary stabilization measures shall be installed before or upon commencement of the permitted activity, and shall be maintained until permanent measures are in place. Permanent measures shall be in place within five (5) days of achieving final grade.
9. The design flood or 100 year floodplain elevation at this location on Saginaw Bay (Lake Huron) is 585.1 feet NAVD88. The Part 31 (riverine) regulatory 100-year floodplain elevation at this location on the Saginaw River is 581.9 feet NAVD88.
10. Under Appendix G of the Michigan Building Code 2009, a local building permit is required for development located in flood hazard areas.
11. The project is located within a community that participates in the National Flood Insurance Program (NFIP). As a participant in the NFIP, the community must comply with the Michigan Building Code (including Appendix G and listed supporting materials); the Michigan Residential Code; and Title 44 of the Code of Federal Regulations, Part 60, Criteria for Land Management and Use. The community is also responsible to ensure that its floodplain maps and studies are maintained to show changes to flood elevations and flood delineations as described in 44 CFR, Part 65, Identification and Mapping of Special Hazard Areas.
12. The permittee is hereby cautioned that any discharge of sediment into waters of the state is a violation of Part 31, Water Resources Protection, of the NREPA. Any sedimentation caused by the construction or use of the permitted structure, subjects the permittee to provisions of Part 31.
13. No fill, excess soil, or other material shall be placed in the 100-year floodplain, any wetland or surface water area not specifically authorized by this permit, its plans, and specifications.
14. All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.
15. Trench excavation shall be restored to pre-existing grade by backfilling the trench, native soils are to be replaced with clean soil above the cap membrane when the cap is peeled back for pipe installation.
16. All riprap shall be properly sized and graded based on wave action and velocity, and shall consist of natural field stone or rock (free of paint, soil or other fines, asphalt, soluble chemicals, or organic material). **Broken concrete is not allowed**.
17. This permit is limited to authorizing the construction as specified above and carries with it no assurances or implications that associated lake, stream, wetland or floodplain areas can be developed and serviced by the structures authorized by this permit.

18. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.

Issued By: Theresa O'Brien

Theresa O'Brien
Bay City District Office
Water Resources Division
989-297-1717

Enc: Plans
cc: Bay City Clerk
Bay County Drain Commissioner
Bay County Building and Zoning
Mr. Andrew VanWormer
USACE

BAY CITY GMPT
BAY CITY, MICHIGAN
RACER Trust Bay City GMPT

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND SHEET
3	WEST DITCH – PLAN & PROFILE
4	WEST DITCH – CROSS SECTIONS
5	EAST SWALE – PLAN
6	EAST SWALE – PROFILE
7	EAST SWALE – CROSS SECTION
8	PROJECT OVERVIEW AERIAL

UTILITY NOTE

FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CONTACT THE MISS DIG SYSTEM, INC. BY PHONE AT 811 OR 800-482-7171 OR VIA THE MISS AT EITHER ELOCATE.MISSDIG.ORG FOR SINGLE ADDRESS OR RTE.MISSDIG.ORG, A MINIMUM OF 3 BUSINESS DAYS PRIOR TO EXCAVATION, EXCLUDING WEEKENDS AND HOLIDAYS.

UTILITY CONTACTS

TELEPHONE
AT&T
C/O ENGINEERING DEPARTMENT
ROOM 525A
309 S. WASHINGTON AVE.
SAGINAW, MI 48607
(989) 776-4070

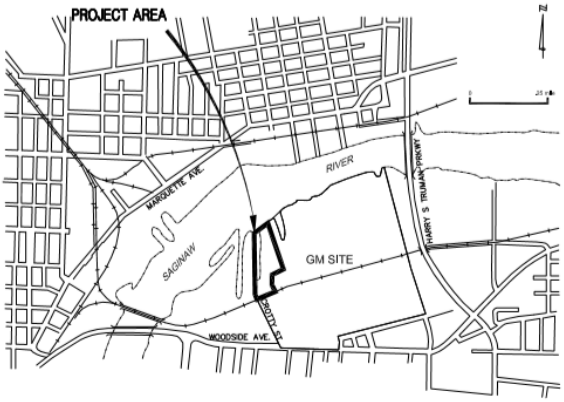
PLANNING/ZONING
CITY OF BAY CITY
PLANNING AND CONSTRUCTION
301 WASHINGTON AVE.
BAY CITY, MI 48076
(989) 894-8180

GAS
CONSUMERS ENERGY
2400 WEISS ST.
SAGINAW, MI 48602
(989) 791-5889

WATER
CITY OF BAY CITY
WATER DISTRIBUTION DEPT.
800 S. WATER ST.,
BAY CITY, MI 48708
(989) 894-8320

ELECTRIC
BAY CITY ELECTRIC LIGHT & POWER
900 S. WATER ST.
BAY CITY, MI 48708
(989) 894-8104

SEWER
CITY OF BAY CITY
SEWER MAINTENANCE
800 S. WATER ST.
BAY CITY, MI 48708
(989) 891-1200



LOCATION MAP
N.T.S.

KEY MAP
NO SCALE

FLOODPLAIN INFORMATION

BANGOR TOWNSHIP
CITY OF BAY CITY
BAY COUNTY, MICHIGAN

MAP NUMBER:	26017C0332E
EFFECTIVE DATE:	SEPTEMBER 17, 2010
FLOOD ZONE:	AE
BASE FLOOD ELEVATION:	585.1 NAVD 88
100-YEAR FLOOD ELEVATION:	581.9 NAVD 88
TOPOGRAPHIC SURVEY DATUM:	NGVD 29
NAVD 88 TO NGVD 29 CONVERSION:	+0.6 FT
BASE FLOOD ELEVATION:	585.7 NGVD 29
100-YEAR FLOOD ELEVATION:	582.5 NGVD 29

CONTRACT FOR:

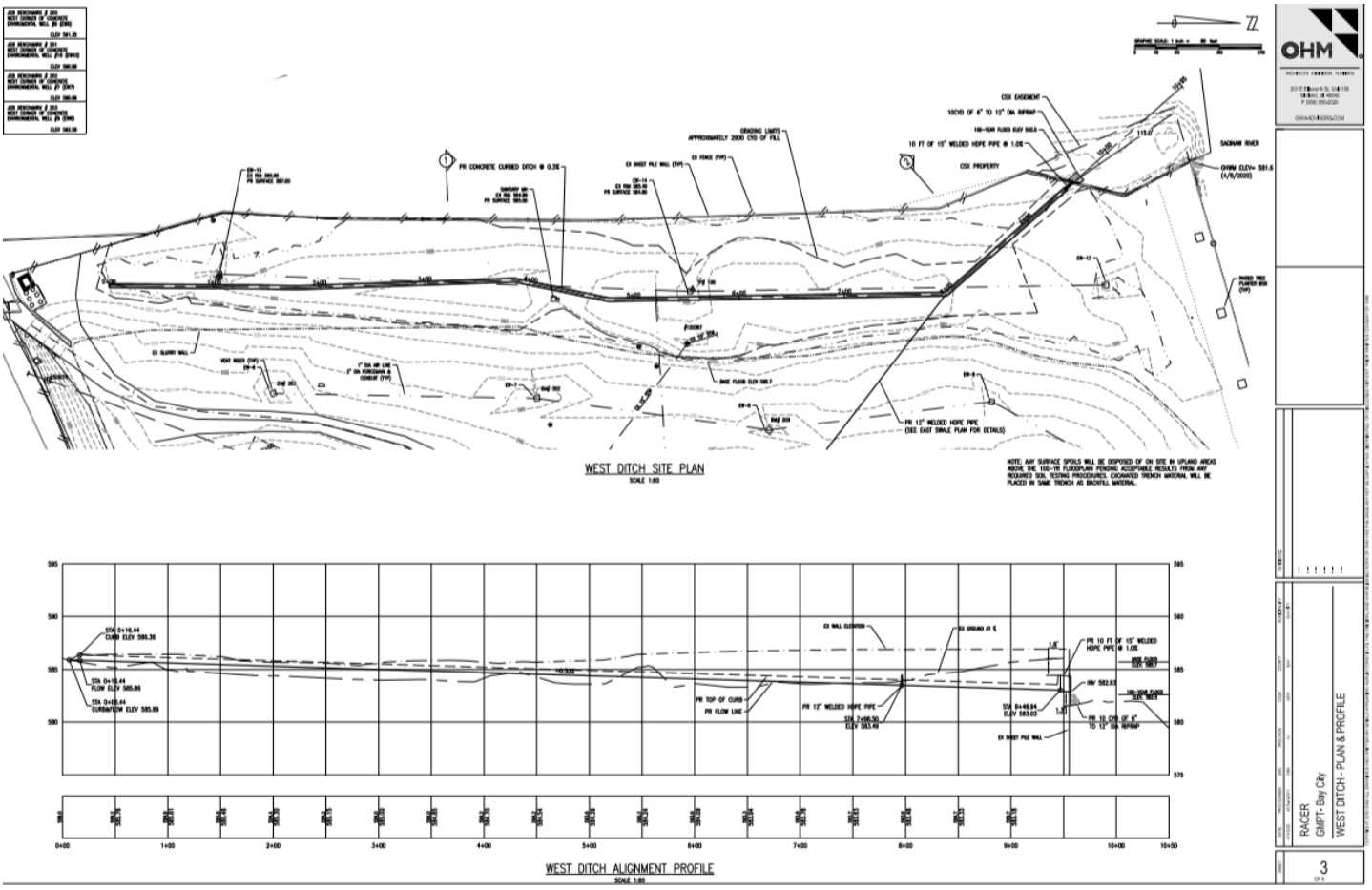
OHM

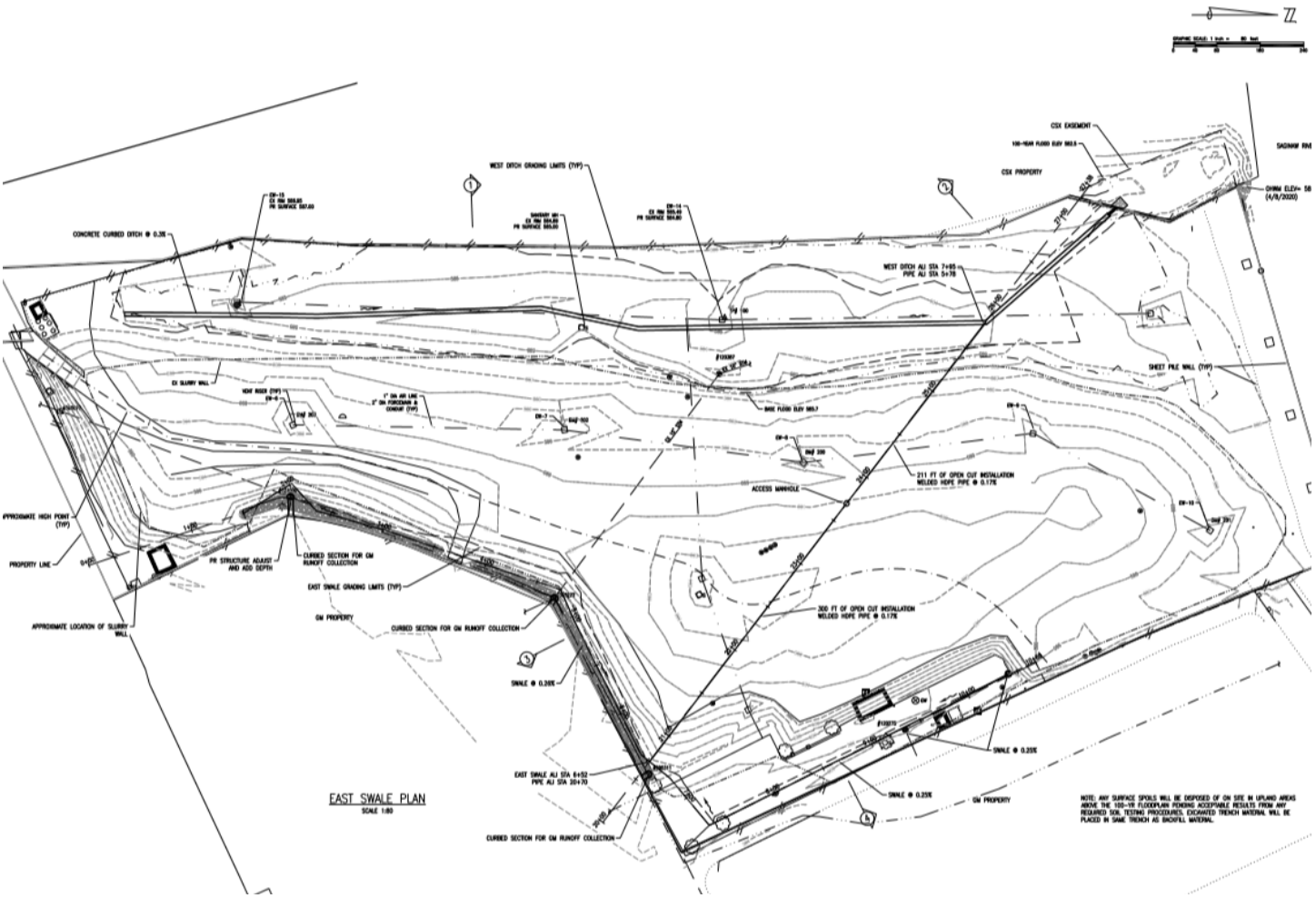
PREPARED UNDER THE SUPERVISION OF:

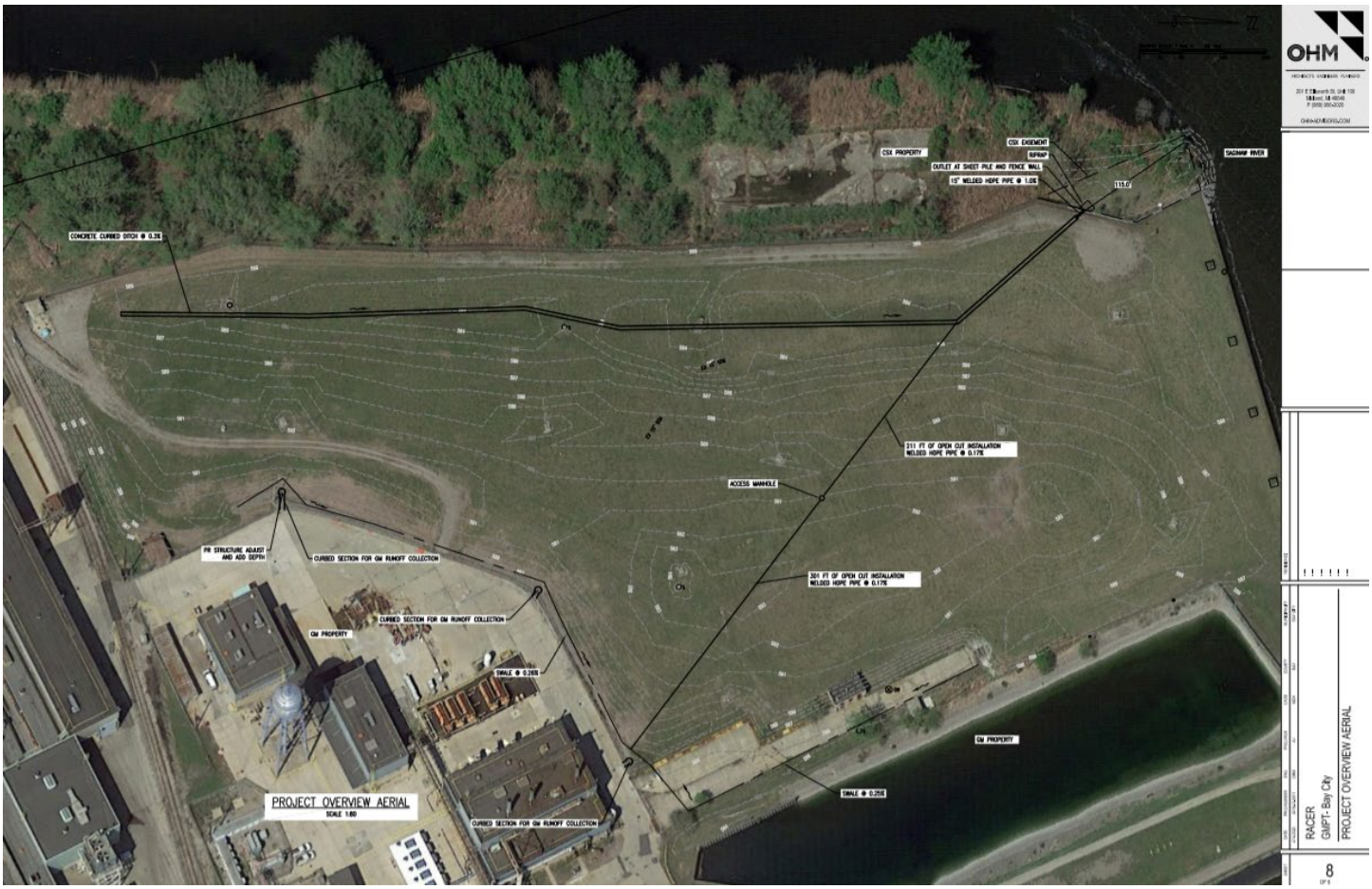
Andrew VanWormer — Registration No. –
Date

REVISIONS

PROJECT NO.	SHEET NO.
4018-13-0011	1 OF 8


WEST DITCH SITE PLAN
SCALE 1:80
WEST DITCH ALIGNMENT PROFILE
SCALE 1:80
RACER
GMPT: Bay City
WEST DITCH - PLAN & PROFILE
3


CSX EASEMENT
CSX PROPERTY
WEST DITCH GRADING LIMITS (TYP)
CONCRETE CURBED DITCH @ 0.3%
WEST DITCH ALI STA 7+85
PIPE ALI STA 5+70
SHEET PILE WALL (TYP)
211 FT OF OPEN CUT INSTALLATION
WELDED HDPE PIPE @ 0.17%
ACCESS MANHOLE
APPROXIMATE HIGH POINT (TYP)
PROPERTY LINE
PR STRUCTURE ADJUST AND ADD DEPTH
CURBED SECTION FOR GM RUNOFF COLLECTION
EAST SWALE GRADING LIMITS (TYP)
GM PROPERTY
APPROXIMATE LOCATION OF SLURRY WALL
300 FT OF OPEN CUT INSTALLATION
WELDED HDPE PIPE @ 0.17%
SWALE @ 0.25%
EAST SWALE ALI STA 8+52
PIPE ALI STA 10+70
EAST SWALE PLAN
SCALE 1:60
NOTE: ANY SURFACE SPOILS WILL BE DISPOSED OF ON SITE IN UPLAND AREAS ABOVE THE 100-YR FLOODPLAIN PENDING ACCEPTABLE RESULTS FROM ANY REQUIRED SOIL TESTING PROCEDURES. EXCAVATED TRENCH MATERIAL WILL BE PLACED IN SAME TRENCH AS BACKFILL MATERIAL.


CSX PROPERTY
CSX EASEMENT
RIPRAP
OUTLET AT SHEET PILE AND FENCE WALL
15" WELDED HDPE PIPE @ 1.0%
SAGINAW RIVER
113.0'
CONCRETE CURBED DITCH @ 0.3%
311 FT OF OPEN CUT INSTALLATION WELDED HDPE PIPE @ 0.17%
ACCESS MANHOLE
PR STRUCTURE ADJUST AND ADD DEPTH
CURBED SECTION FOR GM RUNOFF COLLECTION
GM PROPERTY
301 FT OF OPEN CUT INSTALLATION WELDED HDPE PIPE @ 0.17%
SWALE @ 0.26%
PROJECT OVERVIEW AERIAL
SCALE 1:80
OHM
RACER
GMPT- Bay City
PROJECT OVERVIEW AERIAL
8

FACILITY ENCROACHMENT AGREEMENT

THIS AGREEMENT, Made and effective as of July 8, 2020, by and between CSX TRANSPORTATION, INC., a Virginia corporation, whose mailing address is 500 Water Street, Jacksonville, Florida 32202, hereinafter called "Licensor," and RACER PROPERTIES LLC., a Delaware limited liability company, whose mailing address is 1505 Woodward Avenue, Suite 200, Detroit, Michigan 48226, hereinafter called "Licensee," WITNESSETH:

WHEREAS, Licensee desires to construct (unless previously constructed and designated as existing herein), use and maintain the below described facility(ies), hereinafter called "Facilities," over, under or across property owned or controlled by Licensor, at the below described location(s):

1. One (1) fifteen inch (15") diameter pipeline parallel, solely for the conveyance of stormwater, located at or near Bay City, Bay County, Michigan, Milepost CBB-16.00, N43:36:33.10, W83:52:58.45;

hereinafter, called the "Encroachment," as shown on print(s) labeled Exhibit "A," attached hereto and made a part hereof;

NOW, THEREFORE, in consideration of the mutual covenants, conditions, terms and agreements herein contained, the parties hereto agree and covenant as follows:

1. LICENSE:

1.1 Subject to Article 17, Licensor, insofar as it has the legal right, power and authority to do so, and its present title permits, and subject to:

(A) Licensor's present and future right to occupy, possess and use its property within the area of the Encroachment for any and all purposes;

(B) All encumbrances, conditions, covenants, easements, and limitations applicable to Licensor's title to or rights in the subject property; and

(C) Compliance by Licensee with the terms and conditions herein contained;

does hereby license and permit Licensee to construct, maintain, repair, renew, operate, use, alter or change the Facilities at the Encroachment above for the term herein stated, and to remove same upon termination.

1.2 The term Facilities, as used herein, shall include only those structures and ancillary facilities devoted exclusively to the transmission usage above within the Encroachment, and as shown on attached Exhibit A.

1.3 No additional structures or other facilities shall be placed, allowed, or maintained by Licensee in, upon or on the Encroachment except upon prior separate written consent of Licensor.

2. ENCROACHMENT FEE; TERM:

2.1 Licensee shall pay Licensor a one-time nonrefundable Encroachment Fee of Zero AND 00/100 U.S. DOLLARS ($0.00) upon execution of this Agreement. Licensee agrees that the Encroachment Fee applies only to the original Licensee under this Agreement. In the event of a successor (by merger, consolidation, reorganization and/or assignment) or if the original Licensee changes its name, then Licensee shall be subject to payment of Licensor's current administrative and document preparation fees for the cost incurred by Licensor in preparing and maintaining this Agreement on a current basis.

2.2 However, Licensee assumes sole responsibility for, and shall pay directly (or reimburse Licensor), any additional annual taxes and/or periodic assessments levied against Licensor or Licensor's property solely on account of said Facilities or Encroachment.

2.3 This Agreement shall terminate as herein provided, but shall also terminate upon: (a) Licensee's cessation of use of the Facilities or Encroachment for the purpose(s) above; (b) removal of the Facilities; (c) subsequent mutual consent; and/or (d) failure of Licensee to complete installation within five (5) years from the effective date of this Agreement.

2.4 In further consideration for the license or right hereby granted, Licensee hereby agrees that Licensor shall not be charged or assessed, directly or indirectly, with any part of the cost of the installation of said Facilities and appurtenances, and/or maintenance thereof, or for any public works project of which said Facilities is a part.

3. CONSTRUCTION, MAINTENANCE AND REPAIRS:

3.1 Licensee shall construct, maintain, relocate, repair, renew, alter, and/or remove the Facilities, in a prudent, workmanlike manner, using quality materials and complying with any applicable standard(s) or regulation(s) of Licensor (CSXT Specifications), or Licensee's particular industry, National Electrical Safety Code, or any governmental or regulatory body having jurisdiction over the Encroachment.

3.2 Location and construction of Facilities shall be made strictly in accordance with design(s) and specifications furnished to and approved by Licensor and of material(s) and size(s) appropriate for the purpose(s) above recited.

3.3 All of Licensee's work, and exercise of rights hereunder, shall be undertaken at time(s) satisfactory to Licensor, and so as to eliminate or minimize any impact on or interference with the safe use and operation of Licensor's property and appurtenances thereto.

3.4 In the installation, maintenance, repair and/or removal of said Facilities, Licensee shall not use explosives of any type or perform or cause any blasting without the

separate express written consent of Licensor. As a condition to such consent, a representative will be assigned by Licensor to monitor blasting, and Licensee shall reimburse Licensor for the entire cost and/or expense of furnishing said monitor.

3.5 Any repairs or maintenance to the Facilities, whether resulting from acts of Licensee, or natural or weather events, which are necessary to protect or facilitate Licensor's use of its property, shall be made by Licensee promptly, but in no event later than thirty (30) days after Licensee has notice as to the need for such repairs or maintenance.

3.6 Licensor, in order to protect or safeguard its property, rail operations, equipment and/or employees from damage or injury, may request immediate repair or renewal of the Facilities, and if the same is not performed, may make or contract to make such repairs or renewals, at the sole risk, cost and expense of Licensee.

3.7 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

3.8 All work on the Encroachment shall be conducted in accordance with Licensor's safety rules and regulations.

3.9 Licensee hereby agrees to reimburse Licensor any loss, cost or expense (including losses resulting from train delays and/or inability to meet train schedules) arising from any failure of Licensee to make repairs or conduct maintenance as required by Section 3.5 above or from improper or incomplete repairs or maintenance to the Facilities or Encroachment.

3.10 In the event it becomes necessary for the Licensee to deviate from the approved Exhibit, Licensee shall seek prior approval from Licensor, or when applicable, an official field representative of Licensor permitted to approve changes, authorizing the necessary field changes and Licensee shall provide Licensor with complete As-Built Drawings of the completed work. As-Built Drawings shall be submitted to Licensor in either electronic or hard copy form upon the substantial completion of the project and upon Licensor's request.

3.11 In the event of large scale maintenance/construction work to railroad bridges Licensee is required to protect power lines with insulated covers or comparable safety devices at their costs during construction/maintenance for safety of railroad employees.

4. PERMITS, LICENSES:

4.1 Before any work hereunder is performed, or before use of the Encroachment for the contracted purpose, Licensee, at its sole cost and expense, shall obtain all necessary permit(s) (including but not limited to zoning, building, construction, health, safety or environmental matters), letter(s) or certificate(s) of approval. Licensee expressly agrees and warrants that it shall conform and limit its activities to the terms of such permit(s), approval(s)

and authorization(s), and shall comply with all applicable ordinances, rules, regulations, requirements and laws of any governmental authority (State, Federal or Local) having jurisdiction over Licensee's activities, including the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (OSHA) (29 CFR 1926.651(b)), et al., and State "One Call" - "Call Before You Dig" requirements.

4.2 Licensee assumes sole responsibility for failure to obtain such permit(s) or approval(s), for any violations thereof, or for costs or expenses of compliance or remedy.

5. MARKING AND SUPPORT:

5.1 With respect to any subsurface installation or maintenance upon Licensor's property, Licensee, at its sole cost and expense, shall:

(A) support track(s) and roadbed in a manner satisfactory to Licensor;

(B) backfill with satisfactory material and thoroughly tamp all trenches to prevent settling of surface of land and roadbed of Licensor; and

(C) either remove any surplus earth or material from Licensor's property or cause said surplus earth or material to be placed and distributed at location(s) and in such manner Licensor may approve.

5.2 After construction or maintenance of the Facilities, Licensee shall:

(A) Restore any track(s), roadbed and other disturbed property; and

(B) Erect, maintain and periodically verify the accuracy of aboveground markers, in a form approved by Licensor, indicating the location, depth and ownership of any underground Facilities or related facilities.

5.3 Licensee shall be solely responsible for any subsidence or failure of lateral or subjacent support in the Encroachment area for a period of three (3) years after completion of installation.

6. TRACK CHANGES:

6.1 In the event that rail operations and/or track maintenance result in changes in grade or alignment of, additions to, or relocation of track(s) or other facilities, or in the event future use of Licensor's rail corridor or property necessitate any change of location, height or depth in the Facilities or Encroachment, Licensee, at its sole cost and expense and within thirty (30) days after notice in writing from Licensor, shall make changes in the Facilities or Encroachment to accommodate such track(s) or operations.

6.2 If Licensee fails to do so, Licensor may make or contract to make such changes at Licensee's cost.

7. FACILITY CHANGES:

7.1 Licensee shall periodically monitor and verify the depth or height of the Facilities or Encroachment in relation to the existing tracks and facilities, and shall relocate the Facilities or change the Encroachment, at Licensee's expense, should such relocation or change be necessary to comply with the minimum clearance requirements of Licensor.

7.2 If Licensee undertakes to revise, renew, relocate or change in any manner whatsoever all or any part of the Facilities (including any change in voltage or gauge of wire or any change in circumference, diameter or radius of pipe or change in materials transmitted in and through said pipe), or is required by any public agency or court order to do so, plans therefor shall be submitted to Licensor for approval before such change. After approval, the terms and conditions of this Agreement shall apply thereto.

8. INTERFERENCE WITH RAIL FACILITIES:

8.1 Although the Facilities/Encroachment herein permitted may not presently interfere with Licensor's railroad or facilities, in the event that the operation, existence or maintenance of said Facilities, in the sole judgment of Licensor, causes: (a) interference (including, but not limited to, physical or interference from an electromagnetic induction, or interference from stray or other currents) with Licensor's power lines, communication, signal or other wires, train control system, or electrical or electronic apparatus; or (b) interference in any manner, with the operation, maintenance or use of the rail corridor, track(s), structures, pole line(s), devices, other property, or any appurtenances thereto; then and in either event, Licensee, upon receipt of written notice from Licensor of any such interference, and at Licensee's sole risk, cost and expense, shall promptly make such changes in its Facilities or installation, as may be required in the reasonable judgment of the Licensor to eliminate all such interference. Upon Licensee's failure to remedy or change, Licensor may do so or contract to do so at Licensee's sole cost.

8.2 Without assuming any duty hereunder to inspect the Facilities, Licensor hereby reserves the right to inspect same and to require Licensee to undertake repairs, maintenance or adjustments to the Facilities, which Licensee hereby agrees to make promptly, at Licensee's sole cost and expense.

9. RISK, LIABILITY, INDEMNITY:

With respect to the relative risk and liabilities of the parties, it is hereby agreed that:

9.1 Licensee hereby agrees to, defend, indemnify, and hold Licensor harmless from and against any and all liability, loss, claim, suit, damage, charge or expense which Licensor may suffer, sustain, incur or in any way be subjected to, on account of death of or injury to any person whomsoever (including officers, agents, employees or invitees of Licensor), and for damage to or loss of or destruction of any property whatsoever, arising out of, resulting from, or in any way connected with the construction, repair, maintenance, replacement, presence, existence, operations, use or removal of the Facilities or any structure in connection therewith, or

restoration of premises of Licensor to good order or condition after removal, EXCEPT when proven to have been caused solely by the willful misconduct or gross negligence of Licensor. HOWEVER, during any period of actual construction, repair, maintenance, replacement or removal of the Facilities, wherein agents, equipment or personnel of Licensee are on the railroad rail corridor, Licensee's liability hereunder shall be absolute, irrespective of any joint, sole or contributory fault or negligence of Licensor.

9.2 Use of Licensor's rail corridor involves certain risks of loss or damage as a result of the rail operations. Notwithstanding Section 9.1, Licensee expressly assumes all risk of loss and damage to Licensee's Property or the Facilities in, on, over or under the Encroachment, including loss of or any interference with use or service thereof, regardless of cause, including electrical field creation, fire or derailment resulting from rail operations. For this Section, the term "Licensee's Property" shall include property of third parties situated or placed upon Licensor's rail corridor by Licensee or by such third parties at request of or for benefit of Licensee.

9.3 Licensee assumes all responsibility for, and agrees to defend, indemnify and hold Licensor harmless from: (a) all claims, costs and expenses, including reasonable attorneys' fees, as a consequence of any sudden or nonsudden pollution of air, water, land and/or ground water on or off the Encroachment area, arising from or in connection with the use of this Encroachment or resulting from leaking, bursting, spilling, or any escape of the material transmitted in or through the Facilities; (b) any claim or liability arising under federal or state law dealing with either such sudden or nonsudden pollution of air, water, land and/or ground water arising therefrom or the remedy thereof; and (c) any subsidence or failure of lateral or subjacent support of the tracks arising from such Facilities leakage.

9.4 Notwithstanding Section 9.1, Licensee also expressly assumes all risk of loss which in any way may result from Licensee's failure to maintain either required clearances for any overhead Facilities or the required depth and encasement for any underground Facilities, whether or not such loss(es) result(s) in whole or part from Licensor's contributory negligence or joint fault.

9.5 Obligations of Licensee hereunder to release, indemnify and hold Licensor harmless shall also extend to companies and other legal entities that control, are controlled by, subsidiaries of, or are affiliated with Licensor, as well as any railroad that operates over the rail corridor on which the Encroachment is located, and the officers, employees and agents of each.

9.6 If a claim is made or action is brought against Licensor, and/or its operating lessee, for which Licensee may be responsible hereunder, in whole or in part, Licensee shall be notified to assume the handling or defense of such claim or action; but Licensor may participate in such handling or defense.

10. INSURANCE:

10.1 Prior to commencement of surveys, installation or occupation of premises pursuant to this Agreement, Licensee shall procure and shall maintain during the continuance of this Agreement, at its sole cost and expense, a policy of

(i) Statutory Worker's Compensation and Employers Liability Insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS ($1,000,000.00).

(ii) Commercial General Liability coverage (inclusive of contractual liability) with available limits of not less than FIVE MILLION AND 00/100 U.S. DOLLARS ($5,000,000.00) in combined single limits for bodily injury and property damage and covering the contractual liabilities assumed under this Agreement and naming Licensor, and/or its designee, as additional insured. The evidence of insurance coverage shall be endorsed to provide for thirty (30) days' notice to Licensor, or its designee, prior to cancellation or modification of any policy. Mail CGL certificate, along with agreement, to CSX Transportation, Inc., Speed Code J180, 500 Water Street, Jacksonville, FL 32202. On each successive year, send certificate to RenewalCOI@csx.com.

(iii) Business automobile liability insurance with available limits of not less than ONE MILLION AND 00/100 U.S. DOLLARS ($1,000,000.00) combined single limit for bodily injury and/or property damage per occurrence naming Licensor, and/or its designee, as additional insured.

(iv) The insurance policies must contain a waiver of subrogation against CSXT and its Affiliates, except where prohibited by law. All insurance companies must be A. M. Best rated A- and Class VII or better.

(v) Such other insurance as Licensor may reasonably require.

10.2 If Licensee's existing CGL policy(ies) do(es) not automatically cover Licensee's contractual liability during periods of survey, installation, maintenance and continued occupation, a specific endorsement adding such coverage shall be purchased by Licensee. If said CGL policy is written on a "claims made" basis instead of a "per occurrence" basis, Licensee shall arrange for adequate time for reporting losses. Failure to do so shall be at Licensee's sole risk.

10.3 Licensor, or its designee, may at any time request evidence of insurance purchased by Licensee to comply with this Agreement. Failure of Licensee to comply with Licensor's request shall be considered a default by Licensee.

10.4 Securing such insurance shall not limit Licensee's liability under this Agreement, but shall be security therefor.

10.5 (A) In the event Licensee finds it necessary to perform construction or demolition operations within fifty feet (50') of any operated railroad track(s) or affecting any

railroad bridge, trestle, tunnel, track(s), roadbed, overpass or underpass, Licensee shall: (a) notify Licensor; and (b) require its contractor(s) performing such operations to procure and maintain during the period of construction or demolition operations, at no cost to Licensor,

i) Railroad Protective Liability (RPL) Insurance, naming Licensor, and/or its designee, as Named Insured, written on the current ISO/RIMA Form (ISO Form No. CG 00 35 04 13) with limits of FIVE MILLION AND 00/100 U.S. DOLLARS ($5,000,000.00) per occurrence for bodily injury and property damage, with at least TEN MILLION AND 00/100 U.S. DOLLARS ($10,000,000.00) aggregate limit per annual policy period. The original of such RPL policy shall be sent to and approved by Licensor prior to commencement of such construction or demolition. Licensor reserves the right to demand higher limits.

OR

ii) The CGL policy shall include endorsement ISO CG 24 17 and the Auto Liability Policy shall include endorsement ISO CA 20 70 evidencing that coverage is provided for work within 50 feet of a railroad. If such endorsements are not included, RPL insurance must be provided.

(B) At Licensor's option, in lieu of purchasing RPL insurance or the 50 foot endorsements from an insurance company (but not CGL insurance), Licensee may pay Licensor, at Licensor's current rate at time of request, the cost of adding this Encroachment, or additional construction and/or demolition activities, to Licensor's Railroad Protective Liability (RPL) Policy for the period of actual construction. This coverage is offered at Licensor's discretion and may not be available under all circumstances.

11. GRADE CROSSINGS; PROTECTION SERVICES:

11.1 Nothing herein contained shall be construed to permit Licensee or Licensee's contractor to move any vehicles or equipment over the track(s), except at public road crossing(s), without separate prior written approval of Licensor.

11.2 If Licensor deems it advisable, during any construction, maintenance, repair, renewal, alteration, change or removal of said Facilities, to place watchmen, flagmen, or field construction managers for protection of operations of Licensor or others on Licensor's rail corridor at the Encroachment, and to keep persons, equipment or materials away from the track(s), Licensor shall have the right to do so at the expense of Licensee, but Licensor shall not be liable for failure to do so.

12. LICENSOR'S COSTS:

12.1 Any additional or alternative costs or expenses incurred by Licensor to accommodate Licensee's continued use of Licensor's property as a result of track changes or wire changes shall also be paid by Licensee.

12.2 Licensor's expense for wages ("force account" charges) and materials for any work performed at the expense of Licensee pursuant hereto shall be paid by Licensee within thirty (30) days after receipt of Licensor's bill therefor. Licensor may, at its discretion, request an advance deposit for estimated Licensor costs and expenses.

12.3 Such expense shall include, but not be limited to, cost of railroad labor and supervision under "force account" rules, plus current applicable overhead percentages, the actual cost of materials, and insurance, freight and handling charges on all material used. Equipment rentals shall be in accordance with Licensor's applicable fixed rate. Licensor may, at its discretion, require advance deposits for estimated costs of such expenses and costs.

13. DEFAULT, BREACH, WAIVER:

13.1 The proper and complete performance of each covenant of this Agreement shall be deemed of the essence thereof, and in the event Licensee fails or refuses to fully and completely perform any of said covenants or remedy any breach within thirty (30) days after receiving written notice from Licensor to do so (or within forty-eight (48) hours in the event of notice of a railroad emergency), Licensor shall have the option of immediately revoking this Agreement and the privileges and powers hereby conferred, regardless of encroachment fee(s) having been paid in advance for any annual or other period. Upon such revocation, Licensee shall make removal in accordance with Article 14.

13.2 No waiver by Licensor of its rights as to any breach of covenant or condition herein contained shall be construed as a permanent waiver of such covenant or condition, or any subsequent breach thereof, unless such covenant or condition is permanently waived in writing by Licensor.

13.3 Neither the failure of Licensor to object to any work done, material used, or method of construction or maintenance of said Encroachment, nor any approval given or supervision exercised by Licensor, shall be construed as an admission of liability or responsibility by Licensor, or as a waiver by Licensor of any of the obligations, liability and/or responsibility of Licensee under this Agreement.

14. TERMINATION, REMOVAL:

14.1 All rights which Licensee may have hereunder shall cease upon the date of (a) termination, (b) revocation, or (c) subsequent agreement, or (d) Licensee's removal of the Facility from the Encroachment. However, neither termination nor revocation of this Agreement shall affect any claims and liabilities which have arisen or accrued hereunder, and which at the time of termination or revocation have not been satisfied; neither party, however, waiving any third party defenses or actions.

14.2 Within thirty (30) days after revocation or termination, Licensee, at its sole risk and expense, shall (a) remove the Facilities from the rail corridor of Licensor, unless the parties hereto agree otherwise, (b) restore the rail corridor of Licensor in a manner satisfactory to

Licensor, and (c) reimburse Licensor any loss, cost or expense of Licensor resulting from such removal.

15. NOTICE:

15.1 Licensee shall give Licensor at least thirty (30) days written notice before doing any work on Licensor's rail corridor, except that in cases of emergency shorter notice may be given. Licensee shall provide proper notification as follows:

a. For non-emergencies, Licensee shall submit online via the CSX Property Portal from Licensor's web site, via web link:
https://propertyportal.csx.com/pub_ps_res/ps_res/jsf/public/index.faces

b. For emergencies, Licensee shall complete all of the steps outlined in Section 15.1 a. above, and shall also include detailed information of the emergency. Licensee shall also call and report details of the emergency to Licensor's Rail Operations Emergency Telephone Number: 1-800-232-0144. In the event Licensor needs to contact Licensee concerning an emergency involving Licensee's Facility(ies), the emergency phone number for Licensee is: (313) 670-6226.

15.2 All other notices and communications concerning this Agreement shall be addressed to Licensee at the address above, and to Licensor at the address shown on Page 1, c/o CSXT Contract Management, J180; or at such other address as either party may designate in writing to the other.

15.3 Unless otherwise expressly stated herein, all such notices shall be in writing and sent via Certified or Registered Mail, Return Receipt Requested, or by courier, and shall be considered delivered upon: (a) actual receipt, or (b) date of refusal of such delivery.

16. ASSIGNMENT:

16.1 The rights herein conferred are the privileges of Licensee only, and Licensee shall obtain Licensor's prior written consent to any assignment of Licensee's interest herein; said consent shall not be unreasonably withheld.

16.2 Subject to Sections 2 and 16.1, this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors or assigns.

16.3 Licensee shall give Licensor written notice of any legal succession (by merger, consolidation, reorganization, etc.) or other change of legal existence or status of Licensee, with a copy of all documents attesting to such change or legal succession, within thirty (30) days thereof.

16.4 Licensor expressly reserves the right to assign this Agreement, in whole or in part, to any grantee, lessee, or vendee of Licensor's underlying property interests in the Encroachment, upon written notice thereof to Licensee.

16.5 In the event of any unauthorized sale, transfer, assignment, sublicense or encumbrance of this Agreement, or any of the rights and privileges hereunder, Licensor, at its option, may revoke this Agreement by giving Licensee or any such assignee written notice of such revocation; and Licensee shall reimburse Licensor for any loss, cost or expense Licensor may incur as a result of Licensee's failure to obtain said consent.

17. TITLE:

17.1 Licensee understands that Licensor occupies, uses and possesses lands, rights-of-way and rail corridors under all forms and qualities of ownership rights or facts, from full fee simple absolute to bare occupation. Accordingly, nothing in this Agreement shall act as or be deemed to act as any warranty, guaranty or representation of the quality of Licensor's title for any particular Encroachment or segment of Rail Corridor occupied, used or enjoyed in any manner by Licensee under any rights created in this Agreement. It is expressly understood that Licensor does not warrant title to any Rail Corridor and Licensee will accept the grants and privileges contained herein, subject to all lawful outstanding existing liens, mortgages and superior rights in and to the Rail Corridor, and all leases, licenses and easements or other interests previously granted to others therein.

17.2 The term "license," as used herein, shall mean with regard to any portion of the Rail Corridor which is owned by Licensor in fee simple absolute, or where the applicable law of the State where the Encroachment is located otherwise permits Licensor to make such grants to Licensee, a "permission to use" the Rail Corridor, with dominion and control over such portion of the Rail Corridor remaining with Licensor, and no interest in or exclusive right to possess being otherwise granted to Licensee. With regard to any other portion of Rail Corridor occupied, used or controlled by Licensor under any other facts or rights, Licensor merely waives its exclusive right to occupy the Rail Corridor and grants no other rights whatsoever under this Agreement, such waiver continuing only so long as Licensor continues its own occupation, use or control. Licensor does not warrant or guarantee that the license granted hereunder provides Licensee with all of the rights necessary to occupy any portion of the Rail Corridor. Licensee further acknowledges that it does not have the right to occupy any portion of the Rail Corridor held by Licensor in less than fee simple absolute without also receiving the consent of the owner(s) of the fee simple absolute estate. Further, Licensee shall not obtain, exercise or claim any interest in the Rail Corridor that would impair Licensor's existing rights therein.

17.3 Licensee agrees it shall not have nor shall it make, and hereby completely and absolutely waives its right to, any claim against Licensor for damages on account of any deficiencies in title to the Rail Corridor in the event of failure or insufficiency of Licensor's title to any portion thereof arising from Licensee's use or occupancy thereof.

17.4 Licensee agrees to fully and completely indemnify and defend all claims or litigation for slander of title, overburden of easement, or similar claims arising out of or based upon the Facilities placement, or the presence of the Facilities in, on or along any Encroachment(s), including claims for punitive or special damages.

17.5 Licensee shall not at any time own or claim any right, title or interest in or to Licensor's property occupied by the Encroachments, nor shall the exercise of this Agreement for any length of time give rise to any right, title or interest in Licensee to said property other than the license herein created.

17.6 Nothing in this Agreement shall be deemed to give, and Licensor hereby expressly waives, any claim of ownership in and to any part of the Facilities.

17.7 Licensee shall not create or permit any mortgage, pledge, security, interest, lien or encumbrances, including without limitation, tax liens and liens or encumbrances with respect to work performed or equipment furnished in connection with the construction, installation, repair, maintenance or operation of the Facilities in or on any portion of the Encroachment (collectively, "Liens or Encumbrances"), to be established or remain against the Encroachment or any portion thereof or any other Licensor property.

17.8 In the event that any property of Licensor becomes subject to such Liens or Encumbrances, Licensee agrees to pay, discharge or remove the same promptly upon Licensee's receipt of notice that such Liens or Encumbrances have been filed or docketed against the Encroachment or any other property of Licensor; however, Licensee reserves the right to challenge, at its sole expense, the validity and/or enforceability of any such Liens or Encumbrances.

18. GENERAL PROVISIONS:

18.1 This Agreement, and the attached specifications, contains the entire understanding between the parties hereto.

18.2 Neither this Agreement, any provision hereof, nor any agreement or provision included herein by reference, shall operate or be construed as being for the benefit of any third person.

18.3 Except as otherwise provided herein, or in any Rider attached hereto, neither the form of this Agreement, nor any language herein, shall be interpreted or construed in favor of or against either party hereto as the sole drafter thereof.

18.4 This Agreement is executed under current interpretation of applicable Federal, State, County, Municipal or other local statute, ordinance or law(s). However, each separate division (paragraph, clause, item, term, condition, covenant or agreement) herein shall have independent and severable status for the determination of legality, so that if any separate division is determined to be void or unenforceable for any reason, such determination shall have no effect upon the validity or enforceability of each other separate division, or any combination thereof.

18.5 This Agreement shall be construed and governed by the laws of the state in which the Facilities and Encroachment are located.

18.6 If any amount due pursuant to the terms of this Agreement is not paid by the due date, it will be subject to Licensor's standard late charge and will also accrue interest at eighteen percent (18%) per annum, unless limited by local law, and then at the highest rate so permitted.

18.7 Licensee agrees to reimburse Licensor for all reasonable costs (including attorney's fees) incurred by Licensor for collecting any amount due under the Agreement.

18.8 The provisions of this License are considered confidential and may not be disclosed to a third party without the consent of the other party(s), except: (a) as required by statute, regulation or court order, (b) to a parent, affiliate or subsidiary company, (c) to an auditing firm or legal counsel that are agreeable to the confidentiality provisions, or (d) to Lessees of Licensor's land and/or track who are affected by the terms and conditions of this Agreement and will maintain the confidentiality of this Agreement.

18.9 Within thirty (30) days of an overpayment in a cumulative total amount of One Hundred Dollars ($100.00) or more by Licensee to Licensor, Licensee shall notify Licensor in writing with documentation evidencing such overpayment. Licensor shall refund the actual amount of Licensee's overpayment within 120 days of Licensor's verification of such overpayment.

18.10 This Agreement may be executed in any number of counterparts, and such counterparts may be exchanged by electronic transmission. Upon execution by the parties hereto, each counterpart shall be deemed an original and together shall constitute one and the same instrument. A fully executed copy of this Agreement by electronic transmission shall be deemed to have the same legal effect as delivery of an original executed copy of this Agreement for all purposes.

19. TERMINATION OF PRIOR AGREEMENT(S):

19.1 This Agreement supersedes existing agreement(s) dated May 2, 2014, Contract No. CSX728240, between CSX Transportation, Inc., or its predecessor in title, and RACER TRUST, or its predecessor in title, covering the premises described herein, which agreement(s) is/are terminated and superseded by the execution hereof.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate (each of which shall constitute an original) as of the effective date of this Agreement.

Witness for Licensor:

CSX TRANSPORTATION, INC.

By: _____

Print/Type Name: Catherine Atkins

Print/Type Title: Sr. Mgr - Real Estate

Witness for Licensee:

RACER PROPERTIES LLC.
a Delaware limited liability company

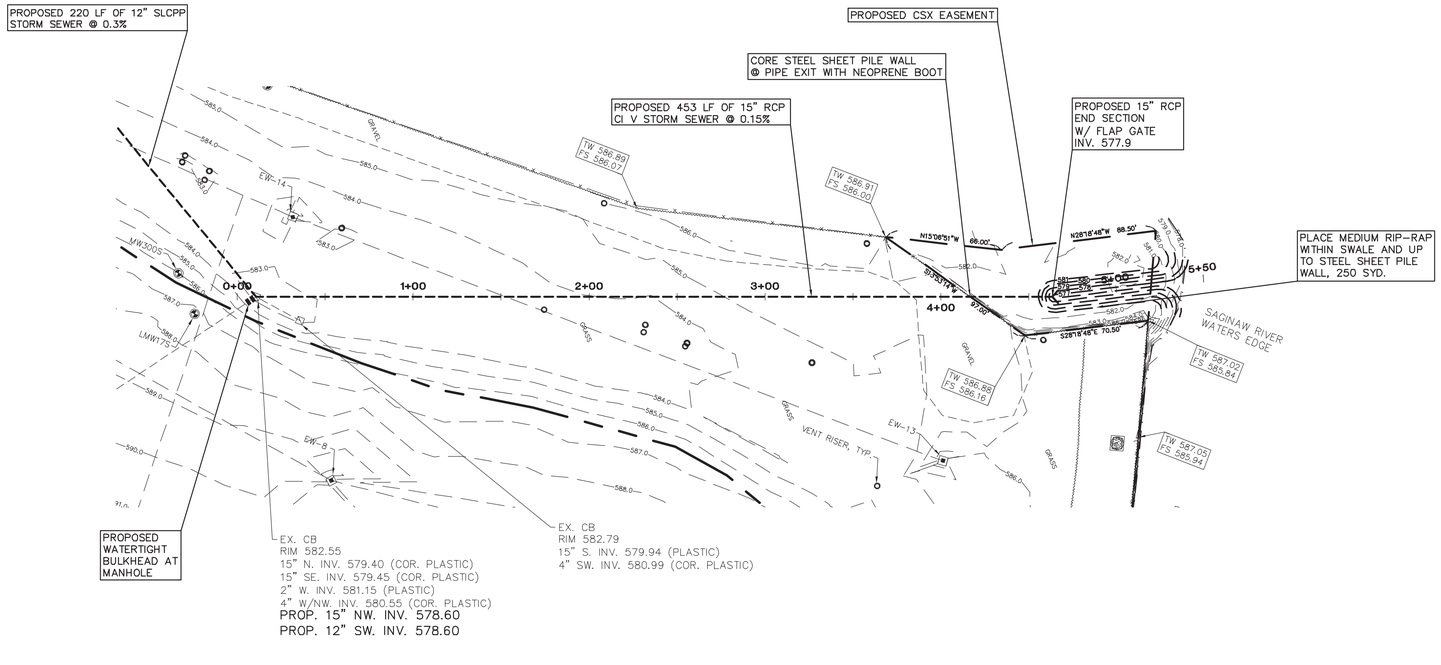
By: Revitalizing Auto Communities Environmental Response Trust, Sole Member of RACER Properties, LLC.

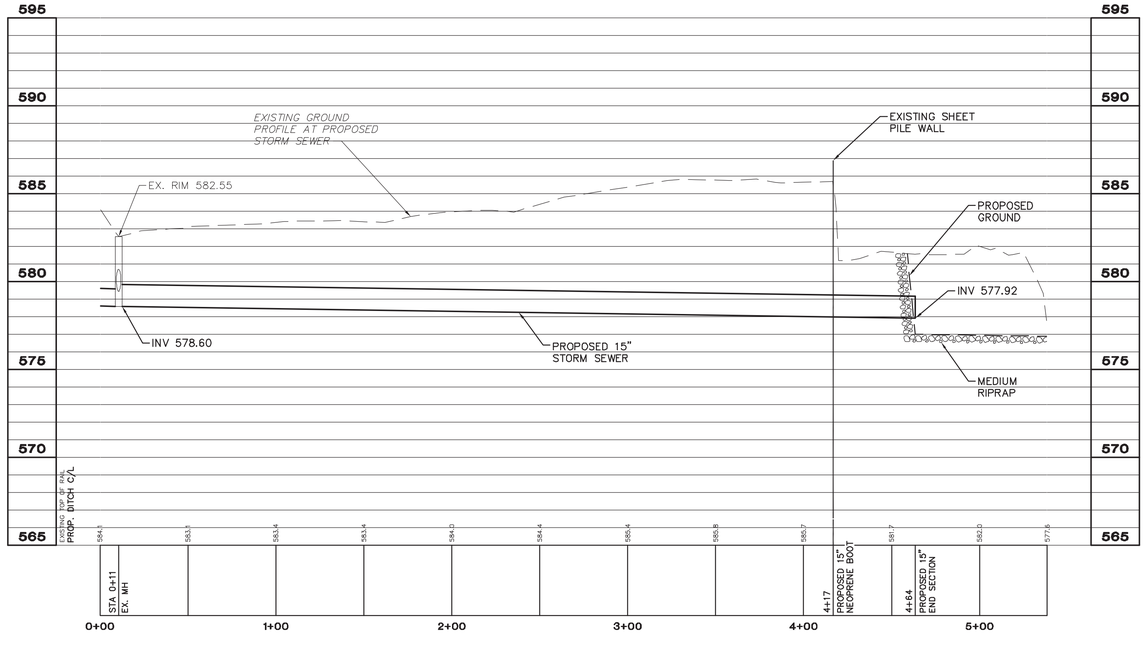
By: EPLET, LLC., acting solely in its capacity as Administrative Trustee of Revitalizing Auto Communities Environmental Response Trust

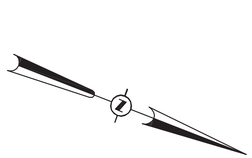
By: _____
ELLIOTT P. LAWS, not individually, but acting solely in his capacity as Managing Member

Who, by the execution hereof, affirms that he/she has the authority to do so and to bind the Licensee to the terms and conditions of this Agreement.

(24X36 - 10-29-04)



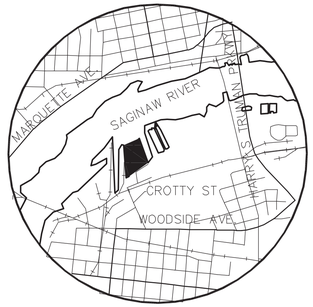




GRAPHIC SCALE

0 20 40 80

(IN FEET)
1 inch = 40 ft.



LOCATION MAP

NOT TO SCALE

CSX PROPERTY SERVICES REVIEW

[X] No Exceptions [ ] Exceptions Noted

This review is for the general conformance with CSX utility design specifications only. Sole responsibility for all aspects of the overall design shall remain with the facility owner. This review does not constitute approval to proceed without meeting all of CSX's safety and contractual requirements.

By: _____

LEGEND

	PROPOSED STONE LINED SWALE
	EXISTING SLURRY WALL
	EXISTING CONTOUR MAJOR
	EXISTING CONTOUR MINOR
	PROPOSED CONTOUR
	PROPOSED CATCHBASIN
	PROPOSED STORM SEWER

NOTE:
FLOOODPLAIN ELEVATION 585.0

TW = TOP OF SHEETPILE WALL

EG = EXISTING GROUND

Know what's **below.** **Call** before you dig.

PREPARED UNDER THE SUPERVISION OF:

PROJECT LOG

FILE: CSX-P+P
PROJECT MGR: SLW
DESIGNED BY: SLW
DRAWN BY: KCB
CHECKED BY:
SCALE: 1"=40' 1"=4'
SHEET: OF

RACER TRUST
2930 ECORSE ROAD
YPSILANTI, MI 48198
PH: 313-486-2903 / FAX: 734-879-9537

RACER GMPT-BAY CITY
CITY OF BAY CITY, MI

STORM SEWER PLAN AND PROFILE

Professional Services
AN ISO 9001:2000 CERTIFIED COMPANY
www.wilcox.us

Wilcox

10496.00003

WILCOX PROFESSIONAL SERVICES, L.L.C.
NOT PUBLISHED. ALL RIGHTS RESERVED.

Appendix C

Facility Environmental Assessment Summary

Facility Environmental Assessment Summary

Two Outbuildings – RACER Bay City Industrial Land Site

RACER Trust

April 2022

→ The Power of Commitment

26850 Haggerty Road,
Farmington Hills, Michigan 48331
USA
www.ghd.com

GHD ref: 11208058

April 2022

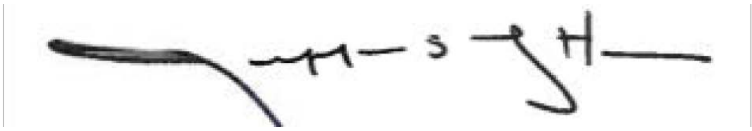
Grant Trigger
Michigan Cleanup Manager
RACER Trust
RACER Bay City Industrial Land Site
Bay City, Michigan

Facility Environmental Assessment Summary – Three Outbuildings – RACER Bay City Industrial Land Site.

Dear Mr. Trigger

Enclosed please find the Facility Environmental Assessment (FEA) summary report for the three outbuildings located at the Revitalizing Auto Communities Environmental Response (RACER) Bay City Industrial Land Site located in Bay City, Michigan (Site). The FEA, including an asbestos-containing materials (ACM) survey, was conducted in support of planned demolition of three Site outbuildings. It is noted that additional assessment/sampling is being scheduled for the underground mechanical tunnel. Should the renovation scope change, additional sampling activities may be required. Please contact the undersigned regarding any questions or comments related to this report or its supporting documents.

Regards,



Jeffrey S. Latham
Senior Project Manager and Technical Director
Decommissioning and Demolition Services

jeffrey.latham@ghd.com
248-719-0097

Contents

1. Introduction **1**
- 1.1 Purpose of this Report 1
- 1.2 Assumptions and Limitations 1
- 1.3 Regulations and Guidelines 2

2. Facility Environmental Assessment Sampling **3**
- 2.1 Roofing Materials 3
- 2.2 Caulk 3
- 2.3 Sludge 4
- 2.4 Concrete / Cinder Block 4
- 2.5 Paint 4
- 2.6 Oil 4

3. Asbestos Survey **4**
- 3.1 Asbestos Sampling Methodology 4
- 3.2 Asbestos Survey Results 5
- 3.3 Asbestos-Containing Materials Recommendations 5
  - 3.3.1 Asbestos Caulk 6
  - 3.3.2 Asbestos Thermal System Insulation (TSI) 6
  - 3.3.3 Suspect Asbestos-Containing Materials (SACM) 6

Attachments

Figure 1 FEA Sample Area
Figure 2 FEA Sample Locations

Table 1 FEA Field Sample Key
Table 2 FEA Analytical Results Summary
Table 3 FEA Exceedance Results Summary
Table 4 Asbestos Survey Field Sample Key

Attachment A FEA Laboratory Analytical Reports
Attachment B Laboratory Certificate of Analysis (ACM)

1. Introduction

GHD Services Inc. (GHD) was retained by Revitalizing Auto Communities Environmental Response (RACER) Trust to conduct a Facility Environmental Assessment (FEA) in support of the planned demolition of three outbuildings at the Bay City Industrial Land Site located in Bay City, Michigan (Site). The Scope of Work (SOW) for the FEA was based on discussions with RACER and GHD's experience with similar buildings. The objective of the FEA was to assess the presence of regulated materials in the outbuildings buildings at the Site that may require special handling procedures prior to and during the planned demolition. As part of the FEA, GHD conducted an asbestos survey of the proposed demolition areas. The purpose of the asbestos survey was to identify the presence of visible and accessible asbestos-containing materials (ACMs), including Category I and Category II non-friable ACMs, at the Site to satisfy the requirements of 40 CFR Part 61, Subpart M – National Emission Standards for Asbestos, Section 61.145 – Standard for Demolition and Renovation (40 CFR Part 61, Subpart M). Additionally, information provided in the asbestos survey will assist in complying with the Occupational Safety and Health Administration (OSHA) Asbestos Construction Standard (29 CFR Part 1926.1101). For this report, the following names were given to the outbuildings:

- Building 1 (Main Building) – 450 square foot brick structure
- Building 2 – 180 square foot concrete structure
- Building 3 – "Pole Structure"

1.1 Purpose of this Report

GHD understands that the results of the FEA and asbestos survey will support decommissioning and demolition of the outbuildings. The results of the FEA and asbestos survey will be used to identify areas of the Site that may need to be addressed and/or abated, and to plan for such actions, if taken. Results of the assessment and recommendations for decommissioning, where appropriate, are provided in this report.

The following scope of work was conducted as part of this FEA and asbestos survey:

- On November 11, 2021, GHD conducted a visual Site inspection of the outbuildings to evaluate potential building materials/waste streams and suspect ACMs for potential sample locations, quantities, conditions, and to gain an understanding of the building systems.
- Based on the Site inspection, GHD developed a proposal that outlined the proposed material to be sampled as well as the sampling rationale and sampling procedures.
- On November 11, 2021, GHD implemented the proposed sampling plan. GHD's Michigan accredited Asbestos Inspector, Connor McLean (A53773), collected a total of 19 samples of suspect ACM for polarized light microscopy (PLM) analysis. Additionally, GHD collected 13 samples of other building materials for waste characterization and screening.
- The preparation of findings, conclusions, and recommendations of the assessment were compiled in this report.

1.2 Assumptions and Limitations

The following assumptions and limitations were identified during the FEA:

- GHD did not collect samples from energized or presumed to be energized equipment such as internal components of electrical pumps within Building 2.
- GHD did not enter confined spaces such as the mechanical tunnel. If confined spaces are located at the Site, there is a potential for regulated materials to be present.
- GHD did not observe specific evidence for buried subsurface piping and/or ducts, such as transite but it is possible these may exist for the building.

– GHD completed limited destructive sampling to verify order of magnitude quantities. GHD was not able to access all interstitial spaces or remove finishing materials (i.e., flooring, drywall, ceiling tiles, etc.) during the survey.
– The quantities of asbestos materials provided in this report are intended to be "Order of Magnitude" estimates and the estimated quantities and other information provided in this report should not be used as an exclusive source of information for bid formulation or for notification to regulatory agencies.
– Laboratory descriptions of materials analyzed by (Polarized Light Microscopy) PLM analysis were based upon the microscopists' perception of bulk samples that were pulverized and prepared with dispersion oils for PLM analysis. Due to the preparation of the sampled materials and the minute level of observation by the laboratory personnel, the descriptions on the Certificates of Analysis may not match the sample descriptions recorded by GHD in the field. GHD's sample descriptions and locations should be used to identify materials that were sampled and GHD's sample numbers should be used to correlate analytical results for the sampled materials

1.3 Regulations and Guidelines

To determine the characteristics of building materials prior to demolition or renovation, GHD compared bulk sample analytical results (other than asbestos) to one or more of the following screening criteria as part of this FEA:

– Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP) criteria: used to determine if a material is considered a characteristically hazardous waste upon disposal.
– TSCA criterion for bulk PCB remediation waste located in high occupancy areas as defined in 40 CFR 761.61(a)(4)(i): sample analytical results were compared to this criterion (greater than 1.0 milligram per kilogram (mg/kg) PCBs) as an initial screen to identify potentially regulated PCB containing materials or impacts. Additional considerations of sample media type, future use scenario of the material, and material/release circumstances may be required to define applicable screening criteria more accurately.
– TSCA definition of PCB bulk product waste as defined in 40 CFR 761.3 and regulated for disposal under 40 CFR 761.62: non-liquid material containing PCBs as an additive ingredient during manufacture with PCB concentrations equal to or greater than 50 mg/kg are considered PCB bulk product waste for purposes of possible disposal.
– TSCA criterion for PCB liquid disposal as defined in 40 CFR 761.60(a): Liquids, such as waste oil, coolants, and hydraulic fluids, containing PCB concentrations equal to or greater than 50 milligrams per liter (mg/L) are considered PCB liquid waste for purposes of possible disposal

The purpose of the NESHAP asbestos regulation is to protect human health and the environment by minimizing the release of asbestos fibers when facilities that contain ACMs are renovated or demolished. U.S. EPA defines an ACM as a material that contains greater than 1% asbestos by dry weight. 40 CFR Part 61, Subpart M requires that the owner or operator of a demolition or renovation activity must thoroughly inspect the facility for the presence of asbestos, including Category I and Category II non-friable ACMs, prior to the commencement of demolition or renovation. ACMs can be classified in the following categories described below:

– Category I non-friable ACM means asbestos-containing packing, gaskets, resilient floor covering, and asphalt roofing products containing more than 1% asbestos.
– Category II non-friable ACM means any material, excluding Category I non-friable ACMs, containing more than 1% asbestos that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
– Friable ACM means any material containing more than 1% asbestos that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.
– Regulated Asbestos-Containing Material (RACM) means (a) any friable asbestos material, (b) any Category I non-friable ACM that has become friable, (c) any Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading, or (d) any Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

2. Facility Environmental Assessment Sampling

FEA samples were collected to obtain information for cleaning, decommissioning, and disposal requirements of potentially impacted structures, hazardous building materials, and accumulations of regulated wastes. Samples are presented in the Field Sample Key (FSK) in Table 1. FEA sample results are summarized in attached Tables 2 and 3. GHD collected a total of 13 samples for laboratory analysis, as summarized in Table 2.0.1 below.

Table 2.0 Summary of Samples Collected by Matrix

Matrix	Number of Samples	Parameters
Roofing Material	1	PCBs, TCLP RCRA Metals
Mastic / Caulk / Expansion Joint	2	PCBs, TCLP RCRA Metals
Sludge	1	PCBs, TCLP RCRA Metals, TCLP VOCs, TCLP SVOCs
Concrete / Cinder Block	5	PCBs, TCLP RCRA Metals, TCLP VOCs, TCLP SVOCs
Paint	3	PCBs, TCLP RCRA Metals, TCLP VOCs, TCLP SVOCs
Oil	1	PCBs

NOTES:
PCBs – polychlorinated biphenyls
RCRA – Resource Conservation and Recovery Act
VOCs – volatile organic compounds
SVOCs – semi-volatile organic compounds

Based on GHD's understanding of the proposed demolition scope discussed, no other building materials were identified that required sampling.

The samples were collected under GHD's Standard Operating Procedures, properly packaged, and delivered for analysis to a RACER-approved laboratory, Eurofins TestAmerica Laboratories in North Canton, Ohio, under chain-of-custody procedures. Laboratory analytical reports can be found in Attachment A.

GHD identified an entrance to an underground mechanical duct approximately three-feet wide and four-feet below ground surface (bgs) in the Main Building. At the time of the assessment, GHD could not access the duct and could only observe building materials/components within the mechanical duct from the entrance. Based on observations made, no suspected regulated materials appeared to be present; however, at the time of this FEA report, an additional investigation is being scheduled. The investigation will include the mechanical duct, as accessible, and additional samples will be collected during the investigation as required. Information regarding the mechanical duct investigation will be provided as an addendum to this report.

2.1 Roofing Materials

One sample of roofing material (S-007) was collected from Building 1 and analyzed for polychlorinated biphenyls (PCBs) and Toxicity Characteristic Leaching Procedure (TCLP) RCRA metals. The sample analyzed was below the applicable Toxic Substances Control Act (TSCA) and RCRA criteria; therefore, the materials are considered non-hazardous and non-TSCA-regulated for disposal. Roofing material sample analytical results are provided in Table 2.

2.2 Caulk

Two exterior caulk samples (S-003 and S-004) were collected from Building 1 and analyzed for PCBs. S-004 collected from the west end of Building 1 and described as "fresh" or "pliable" exceeded the applicable TSCA bulk product criterion of 50mg/kg and would be considered a TSCA waste upon disposal. S-003 was below the applicable TSCA criterion of 50 mg/kg and would be considered non-TSCA-regulated for disposal. S-004 did not exceed the applicable TSCA waste criterion and would not be considered a TSCA waste upon disposal.

2.3 Sludge

One sludge sample (SL-013) was collected from a spill tray within Building 3 and analyzed for PCBs, TCLP RCRA Metals, TCLP volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). SL-013 taken from the spill tray in Building 3 exceeded the TSCA remediation waste screening criterion of 1.0 mg/kg. Additionally, the sample exceeded the RCRA criterion for characteristically hazardous waste of 5.0 mg/L for chromium. GHD recommends oils/oily surfaces from the spill tray and equipment be treated as a RCRA/TSCA waste upon disposal. If the equipment is to be recycled, GHD recommends the oily surfaces be cleaned and verification sampling be conducted prior to recycling.

2.4 Concrete / Cinder Block

Two cinder block wall (C-009 and C-011) and three concrete floors (C-008, -010, and -012) were collected from the two outbuildings and analyzed for PCBs, TCLP RCRA Metals, TCLP VOCs, and TCLP SVOCs. C-011 collected from the north wall of Building 1 and C-012 collected from the concrete floor of Building 2 exceeded the TSCA remediation waste screening criterion of 1.0 mg/kg and would be considered a TSCA regulated waste upon disposal. Remaining samples were below RCRA screening and applicable TSCA waste criteria and would not be considered a regulated waste upon disposal.

2.5 Paint

Three paint samples (S-0002, -0005, and -006) were collected and analyzed for total RCRA metals. S-005, green paint, collected from equipment in Building 1, exceeded the TSCA bulk product criterion of 50 mg/kg. Equipment painted green within Building 1 should be a TSCA waste upon disposal. The remaining samples did not exceed RCRA screening or TSCA waste criteria and would not be considered a regulated waste upon disposal.

Paint-disturbing activities such as welding, cutting, or torching during demolition/renovation can result in airborne concentrations of lead exceeding the Occupational Safety and Health Administration OSHA time weighted average (TWA) criteria for lead exposure in construction contained in 29 CFR 1926.62. In general, OSHA stipulates worker safety protocols when exposed to airborne concentrations of other metals in addition to lead. Metals found in paints, specifically lead, cadmium, chromium, barium, and mercury may be released during paint-disturbing activities are performed on painted surfaces. Metal concentrations are identified to alert contractors to the potential need for specific OSHA requirements such as personal protective equipment (PPE), air monitoring, and prescribed work practices.

2.6 Oil

One oil sample (O-001) was collected and analyzed for PCBs. The sample analyzed was below the applicable TSCA criterion for PCBs and would not be considered a TSCA regulated waste upon disposal.

3. Asbestos Survey

The sampling methodologies used, and the survey findings are described in the following sections.

3.1 Asbestos Sampling Methodology

The survey was generally non-intrusive in nature with limited destructive openings and tests performed to determine, where practical, the extent of suspected ACMs present. All reasonable efforts were made to look behind walls, above closed ceiling spaces, and below existing flooring and roofing materials, where feasible, without placing workers at risk of exposure due to sampling techniques.

The survey was completed on an area-by-area basis and included an inspection of all accessible areas throughout the Site. Accessible shafts, pipe chases, and solid ceilings were inspected, where possible, through existing access hatches. Damage to building materials was necessary during sampling to collect representative volumes of suspect materials to allow for subsequent laboratory analysis to supplement the visual observations. The systems

reviewed as part of the survey included: floors, ceilings, walls, structures, pipes, ducts, mechanical items, and any additional materials observed on-Site and considered suspect for asbestos content to report a thorough representation of the building materials and architectural finishes present to satisfy NESHAP inspection requirements.

Homogeneous material sampling (Homogenous Area or HA) was utilized during the investigation – sampling was completed on homogeneous materials that were uniform in color, texture, and installation and construction date. As per 40 CFR Part 763, Subpart E, a minimum of two samples per homogeneous material were collected and submitted for analysis. For surfacing materials such as plaster and drywall with joint compound, a minimum of five or seven samples were collected to verify the presence or absence of asbestos fibers based on the quantity of homogeneous surfacing material present.

Samples of suspected ACMs were collected using a coring device or other method, as appropriate, to collect a small volume cross section of the suspect material. Each individual sample was placed into a clean, unused sealable plastic bag and individually labelled with a unique sample identification number.

Representative samples of suspected ACMs collected were submitted, under chain of custody procedures, to Eurofins EMLab P&K Laboratory, a Eurofins TestAmerica Laboratories Inc. lab, for asbestos content analysis to determine asbestos type and percentage content. Eurofins EMLab P&K. is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) Laboratory ID# 200844-0, for asbestos bulk sample analysis and adheres to a written QA/QC protocol and program which governs their analysis process. Bulk materials were analyzed by EMLab P&K using Polarized Light Microscopy (PLM) in accordance with U.S. EPA Test Method EPA/600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials.

3.2 Asbestos Survey Results

A total of 20 HAs were visually identified within the Site, with a total of 65 individual samples that were collected and submitted for analysis to comply with the requirements of 40 CFR Part 763, Subpart E. Sample analysis was performed by the laboratory, including those materials identified by the laboratory to contain multiple visible phases, each requiring separate analysis of each identified phase.

A list of collected samples is provided in the Asbestos Field Sample Key (FSK) in Table 3A, attached. A list of the HAs is provided in the Homogeneous Areas List, Table 3B. Identified ACMs are provided in the Asbestos Containing Materials List, Table 3C. A copy of the Laboratory Certificate of Analysis is included in Appendix B.

Based on the results of GHD's survey, Table 3.2.1 below provides a summary of confirmed ACMs found at the Site, including a description of the material, approximate quantities, and approximate locations for each. Building materials found not to contain asbestos are summarized in Tables 3A and 3B and are not discussed further in this report.

Table 3.2.1 Asbestos-Containing Materials

Description	Different Types	Locations	Estimated Quantity
One-inch Caulk	1 Type	Main Building - Exterior window frames	80 linear feet and approximately 1 inch wide and 0.5 inches deep
TSI – thermal systems insulation	2 Types	Main Building – Southeast Corner	10 linear feet (10 fittings) and 5 linear feet (straight insulation) around pipes in various diameters 6"-12"

Quantity estimates provided are a combination of GHD's observed conditions and provided Site drawings. Additional quantities or unknown suspect materials could be present within interstitial spaces that were not observable at the time of the inspection.

3.3 Asbestos-Containing Materials Recommendations

GHD recommends the following be completed prior to decommissioning and/or demolition activities that may disturb the identified ACMs.

3.3.1 Asbestos Caulk

The ACM caulk was noted to be in a non-friable condition at the time of assessment, however the caulk will likely become friable from demolition activities. Therefore, removal of these ACM materials should be conducted prior to demolition by a licensed asbestos contractor in accordance with the Class II work requirements, contained in the OSHA Asbestos Construction Standard.

3.3.2 Asbestos Thermal System Insulation (TSI)

TSI is considered friable ACM and has the potential to release asbestos fibers if disturbed or improperly removed. According to USEPA regulations, TSI is considered a Regulated ACM (RACM) and must be removed prior to demolition or renovation activities that may disturb these materials. Removal of the TSI before demolition should be conducted by a licensed asbestos contractor in accordance with the Class I asbestos work requirements contained in the OSHA Asbestos Construction Standard.

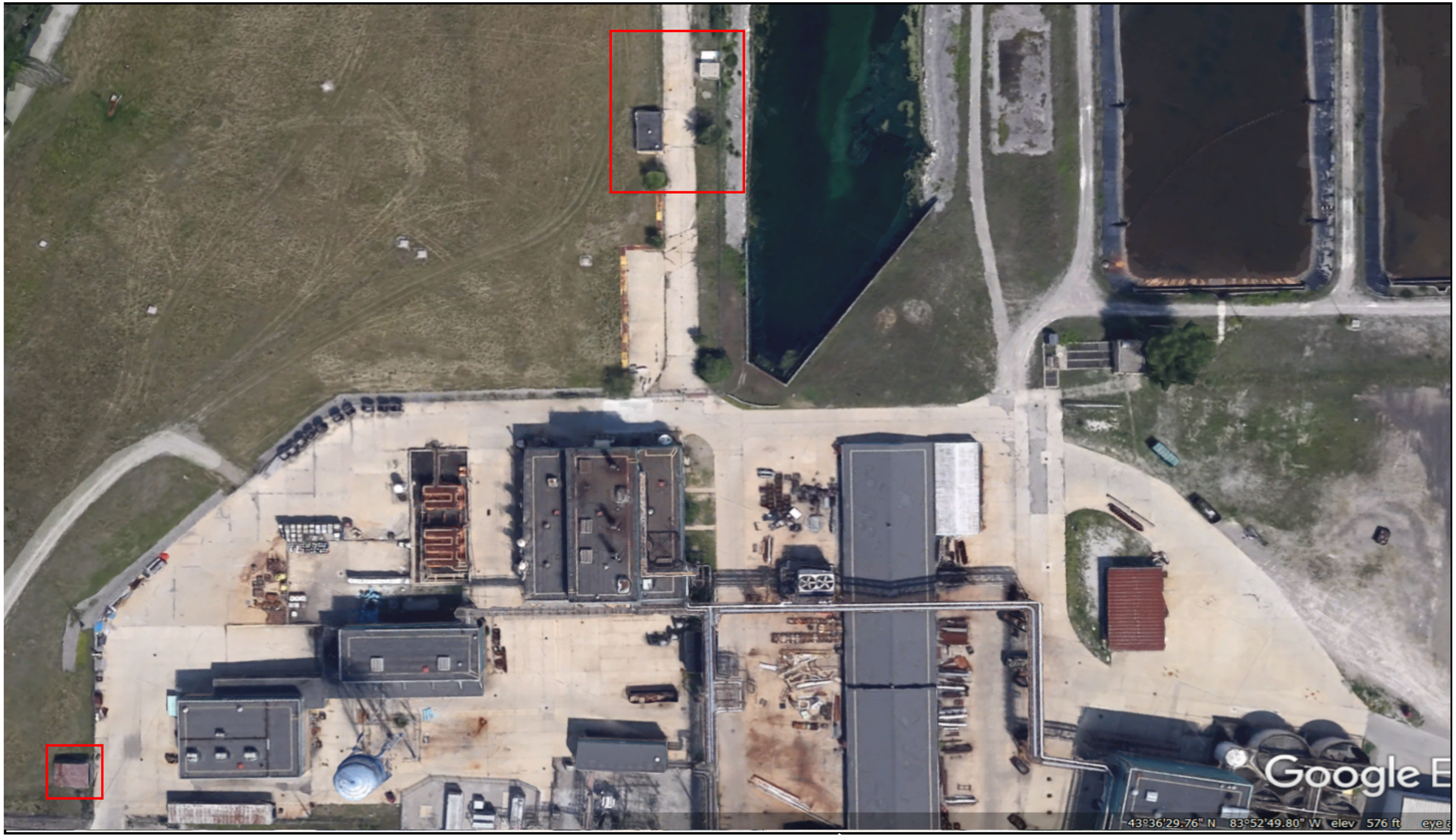
3.3.3 Suspect Asbestos-Containing Materials (SACM)

SACMs may contain asbestos but have not yet been tested. Due to the age of the building, it is possible that these materials are asbestos containing. Such materials should be considered as presumed ACM until proven otherwise by sampling and laboratory analysis. If these building materials are found to contain asbestos, they must be managed in accordance with the requirements of 40 CFR Part 61, Subpart M.

SACMs at the Site that were not tested may include fire doors, high voltage cables, transite in motors, and those materials listed in Section 1.2 Assumptions and Limitations. These materials were not sampled to prevent compromising the functionality of the material or due to safety considerations (e.g., potentially energized, etc.). Confirmation of de-energization in the structures was not obtained prior to field work and as such no equipment connected to electricity was disassembled, including two pumps installed in the center of the largest structure. Due to the limited intrusive nature of the investigation, additional asbestos-containing building materials and finishes may be present on inaccessible rooftop areas, beneath existing flooring, and roofing systems, behind wall cavities, within crawl spaces, above ceilings that were inaccessible at the time of the survey, and any other inaccessible areas and materials summarized in Section 1.2 Assumptions and Limitations. Any materials found in these spaces that were not previously identified should be considered as presumed ACM until proven otherwise by sampling and laboratory analysis.

The following SACMs may be present in the building:

- High voltage cables and other electrical equipment (transite)
- Transite paneling in motors
- Fire Door Insulation
- Buried subsurface piping (transite)



LEGEND

SAMPLE AREA

RACER TRUST
RACER BAY CITY - INDUSTRIAL LAND SITE
FACILITY ENVIRONMENTAL ASSESSMENT
OUT BUILDINGS

FEA SAMPLE AREA

Project No. **11208058**
Date **Feb. 2022**

FIGURE 1

BUILDING 2

C-012

C-011 HA 5-B HA 5-C

C-010

S-005

HA 2-A

HA 3-A

HA 4-A, B, C

S-007

BUILDING 1

O-001

S-002

S-003

S-004

HA 2-B, C

HA 3-B, C

S-006

S-008

HA 1-C and 1-D

HA 1-B

HA 1-F and 1-G

HA 1-A

HA 1-E

HA 5-A

S-009

SL-013

BUILDING 3

N

Concrete Drive

Retention Pond

Concrete
Block
Sludge
Caulk
Oil
Paint
Roof Material
TSCA O
RCRA O

LEGEND

- CONCRETE SAMPLE LOCATION
- BLOCK SAMPLE LOCATION
- CAULK SAMPLE LOCATION
- OIL SAMPLE LOCATION
- PAINT SAMPLE LOCATION
- ROOF SAMPLE LOCATION
- SLUDGE SAMPLE LOCATION
- ASBESTOS SAMPLE LOCATION
- SAMPLE EXCEEDS APPLICABLE TSCA CRITERIA
- SAMPLE EXCEEDS APPLICABLE TCLP RCRA CRITERIA

GHD

RACER TRUST
RACER BAY CITY - INDUSTRIAL LAND SITE
FACILITY ENVIRONMENTAL ASSESSMENT
OUT BUILDINGS

FEA SAMPLE LOCATIONS

Project No. 11208058
Date Feb. 2022

FIGURE 2

Tables

Table 1
FEA Field Sample Key
RACER Bay City Industrial Land Site
Bay City, Michigan

SAMPLE ID	BUILDING	SUB-AREA DESCRIPTION	AREA/ITEM DESCRIPTION	MATRIX	ANALYTES	SAMPLE LOCATION NOTES
O-11208058-110921-CM-001	Main Building	Interior	Oil in container	Oil	PCBs	___
S-11208058-110921-CM-002	Main Building	Interior	White paint on walls	Paint	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	Throughout
S-11208058-110921-CM-003	Main Building	Exterior	Friable caulk on windows	Caulk	PCBs, TCLP RCRA metals	Taken from east side
S-11208058-110921-CM-004	Main Building	Exterior	Fresh caulk on windows	Caulk	PCBs, TCLP RCRA metals	Taken from east side
S-11208058-110921-CM-005	Main Building	Interior	Green paint on metal	Paint	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	Paint located on metal surfaces
S-11208058-110921-CM-006	Main Building	Interior	Tan paint on pumps	Paint	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	Paint on pumps
S-11208058-110921-CM-007	Main Building	Roof	Roof material	Roof Material	PCBs, TCLP RCRA metals	___
C-11208058-110921-CM-008	Main Building	Interior	South concrete floor	Concrete Powder	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	___
C-11208058-110921-CM-009	Main Building	Interior	South block wall	Concrete Block	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	___
C-11208058-110921-CM-010	Main Building	Interior	North concrete floor	Concrete Powder	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	___
C-11208058-110921-CM-011	Main Building	Interior	North block wall	Concrete Block	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	___
C-11208058-110921-CM-012	Small Building	Interior	Concrete floor	Concrete Powder	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	___
SL-11208058-110921-CM-013	Small Building	Interior	Sludge in spill tray	Sludge	PCBs, TCLP RCRA metals, TCLP VOCs, TCLP SVOCs	___

Table 2
FEA ANALYTICAL RESULTS SUMMARY
RACER Bay City Industrial Site
Bay City, Michigan

Sample Location						S-003	S-004	S-002	S-005	S-006
Sample Identification		TSCA (1)	TSCA (2)	TSCA (4)	RCRA	S-11208058-110921-CM-003	S-11208058-110921-CM-004	S-11208058-110921-CM-002	S-11208058-110921-CM-005	S-11208058-110921-CM-006
Sample Date						11/09/2021	11/09/2021	11/09/2021	11/09/2021	11/09/2021
Building		Concrete	Oil	Caulk		Main Building	Main Building	Main Building	Main Building	Main Building
Sub-Area Description		Sludge		Paint		Exterior	Exterior	Interior	Interior	Interior
Area/Item Description				Roof Material		Friable caulk on windows	Fresh caulk on windows	White paint on walls	Green paint on metal	Tan paint on pumps
Sample Location Notes		a	b	c	d	Taken from east side	Taken from east side	Throughout	Paint located on metal surfaces	Paint on pumps
Matrix						Caulk	Caulk	Paint	Paint	Paint
	Units									
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg					0.98 U	3.6 U	0.46 U	4.7 U	2.2 U
Aroclor-1221 (PCB-1221)	mg/kg					0.98 U	3.6 U	0.46 U	4.7 U	2.2 U
Aroclor-1232 (PCB-1232)	mg/kg					0.98 U	3.6 U	0.46 U	4.7 U	2.2 U
Aroclor-1242 (PCB-1242)	mg/kg					0.98 U	3.6 U	0.46 U	4.7 U	2.2 U
Aroclor-1248 (PCB-1248)	mg/kg					0.98 U	56	0.46 U	4.7 U	2.2 U
Aroclor-1254 (PCB-1254)	mg/kg					3.5	3.6 U	6	59	23
Aroclor-1260 (PCB-1260)	mg/kg					0.98 U	3.6 U	0.46 U	4.7 U	2.2 U
Aroclor-1262 (PCB-1262)	mg/kg					--	3.6 U	0.46 U	4.7 U	2.2 U
Aroclor-1268 (PCB-1268)	mg/kg					--	3.6 U	0.46 U	4.7 U	2.2 U
Total PCBs	mg/kg	1.0	50	50		3.5	**56[c]**	6	**59[c]**	23
TCLP-Metals										
Arsenic	mg/L				5	0.050 U	0.25 U	0.050 U	0.50 U	0.50 U
Barium	mg/L				100	0.50 U	2.5 U	0.50 U	5.0 U	5.0 U
Cadmium	mg/L				1	0.050 U	0.25 U	0.050 U	0.50 U	0.55
Chromium	mg/L				5	0.050 U	0.25 U	0.050 U	0.50 U	0.69
Lead	mg/L				5	0.050 U	0.25 U	0.050 U	0.66	0.50 U
Mercury	mg/L				0.2	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Selenium	mg/L				1	0.050 U	0.25 U	0.050 U	0.50 U	0.50 U
Silver	mg/L				5	0.050 U	0.25 U	0.050 U	0.50 U	0.50 U
TCLP-Semi-Volatile Organic Compounds (SVOCs)										
1,4-Dichlorobenzene	mg/L				7.5	--	--	0.0040 U	0.017 U	0.010 U
2,4,5-Trichlorophenol	mg/L				400	--	--	0.0040 U	0.017 U	0.010 U
2,4,6-Trichlorophenol	mg/L				2	--	--	0.0040 U	0.017 U	0.010 U
2,4-Dinitrotoluene	mg/L				0.13	--	--	0.0040 U	0.017 U	0.010 U
2-Methylphenol	mg/L				200	--	--	0.0040 U	0.017 U	0.010 U
3&4-Methylphenol	mg/L				200	--	--	0.0040 U	0.017 U	0.010 U
Hexachlorobenzene	mg/L				0.13	--	--	0.00080 U	0.0033 U	0.0020 U
Hexachlorobutadiene	mg/L				0.5	--	--	0.0040 U	0.017 U	0.010 U
Hexachloroethane	mg/L				3	--	--	0.0040 U	0.017 U	0.010 U
Nitrobenzene	mg/L				2	--	--	0.0040 U	0.017 U	0.010 U
Pentachlorophenol	mg/L				100	--	--	0.016 U	0.067 U	0.040 U
Pyridine	mg/L				5	--	--	0.0040 U	0.017 U	0.010 U
TCLP-Volatile Organic Compounds (VOCs)										
1,1-Dichloroethene	mg/L				0.7	--	--	0.050 U	--	0.025 U
1,2-Dichloroethane	mg/L				0.5	--	--	0.050 U	--	0.025 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L				200	--	--	0.50 U	--	0.25 U
Benzene	mg/L				0.5	--	--	0.050 U	--	0.025 U
Carbon tetrachloride	mg/L				0.5	--	--	0.050 U	--	0.025 U
Chlorobenzene	mg/L				100	--	--	0.050 U	--	0.025 U
Chloroform (Trichloromethane)	mg/L				6	--	--	0.050 U	--	0.025 U
Tetrachloroethene	mg/L				0.7	--	--	0.050 U	--	0.025 U
Trichloroethene	mg/L				0.5	--	--	0.050 U	--	0.025 U
Vinyl chloride	mg/L				0.2	--	--	0.050 U	--	0.025 U

Notes:

U - Not detected at the associated reporting limit.
TCLP - Toxicity Characteristic Leaching Procedure

RCRA -Resource Conservation Recovery Act (RCRA) criteria for the toxicity characteristic (40 CFR 261.24).

TSCA (1) - Toxic Substances Control Act (TSCA) criteria for bulk PCB remediation waste in high occupancy areas (40 CFR 761.61 (a)(4)(i)).
TSCA (2)- Toxic Substances Control Act (TSCA) regulatory limit for disposal of a PCB liquid (40 CFR 761.60 (a)).
TSCA (4) - Toxic Substance Control Act (TSCA) criteria for definition of a bulk product per 40 CFR 761.3

Table 2
FEA ANALYTICAL RESULTS SUMMARY
RACER Bay City Industrial Site
Bay City, Michigan

Sample Location		C-009	C-011	C-008	C-010	C-012	O-001
Sample Identification		C-11208058-110921-CM-009	C-11208058-110921-CM-011	C-11208058-110921-CM-008	C-11208058-110921-CM-010	C-11208058-110921-CM-012	O-11208058-110921-CM-001
Sample Date		11/09/2021	11/09/2021	11/09/2021	11/09/2021	11/09/2021	11/09/2021
Building		Main Building	Main Building	Main Building	Main Building	Small Building	Main Building
Sub-Area Description		Interior	Interior	Interior	Interior	Interior	Interior
Area/Item Description		South block wall	North block wall	South concrete floor	North concrete floor	Concrete floor	Oil in container
Sample Location Notes							
Matrix	Units	Concrete Block	Concrete Block	Concrete Powder	Concrete Powder	Concrete Powder	Oil
PCBs							
Aroclor-1016 (PCB-1016)	mg/kg	0.1 U	0.51 U	0.1 U	0.1 U	0.52 U	0.48 U
Aroclor-1221 (PCB-1221)	mg/kg	0.1 U	0.51 U	0.1 U	0.1 U	0.52 U	0.48 U
Aroclor-1232 (PCB-1232)	mg/kg	0.1 U	0.51 U	0.1 U	0.1 U	0.52 U	0.48 U
Aroclor-1242 (PCB-1242)	mg/kg	0.1 U	0.51 U	0.1 U	0.1 U	0.52 U	0.48 U
Aroclor-1248 (PCB-1248)	mg/kg	0.1 U	0.51 U	0.1 U	0.15	2	0.48 U
Aroclor-1254 (PCB-1254)	mg/kg	0.45	1.7	0.1 U	0.1 U	0.52 U	0.48 U
Aroclor-1260 (PCB-1260)	mg/kg	0.1 U	0.51 U	0.1 U	0.1 U	0.52 U	1.1
Aroclor-1262 (PCB-1262)	mg/kg	--	--	0.1 U	0.1 U	--	--
Aroclor-1268 (PCB-1268)	mg/kg	--	--	0.1 U	0.1 U	--	--
Total PCBs	mg/kg	0.45	**1.7[a]**	ND	0.15	**2[a]**	1.1
TCLP-Metals							
Arsenic	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--
Barium	mg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.58	--
Cadmium	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--
Chromium	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--
Lead	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--
Mercury	mg/L	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U	--
Selenium	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--
Silver	mg/L	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	--
TCLP-Semi-Volatile Organic Compounds (SVOCs)							
1,4-Dichlorobenzene	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
2,4,5-Trichlorophenol	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
2,4,6-Trichlorophenol	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
2,4-Dinitrotoluene	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
2-Methylphenol	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
3&4-Methylphenol	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
Hexachlorobenzene	mg/L	0.00080 U	0.00080 U	0.00080 U	0.00080 U	0.00080 U	--
Hexachlorobutadiene	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
Hexachloroethane	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
Nitrobenzene	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
Pentachlorophenol	mg/L	0.016 U	0.016 U	0.016 U	0.016 U	0.016 U	--
Pyridine	mg/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U	--
TCLP-Volatile Organic Compounds (VOCs)							
1,1-Dichloroethene	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
1,2-Dichloroethane	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--
Benzene	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
Carbon tetrachloride	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
Chlorobenzene	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
Chloroform (Trichloromethane)	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
Tetrachloroethene	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
Trichloroethene	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--
Vinyl chloride	mg/L	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	--

Notes:

U - Not detected at the associated reporting limit.
TCLP - Toxicity Characteristic Leaching Procedure

RCRA -Resource Conservation Recovery Act (RCRA) c

TSCA (1) - Toxic Substances Control Act (TSCA) criteri
TSCA (2)- Toxic Substances Control Act (TSCA) regulat
TSCA (4) - Toxic Substance Control Act (TSCA) criteria

Table 2
FEA ANALYTICAL RESULTS SUMMARY
RACER Bay City Industrial Site
Bay City, Michigan

Sample Location		S-007	SL-013
Sample Identification		S-11208058-110921-CM-007	SL-11208058-110921-CM-013
Sample Date		11/09/2021	11/09/2021
Building		Main Building	Small Building
Sub-Area Description		Roof	Interior
Area/Item Description		Roof material	Sludge in spill tray
Sample Location Notes			
Matrix		Roof Material	Sludge
	Units		
PCBs			
Aroclor-1016 (PCB-1016)	mg/kg	0.099 U	0.24 U
Aroclor-1221 (PCB-1221)	mg/kg	0.099 U	0.24 U
Aroclor-1232 (PCB-1232)	mg/kg	0.099 U	0.24 U
Aroclor-1242 (PCB-1242)	mg/kg	0.099 U	0.24 U
Aroclor-1248 (PCB-1248)	mg/kg	0.16	1.3
Aroclor-1254 (PCB-1254)	mg/kg	0.099 U	0.24 U
Aroclor-1260 (PCB-1260)	mg/kg	0.099 U	0.24 U
Aroclor-1262 (PCB-1262)	mg/kg	--	--
Aroclor-1268 (PCB-1268)	mg/kg	--	--
Total PCBs	mg/kg	0.16	**1.3**[a]
TCLP-Metals			
Arsenic	mg/L	0.050 U	1.0 U
Barium	mg/L	0.50 U	10 U
Cadmium	mg/L	0.050 U	1.0 U
Chromium	mg/L	0.050 U	**7.9**[d]
Lead	mg/L	0.050 U	1.0 U
Mercury	mg/L	0.0020 U	0.040 U
Selenium	mg/L	0.050 U	1.0 U
Silver	mg/L	0.050 U	1.0 U
TCLP-Semi-Volatile Organic Compounds (SVOCs)			
1,4-Dichlorobenzene	mg/L	--	0.20 U
2,4,5-Trichlorophenol	mg/L	--	0.20 U
2,4,6-Trichlorophenol	mg/L	--	0.20 U
2,4-Dinitrotoluene	mg/L	--	0.20 U
2-Methylphenol	mg/L	--	0.20 U
3&4-Methylphenol	mg/L	--	0.20 U
Hexachlorobenzene	mg/L	--	0.040 U
Hexachlorobutadiene	mg/L	--	0.20 U
Hexachloroethane	mg/L	--	0.20 U
Nitrobenzene	mg/L	--	0.20 U
Pentachlorophenol	mg/L	--	0.80 U
Pyridine	mg/L	--	0.20 U
TCLP-Volatile Organic Compounds (VOCs)			
1,1-Dichloroethene	mg/L	--	0.10 U
1,2-Dichloroethane	mg/L	--	0.10 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	--	1.0 U
Benzene	mg/L	--	0.10 U
Carbon tetrachloride	mg/L	--	0.10 U
Chlorobenzene	mg/L	--	0.10 U
Chloroform (Trichloromethane)	mg/L	--	0.10 U
Tetrachloroethene	mg/L	--	0.10 U
Trichloroethene	mg/L	--	0.10 U
Vinyl chloride	mg/L	--	0.10 U

Notes:

U - Not detected at the associated reporting limit.
TCLP - Toxicity Characteristic Leaching Procedure

RCRA -Resource Conservation Recovery Act (RCRA) c

TSCA (1) - Toxic Substances Control Act (TSCA) criteri
TSCA (2)- Toxic Substances Control Act (TSCA) regulat
TSCA (4) - Toxic Substance Control Act (TSCA) criteria

Table 3
FEA Exceedance Results Summary
RACER Bay City Industrial Land Site
Bay City, Michigan

SAMPLE IDENTIFICATION	EXCEEDANCE ANALYTES	RESULT (mg/kg)	SCREENING CRITERIA (mg/kg)	CRITERIA REFERENCE	BUILDING	SUB-AREA DESCRIPTION	AREA/ITEM DESCRIPTION	MATRIX	SAMPLE LOCATION NOTES
S-11208058-110921-CM-004	Total PCBs	56	50	TSCA (4)	Main Building	Exterior	Fresh caulk on windows	Caulk	Taken from east side
S-11208058-110921-CM-005	Total PCBs	59	50	TSCA (4)	Main Building	Interior	Green paint on metal	Paint	Paint located on metal surfaces
C-11208058-110921-CM-011	Total PCBs	1.7	1	TSCA (1)	Main Building	Interior	North block wall	Concrete Block	---
C-11208058-110921-CM-012	Total PCBs	2	1	TSCA (1)	Small Building	Interior	Concrete floor	Concrete Powder	---
SL-11208058-110921-CM-013	Total PCBs	1.3	1	TSCA (1)	Small Building	Interior	Sludge in spill tray	Sludge	---
	TCLP-Chromium	7.9	5	RCRA					---

Notes
TCLP - Toxicity Characteristic Leaching Procedure

RCRA -Resource Conservation Recovery Act (RCRA) criteria for the toxicity characteristic (40 CFR 261.24).
TSCA (1) - Toxic Substances Control Act (TSCA) criteria for bulk PCB remediation waste in high occupancy areas (40 CFR 761.61 (a)(4)(i)).
TSCA (4) - Toxic Substance Control Act (TSCA) criteria for definition of a bulk product per 40 CFR 761.3

Table 4
Asbestos Survey Field Sample Key
RACER Bay City Industrial Land Site
Bay City, Michigan

Homogenous Area	Sample ID	Sample Type	Description	Building	Sample Location	Estimated Quantity	ACM/Non-ACM
HA1	A	TSI	Green Elbow	Main Building	Southeast Corner	10 linear feet (10 fittings)	ACM
HA1	B		Grey Elbow				ACM
HA1	C		Top Yellow Elbow				ACM
HA1	D		Bottom Yellow Elbow				ACM
HA1	E		White on Fitting under Metal Covering				ACM
HA1	F		Floor Debris-Straight Pipe			5 linear feet	ACM
HA1	G		Floor Debris-Straight Pipe				ACM
HA2	A	Miscellaneous	Window Caulk	Main Building	East side	80 linear feet	ACM
HA2	B						ACM
HA2	C						ACM
HA3	A	Miscellaneous	Fresh Window Caulk	Main Building	East side	80 linear feet	Non-ACM
HA3	B						Non-ACM
HA3	C						Non-ACM
HA4	A	Miscellaneous	Roof Material	Main Building	West side	700 square feet	Non-ACM
HA4	B						Non-ACM
HA4	C						Non-ACM
HA5	A	Miscellaneous	Wall Block	Main Building	East side	20 cubic feet	Non-ACM
HA5	B						Non-ACM
HA5	C						Non-ACM

Attachments

Attachment A

FEA Laboratory Analytical Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-159772-1
Client Project/Site: 11208058, RACER Bay City

For:
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Attn: Mr. James Abston

Denise D Heckler

Authorized for release by:
11/26/2021 12:04:28 PM

Denise Heckler, Project Manager II
(330)966-9477
Denise.Heckler@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Definitions/Glossary 5
Sample Summary 6
Detection Summary 7
Method Summary 9
Client Sample Results 10
QC Association Summary 67
QC Sample Results 76
Surrogate Summary 91
Lab Chronicle 95
Certification Summary 101
Chain of Custody 102
Subcontract Data 105

Job ID: 240-159772-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-159772-1

Comments
Insufficient sample received for S-11208058-110921-CM-005. As a results, TCLP VOC analysis was not possible.

Receipt
The samples were received on 11/10/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6º C.

GC/MS VOA
Method 8260B: The continuing calibration verification (CCV) associated with batch 240-513990 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: S-11208058-110921-CM-002 (240-159772-2), S-11208058-110921-CM-006 (240-159772-6), C-11208058-110921-CM-008 (240-159772-8), C-11208058-110921-CM-009 (240-159772-9), C-11208058-110921-CM-010 (240-159772-10), C-11208058-110921-CM-011 (240-159772-11), C-11208058-110921-CM-012 (240-159772-12), SL-11208058-110921-CM-013 (240-159772-13) and (CCVIS 240-513990/4).

Method 8260B: The following volatiles samples were diluted due to foaming at the time of purging during the original sample analysis: S-11208058-110921-CM-002 (240-159772-2) and SL-11208058-110921-CM-013 (240-159772-13). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270C: The following samples were diluted due to the nature of the sample matrix: S-11208058-110921-CM-005 (240-159772-5) and SL-11208058-110921-CM-013 (240-159772-13). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: (240-159740-B-1-A), (240-159740-B-1-B MS) and (240-159740-B-1-C MSD).

Method 8082A: The following samples appears to contain polychlorinated biphenyls (PCBs); however, due to weathering, other environmental processes and/or contributions from the presence of multiple Aroclors, resulting in overlapping PCB patterns, the PCBs in the samples do not directly match any of the laboratory's Aroclor standards used for instrument calibration: C-11208058-110921-CM-012 (240-159772-12). The samples have been quantified and reported using the best overall Aroclor/standard pattern match.

Method 8082A: The matrix spike / matrix spike duplicate(MS/MSD) precision for preparation batch 240-512472 and analytical batch 240-512862 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: O-11208058-110921-CM-001 (240-159772-1).

Method 8082A: The following sample required a Silica Gel clean-up, via EPA Method 3630C, to reduce matrix interferences: O-11208058-110921-CM-001 (240-159772-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 3010A: The following samples were diluted due to limited volume: S-11208058-110921-CM-005 (240-159772-5) and S-11208058-110921-CM-006 (240-159772-6). Elevated reporting limits (RLs) are provided.

Job ID: 240-159772-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Method 6010B: The following sample was diluted due to the nature of the sample matrix: S-11208058-110921-CM-004 (240-159772-4). Elevated reporting limits (RLs) are provided.

Method 7470A: Due to interference with the sample matrix, the standard mercury preparation procedure was inadequate for the following samples(s): SL-11208058-110921-CM-013 (240-159772-13). This was demonstrated when the potassium permanganate reagent was added and the characteristic purple color faded rapidly. This loss of color indicates oxidizing conditions were not maintained. The sample(s) was prepared and analyzed at a 20x dilution, which maintained the purple color during digestion.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Biology
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method 1311: Insufficient samples were provided to perform the leaching procedure with the required 100g for the following samples: S-11208058-110921-CM-002 (240-159772-2), S-11208058-110921-CM-005 (240-159772-5) and S-11208058-110921-CM-006 (240-159772-6). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

Method 1311: Insufficient sample was provided to perform the leaching procedure with the required 100g for the following sample: S-11208058-110921-CM-007 (240-159772-7). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: GHD Services Inc.
Job ID: 240-159772-1
Project/Site: 11208058, RACER Bay City

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-159772-1	O-11208058-110921-CM-001	Waste	11/09/21 08:15	11/10/21 08:00
240-159772-2	S-11208058-110921-CM-002	Solid	11/09/21 08:45	11/10/21 08:00
240-159772-3	S-11208058-110921-CM-003	Solid	11/09/21 09:05	11/10/21 08:00
240-159772-4	S-11208058-110921-CM-004	Solid	11/09/21 09:30	11/10/21 08:00
240-159772-5	S-11208058-110921-CM-005	Solid	11/09/21 09:45	11/10/21 08:00
240-159772-6	S-11208058-110921-CM-006	Solid	11/09/21 10:25	11/10/21 08:00
240-159772-7	S-11208058-110921-CM-007	Solid	11/09/21 10:45	11/10/21 08:00
240-159772-8	C-11208058-110921-CM-008	Solid	11/09/21 11:15	11/10/21 08:00
240-159772-9	C-11208058-110921-CM-009	Solid	11/09/21 11:20	11/10/21 08:00
240-159772-10	C-11208058-110921-CM-010	Solid	11/09/21 11:30	11/10/21 08:00
240-159772-11	C-11208058-110921-CM-011	Solid	11/09/21 11:35	11/10/21 08:00
240-159772-12	C-11208058-110921-CM-012	Solid	11/09/21 11:45	11/10/21 08:00
240-159772-13	SL-11208058-110921-CM-013	Waste	11/09/21 12:00	11/10/21 08:00
240-159772-14	ASB-11208058-110921-CM-HA1	Solid	11/09/21 09:00	11/10/21 08:00
240-159772-15	ASB-11208058-110921-CM-HA2	Solid	11/09/21 09:15	11/10/21 08:00
240-159772-16	ASB-11208058-110921-CM-HA3	Solid	11/09/21 09:30	11/10/21 08:00
240-159772-17	ASB-11208058-110921-CM-HA4	Solid	11/09/21 09:45	11/10/21 08:00
240-159772-18	ASB-11208058-110921-CM-HA5	Solid	11/09/21 10:00	11/10/21 08:00

Detection Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Client Sample ID: O-11208058-110921-CM-001 — Lab Sample ID: 240-159772-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1260	1100	p	480		ug/Kg	1		8082A	Total/NA

Client Sample ID: S-11208058-110921-CM-002 — Lab Sample ID: 240-159772-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	6000		460		ug/Kg	1		8082A	Total/NA

Client Sample ID: S-11208058-110921-CM-003 — Lab Sample ID: 240-159772-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	3500	p	980		ug/Kg	10		8082A	Total/NA

Client Sample ID: S-11208058-110921-CM-004 — Lab Sample ID: 240-159772-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	56000		3600		ug/Kg	10		8082A	Total/NA

Client Sample ID: S-11208058-110921-CM-005 — Lab Sample ID: 240-159772-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	59000		4700		ug/Kg	10		8082A	Total/NA
Lead	0.66		0.50		mg/L	1		6010B	TCLP

Client Sample ID: S-11208058-110921-CM-006 — Lab Sample ID: 240-159772-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	23000		2200		ug/Kg	5		8082A	Total/NA
Cadmium	0.55		0.50		mg/L	1		6010B	TCLP
Chromium	0.69		0.50		mg/L	1		6010B	TCLP

Client Sample ID: S-11208058-110921-CM-007 — Lab Sample ID: 240-159772-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	160		99		ug/Kg	1		8082A	Total/NA

Client Sample ID: C-11208058-110921-CM-008 — Lab Sample ID: 240-159772-8

No Detections.

Client Sample ID: C-11208058-110921-CM-009 — Lab Sample ID: 240-159772-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	450		100		ug/Kg	1	☼	8082A	Total/NA

Client Sample ID: C-11208058-110921-CM-010 — Lab Sample ID: 240-159772-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	150		100		ug/Kg	1		8082A	Total/NA

Client Sample ID: C-11208058-110921-CM-011 — Lab Sample ID: 240-159772-11

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	1700		510		ug/Kg	5	☼	8082A	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Client Sample ID: C-11208058-110921-CM-012 — Lab Sample ID: 240-159772-12

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	2000		520		ug/Kg	5	☼	8082A	Total/NA
Barium	0.58		0.50		mg/L	1		6010B	TCLP

Client Sample ID: SL-11208058-110921-CM-013 — Lab Sample ID: 240-159772-13

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	1300		240		ug/Kg	5		8082A	Total/NA
Chromium	7.9		1.0		mg/L	20		6010B	TCLP

Client Sample ID: ASB-11208058-110921-CM-HA1 — Lab Sample ID: 240-159772-14

No Detections.

Client Sample ID: ASB-11208058-110921-CM-HA2 — Lab Sample ID: 240-159772-15

No Detections.

Client Sample ID: ASB-11208058-110921-CM-HA3 — Lab Sample ID: 240-159772-16

No Detections.

Client Sample ID: ASB-11208058-110921-CM-HA4 — Lab Sample ID: 240-159772-17

No Detections.

Client Sample ID: ASB-11208058-110921-CM-HA5 — Lab Sample ID: 240-159772-18

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
6010B	Metals (ICP)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
Subcontract	Asbestos	None	SC0144
1311	TCLP Extraction	SW846	TAL CAN
3010A	Preparation, Total Metals	SW846	TAL CAN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CAN
3540C	Soxhlet Extraction	SW846	TAL CAN
3580A	Waste Dilution	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
Part Size Red	Particle Size Reduction Preparation	None	TAL CAN
Part Size Red	Particle Size Reduction Preparation	None	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

SC0144 = P&K Microbiology, 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053, TEL (856)334-1001

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: S-11208058-110921-CM-002
Date Collected: 11/09/21 08:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.050	U	0.050		mg/L			11/21/21 16:30	2
1,2-Dichloroethane	0.050	U	0.050		mg/L			11/21/21 16:30	2
2-Butanone (MEK)	0.50	U	0.50		mg/L			11/21/21 16:30	2
Benzene	0.050	U	0.050		mg/L			11/21/21 16:30	2
Carbon tetrachloride	0.050	U	0.050		mg/L			11/21/21 16:30	2
Chlorobenzene	0.050	U	0.050		mg/L			11/21/21 16:30	2
Chloroform	0.050	U	0.050		mg/L			11/21/21 16:30	2
Tetrachloroethene	0.050	U	0.050		mg/L			11/21/21 16:30	2
Trichloroethene	0.050	U	0.050		mg/L			11/21/21 16:30	2
Vinyl chloride	0.050	U	0.050		mg/L			11/21/21 16:30	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*76 - 120*		*11/21/21 16:30*	*2*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/21/21 16:30*	*2*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/21/21 16:30*	*2*
Dibromofluoromethane (Surr)	*96*		*71 - 121*		*11/21/21 16:30*	*2*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: S-11208058-110921-CM-006
Date Collected: 11/09/21 10:25
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-6
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025		mg/L			11/21/21 16:52	1
1,2-Dichloroethane	0.025	U	0.025		mg/L			11/21/21 16:52	1
2-Butanone (MEK)	0.25	U	0.25		mg/L			11/21/21 16:52	1
Benzene	0.025	U	0.025		mg/L			11/21/21 16:52	1
Carbon tetrachloride	0.025	U	0.025		mg/L			11/21/21 16:52	1
Chlorobenzene	0.025	U	0.025		mg/L			11/21/21 16:52	1
Chloroform	0.025	U	0.025		mg/L			11/21/21 16:52	1
Tetrachloroethene	0.025	U	0.025		mg/L			11/21/21 16:52	1
Trichloroethene	0.025	U	0.025		mg/L			11/21/21 16:52	1
Vinyl chloride	0.025	U	0.025		mg/L			11/21/21 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*76 - 120*		*11/21/21 16:52*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/21/21 16:52*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/21/21 16:52*	*1*
Dibromofluoromethane (Surr)	*93*		*71 - 121*		*11/21/21 16:52*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-008
Date Collected: 11/09/21 11:15
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-8
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025		mg/L			11/21/21 17:15	1
1,2-Dichloroethane	0.025	U	0.025		mg/L			11/21/21 17:15	1
2-Butanone (MEK)	0.25	U	0.25		mg/L			11/21/21 17:15	1
Benzene	0.025	U	0.025		mg/L			11/21/21 17:15	1
Carbon tetrachloride	0.025	U	0.025		mg/L			11/21/21 17:15	1
Chlorobenzene	0.025	U	0.025		mg/L			11/21/21 17:15	1
Chloroform	0.025	U	0.025		mg/L			11/21/21 17:15	1
Tetrachloroethene	0.025	U	0.025		mg/L			11/21/21 17:15	1
Trichloroethene	0.025	U	0.025		mg/L			11/21/21 17:15	1
Vinyl chloride	0.025	U	0.025		mg/L			11/21/21 17:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*76 - 120*		*11/21/21 17:15*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*11/21/21 17:15*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/21/21 17:15*	*1*
Dibromofluoromethane (Surr)	*93*		*71 - 121*		*11/21/21 17:15*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-009
Date Collected: 11/09/21 11:20
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-9
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025		mg/L			11/21/21 17:37	1
1,2-Dichloroethane	0.025	U	0.025		mg/L			11/21/21 17:37	1
Benzene	0.025	U	0.025		mg/L			11/21/21 17:37	1
Carbon tetrachloride	0.025	U	0.025		mg/L			11/21/21 17:37	1
Chlorobenzene	0.025	U	0.025		mg/L			11/21/21 17:37	1
Chloroform	0.025	U	0.025		mg/L			11/21/21 17:37	1
2-Butanone (MEK)	0.25	U	0.25		mg/L			11/21/21 17:37	1
Tetrachloroethene	0.025	U	0.025		mg/L			11/21/21 17:37	1
Trichloroethene	0.025	U	0.025		mg/L			11/21/21 17:37	1
Vinyl chloride	0.025	U	0.025		mg/L			11/21/21 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*89*		*76 - 120*		*11/21/21 17:37*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/21/21 17:37*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/21/21 17:37*	*1*
Dibromofluoromethane (Surr)	*94*		*71 - 121*		*11/21/21 17:37*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-010
Date Collected: 11/09/21 11:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-10
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025		mg/L			11/21/21 17:59	1
1,2-Dichloroethane	0.025	U	0.025		mg/L			11/21/21 17:59	1
2-Butanone (MEK)	0.25	U	0.25		mg/L			11/21/21 17:59	1
Benzene	0.025	U	0.025		mg/L			11/21/21 17:59	1
Carbon tetrachloride	0.025	U	0.025		mg/L			11/21/21 17:59	1
Chlorobenzene	0.025	U	0.025		mg/L			11/21/21 17:59	1
Chloroform	0.025	U	0.025		mg/L			11/21/21 17:59	1
Tetrachloroethene	0.025	U	0.025		mg/L			11/21/21 17:59	1
Trichloroethene	0.025	U	0.025		mg/L			11/21/21 17:59	1
Vinyl chloride	0.025	U	0.025		mg/L			11/21/21 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*76 - 120*		*11/21/21 17:59*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*11/21/21 17:59*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/21/21 17:59*	*1*
Dibromofluoromethane (Surr)	*96*		*71 - 121*		*11/21/21 17:59*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-011
Date Collected: 11/09/21 11:35
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-11
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025		mg/L			11/21/21 18:21	1
1,2-Dichloroethane	0.025	U	0.025		mg/L			11/21/21 18:21	1
Benzene	0.025	U	0.025		mg/L			11/21/21 18:21	1
Carbon tetrachloride	0.025	U	0.025		mg/L			11/21/21 18:21	1
Chlorobenzene	0.025	U	0.025		mg/L			11/21/21 18:21	1
Chloroform	0.025	U	0.025		mg/L			11/21/21 18:21	1
2-Butanone (MEK)	0.25	U	0.25		mg/L			11/21/21 18:21	1
Tetrachloroethene	0.025	U	0.025		mg/L			11/21/21 18:21	1
Trichloroethene	0.025	U	0.025		mg/L			11/21/21 18:21	1
Vinyl chloride	0.025	U	0.025		mg/L			11/21/21 18:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*87*		*76 - 120*		*11/21/21 18:21*	*1*
4-Bromofluorobenzene (Surr)	*94*		*80 - 120*		*11/21/21 18:21*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/21/21 18:21*	*1*
Dibromofluoromethane (Surr)	*95*		*71 - 121*		*11/21/21 18:21*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-012
Date Collected: 11/09/21 11:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-12
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025		mg/L			11/21/21 18:43	1
1,2-Dichloroethane	0.025	U	0.025		mg/L			11/21/21 18:43	1
Benzene	0.025	U	0.025		mg/L			11/21/21 18:43	1
Carbon tetrachloride	0.025	U	0.025		mg/L			11/21/21 18:43	1
Chlorobenzene	0.025	U	0.025		mg/L			11/21/21 18:43	1
Chloroform	0.025	U	0.025		mg/L			11/21/21 18:43	1
2-Butanone (MEK)	0.25	U	0.25		mg/L			11/21/21 18:43	1
Tetrachloroethene	0.025	U	0.025		mg/L			11/21/21 18:43	1
Trichloroethene	0.025	U	0.025		mg/L			11/21/21 18:43	1
Vinyl chloride	0.025	U	0.025		mg/L			11/21/21 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*76 - 120*		*11/21/21 18:43*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/21/21 18:43*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/21/21 18:43*	*1*
Dibromofluoromethane (Surr)	*93*		*71 - 121*		*11/21/21 18:43*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SL-11208058-110921-CM-013
Date Collected: 11/09/21 12:00
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-13
Matrix: Waste

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.10	U	0.10		mg/L			11/21/21 19:06	4
1,2-Dichloroethane	0.10	U	0.10		mg/L			11/21/21 19:06	4
2-Butanone (MEK)	1.0	U	1.0		mg/L			11/21/21 19:06	4
Benzene	0.10	U	0.10		mg/L			11/21/21 19:06	4
Carbon tetrachloride	0.10	U	0.10		mg/L			11/21/21 19:06	4
Chlorobenzene	0.10	U	0.10		mg/L			11/21/21 19:06	4
Chloroform	0.10	U	0.10		mg/L			11/21/21 19:06	4
Tetrachloroethene	0.10	U	0.10		mg/L			11/21/21 19:06	4
Trichloroethene	0.10	U	0.10		mg/L			11/21/21 19:06	4
Vinyl chloride	0.10	U	0.10		mg/L			11/21/21 19:06	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*76 - 120*		*11/21/21 19:06*	*4*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*11/21/21 19:06*	*4*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/21/21 19:06*	*4*
Dibromofluoromethane (Surr)	*94*		*71 - 121*		*11/21/21 19:06*	*4*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: S-11208058-110921-CM-002
Date Collected: 11/09/21 08:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:04	11/19/21 16:04	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:04	11/19/21 16:04	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/19/21 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*93*		*38 - 120*	*11/17/21 08:04*	*11/19/21 16:04*	*1*
2-Fluorophenol (Surr)	*79*		*10 - 120*	*11/17/21 08:04*	*11/19/21 16:04*	*1*
2,4,6-Tribromophenol (Surr)	*107*		*26 - 120*	*11/17/21 08:04*	*11/19/21 16:04*	*1*
Nitrobenzene-d5 (Surr)	*84*		*34 - 120*	*11/17/21 08:04*	*11/19/21 16:04*	*1*
Phenol-d5 (Surr)	*67*		*10 - 120*	*11/17/21 08:04*	*11/19/21 16:04*	*1*
Terphenyl-d14 (Surr)	*98*		*31 - 126*	*11/17/21 08:04*	*11/19/21 16:04*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: S-11208058-110921-CM-005
Date Collected: 11/09/21 09:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-5
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
2,4,5-Trichlorophenol	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
2,4,6-Trichlorophenol	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
2,4-Dinitrotoluene	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
Hexachlorobenzene	0.0033	U	0.0033		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
Hexachlorobutadiene	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
Hexachloroethane	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
3 & 4 Methylphenol	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
2-Methylphenol	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
Nitrobenzene	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
Pentachlorophenol	0.067	U	0.067		mg/L		11/17/21 08:04	11/19/21 16:52	2.5
Pyridine	0.017	U	0.017		mg/L		11/17/21 08:04	11/19/21 16:52	2.5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*85*		*38 - 120*	*11/17/21 08:04*	*11/19/21 16:52*	*2.5*
2-Fluorophenol (Surr)	*44*		*10 - 120*	*11/17/21 08:04*	*11/19/21 16:52*	*2.5*
2,4,6-Tribromophenol (Surr)	*96*		*26 - 120*	*11/17/21 08:04*	*11/19/21 16:52*	*2.5*
Nitrobenzene-d5 (Surr)	*71*		*34 - 120*	*11/17/21 08:04*	*11/19/21 16:52*	*2.5*
Phenol-d5 (Surr)	*36*		*10 - 120*	*11/17/21 08:04*	*11/19/21 16:52*	*2.5*
Terphenyl-d14 (Surr)	*84*		*31 - 126*	*11/17/21 08:04*	*11/19/21 16:52*	*2.5*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: S-11208058-110921-CM-006
Date Collected: 11/09/21 10:25
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-6
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
2,4,5-Trichlorophenol	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
2,4,6-Trichlorophenol	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
2,4-Dinitrotoluene	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
Hexachlorobenzene	0.0020	U	0.0020		mg/L		11/17/21 08:04	11/19/21 16:28	1
Hexachlorobutadiene	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
Hexachloroethane	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
3 & 4 Methylphenol	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
2-Methylphenol	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
Nitrobenzene	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1
Pentachlorophenol	0.040	U	0.040		mg/L		11/17/21 08:04	11/19/21 16:28	1
Pyridine	0.010	U	0.010		mg/L		11/17/21 08:04	11/19/21 16:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*86*		*38 - 120*	*11/17/21 08:04*	*11/19/21 16:28*	*1*
2-Fluorophenol (Surr)	*59*		*10 - 120*	*11/17/21 08:04*	*11/19/21 16:28*	*1*
2,4,6-Tribromophenol (Surr)	*96*		*26 - 120*	*11/17/21 08:04*	*11/19/21 16:28*	*1*
Nitrobenzene-d5 (Surr)	*80*		*34 - 120*	*11/17/21 08:04*	*11/19/21 16:28*	*1*
Phenol-d5 (Surr)	*41*		*10 - 120*	*11/17/21 08:04*	*11/19/21 16:28*	*1*
Terphenyl-d14 (Surr)	*100*		*31 - 126*	*11/17/21 08:04*	*11/19/21 16:28*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-008
Date Collected: 11/09/21 11:15
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-8
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:15	11/19/21 11:11	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:15	11/19/21 11:11	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*72*		*38 - 120*	*11/17/21 08:15*	*11/19/21 11:11*	*1*
2-Fluorophenol (Surr)	*60*		*10 - 120*	*11/17/21 08:15*	*11/19/21 11:11*	*1*
2,4,6-Tribromophenol (Surr)	*81*		*26 - 120*	*11/17/21 08:15*	*11/19/21 11:11*	*1*
Nitrobenzene-d5 (Surr)	*67*		*34 - 120*	*11/17/21 08:15*	*11/19/21 11:11*	*1*
Phenol-d5 (Surr)	*52*		*10 - 120*	*11/17/21 08:15*	*11/19/21 11:11*	*1*
Terphenyl-d14 (Surr)	*94*		*31 - 126*	*11/17/21 08:15*	*11/19/21 11:11*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-009
Date Collected: 11/09/21 11:20
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-9
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:15	11/19/21 11:36	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:15	11/19/21 11:36	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 11:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*87*		*38 - 120*	*11/17/21 08:15*	*11/19/21 11:36*	*1*
2-Fluorophenol (Surr)	*72*		*10 - 120*	*11/17/21 08:15*	*11/19/21 11:36*	*1*
2,4,6-Tribromophenol (Surr)	*96*		*26 - 120*	*11/17/21 08:15*	*11/19/21 11:36*	*1*
Nitrobenzene-d5 (Surr)	*81*		*34 - 120*	*11/17/21 08:15*	*11/19/21 11:36*	*1*
Phenol-d5 (Surr)	*59*		*10 - 120*	*11/17/21 08:15*	*11/19/21 11:36*	*1*
Terphenyl-d14 (Surr)	*108*		*31 - 126*	*11/17/21 08:15*	*11/19/21 11:36*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-010
Date Collected: 11/09/21 11:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-10
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:15	11/19/21 12:00	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:15	11/19/21 12:00	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*83*		*38 - 120*	*11/17/21 08:15*	*11/19/21 12:00*	*1*
2-Fluorophenol (Surr)	*66*		*10 - 120*	*11/17/21 08:15*	*11/19/21 12:00*	*1*
2,4,6-Tribromophenol (Surr)	*87*		*26 - 120*	*11/17/21 08:15*	*11/19/21 12:00*	*1*
Nitrobenzene-d5 (Surr)	*75*		*34 - 120*	*11/17/21 08:15*	*11/19/21 12:00*	*1*
Phenol-d5 (Surr)	*52*		*10 - 120*	*11/17/21 08:15*	*11/19/21 12:00*	*1*
Terphenyl-d14 (Surr)	*92*		*31 - 126*	*11/17/21 08:15*	*11/19/21 12:00*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-011
Date Collected: 11/09/21 11:35
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-11
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:15	11/19/21 12:25	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:15	11/19/21 12:25	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*38 - 120*	*11/17/21 08:15*	*11/19/21 12:25*	*1*
2-Fluorophenol (Surr)	*62*		*10 - 120*	*11/17/21 08:15*	*11/19/21 12:25*	*1*
2,4,6-Tribromophenol (Surr)	*93*		*26 - 120*	*11/17/21 08:15*	*11/19/21 12:25*	*1*
Nitrobenzene-d5 (Surr)	*69*		*34 - 120*	*11/17/21 08:15*	*11/19/21 12:25*	*1*
Phenol-d5 (Surr)	*54*		*10 - 120*	*11/17/21 08:15*	*11/19/21 12:25*	*1*
Terphenyl-d14 (Surr)	*100*		*31 - 126*	*11/17/21 08:15*	*11/19/21 12:25*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: C-11208058-110921-CM-012
Date Collected: 11/09/21 11:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-12
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:15	11/19/21 12:49	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:15	11/19/21 12:49	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 12:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*87*		*38 - 120*	*11/17/21 08:15*	*11/19/21 12:49*	*1*
2-Fluorophenol (Surr)	*73*		*10 - 120*	*11/17/21 08:15*	*11/19/21 12:49*	*1*
2,4,6-Tribromophenol (Surr)	*99*		*26 - 120*	*11/17/21 08:15*	*11/19/21 12:49*	*1*
Nitrobenzene-d5 (Surr)	*78*		*34 - 120*	*11/17/21 08:15*	*11/19/21 12:49*	*1*
Phenol-d5 (Surr)	*61*		*10 - 120*	*11/17/21 08:15*	*11/19/21 12:49*	*1*
Terphenyl-d14 (Surr)	*109*		*31 - 126*	*11/17/21 08:15*	*11/19/21 12:49*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - TCLP

Client Sample ID: SL-11208058-110921-CM-013
Date Collected: 11/09/21 12:00
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-13
Matrix: Waste

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
2,4,5-Trichlorophenol	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
2,4,6-Trichlorophenol	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
2,4-Dinitrotoluene	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
Hexachlorobenzene	0.040	U	0.040		mg/L		11/17/21 08:04	11/19/21 17:17	20
Hexachlorobutadiene	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
Hexachloroethane	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
3 & 4 Methylphenol	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
2-Methylphenol	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
Nitrobenzene	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20
Pentachlorophenol	0.80	U	0.80		mg/L		11/17/21 08:04	11/19/21 17:17	20
Pyridine	0.20	U	0.20		mg/L		11/17/21 08:04	11/19/21 17:17	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*94*		*38 - 120*	*11/17/21 08:04*	*11/19/21 17:17*	*20*
2-Fluorophenol (Surr)	*40*		*10 - 120*	*11/17/21 08:04*	*11/19/21 17:17*	*20*
2,4,6-Tribromophenol (Surr)	*90*		*26 - 120*	*11/17/21 08:04*	*11/19/21 17:17*	*20*
Nitrobenzene-d5 (Surr)	*81*		*34 - 120*	*11/17/21 08:04*	*11/19/21 17:17*	*20*
Phenol-d5 (Surr)	*21*		*10 - 120*	*11/17/21 08:04*	*11/19/21 17:17*	*20*
Terphenyl-d14 (Surr)	*87*		*31 - 126*	*11/17/21 08:04*	*11/19/21 17:17*	*20*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: O-11208058-110921-CM-001
Date Collected: 11/09/21 08:15
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-1
Matrix: Waste

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	480	U	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1
Aroclor-1221	480	U	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1
Aroclor-1232	480	U	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1
Aroclor-1242	480	U	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1
Aroclor-1248	480	U	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1
Aroclor-1254	480	U	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1
Aroclor-1260	**1100**	**p**	480		ug/Kg		11/16/21 08:44	11/17/21 10:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*72*		*23 - 160*	*11/16/21 08:44*	*11/17/21 10:27*	*1*
DCB Decachlorobiphenyl	*144*		*10 - 191*	*11/16/21 08:44*	*11/17/21 10:27*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-11208058-110921-CM-002
Date Collected: 11/09/21 08:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1221	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1232	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1242	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1248	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1254	**6000**		460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1260	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1262	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1
Aroclor-1268	460	U	460		ug/Kg		11/11/21 08:49	11/12/21 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*14 - 128*	*11/11/21 08:49*	*11/12/21 14:31*	*1*
DCB Decachlorobiphenyl	*99*		*10 - 132*	*11/11/21 08:49*	*11/12/21 14:31*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-11208058-110921-CM-003
Date Collected: 11/09/21 09:05
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-3
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	980	U F1	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10
Aroclor-1221	980	U	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10
Aroclor-1232	980	U	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10
Aroclor-1242	980	U	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10
Aroclor-1248	980	U	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10
Aroclor-1254	**3500**	**p**	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10
Aroclor-1260	980	U F1	980		ug/Kg		11/16/21 06:28	11/18/21 16:59	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*88*		*14 - 128*	*11/16/21 06:28*	*11/18/21 16:59*	*10*
DCB Decachlorobiphenyl	*78*		*10 - 132*	*11/16/21 06:28*	*11/18/21 16:59*	*10*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-11208058-110921-CM-004
Date Collected: 11/09/21 09:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-4
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1221	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1232	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1242	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1248	**56000**		3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1254	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1260	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1262	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10
Aroclor-1268	3600	U	3600		ug/Kg		11/11/21 08:49	11/12/21 14:59	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*14 - 128*	*11/11/21 08:49*	*11/12/21 14:59*	*10*
DCB Decachlorobiphenyl	*86*		*10 - 132*	*11/11/21 08:49*	*11/12/21 14:59*	*10*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-11208058-110921-CM-005
Date Collected: 11/09/21 09:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-5
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1221	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1232	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1242	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1248	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1254	**59000**		4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1260	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1262	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10
Aroclor-1268	4700	U	4700		ug/Kg		11/11/21 08:49	11/12/21 15:13	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*14 - 128*	*11/11/21 08:49*	*11/12/21 15:13*	*10*
DCB Decachlorobiphenyl	*110*		*10 - 132*	*11/11/21 08:49*	*11/12/21 15:13*	*10*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-11208058-110921-CM-006
Date Collected: 11/09/21 10:25
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-6
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1221	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1232	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1242	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1248	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1254	**23000**		2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1260	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1262	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5
Aroclor-1268	2200	U	2200		ug/Kg		11/11/21 08:49	11/12/21 15:27	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*14 - 128*	*11/11/21 08:49*	*11/12/21 15:27*	*5*
DCB Decachlorobiphenyl	*73*		*10 - 132*	*11/11/21 08:49*	*11/12/21 15:27*	*5*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-11208058-110921-CM-007
Date Collected: 11/09/21 10:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-7
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	99	U	99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1
Aroclor-1221	99	U	99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1
Aroclor-1232	99	U	99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1
Aroclor-1242	99	U	99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1
Aroclor-1248	**160**		99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1
Aroclor-1254	99	U	99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1
Aroclor-1260	99	U	99		ug/Kg		11/12/21 09:06	11/15/21 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*20*		*14 - 128*	*11/12/21 09:06*	*11/15/21 18:40*	*1*
DCB Decachlorobiphenyl	*14*		*10 - 132*	*11/12/21 09:06*	*11/15/21 18:40*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: C-11208058-110921-CM-008
Date Collected: 11/09/21 11:15
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-8
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	100	U F2	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1221	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1232	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1242	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1248	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1254	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1260	100	U F2	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1262	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1
Aroclor-1268	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*91*		*14 - 128*	*11/11/21 08:53*	*11/15/21 12:38*	*1*
DCB Decachlorobiphenyl	*101*		*10 - 132*	*11/11/21 08:53*	*11/15/21 12:38*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: C-11208058-110921-CM-009
Date Collected: 11/09/21 11:20
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-9
Matrix: Solid
Percent Solids: 98.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	100	U	100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1
Aroclor-1221	100	U	100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1
Aroclor-1232	100	U	100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1
Aroclor-1242	100	U	100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1
Aroclor-1248	100	U	100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1
Aroclor-1254	**450**		100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1
Aroclor-1260	100	U	100		ug/Kg	☼	11/12/21 09:12	11/16/21 10:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*88*		*14 - 128*	*11/12/21 09:12*	*11/16/21 10:18*	*1*
DCB Decachlorobiphenyl	*100*		*10 - 132*	*11/12/21 09:12*	*11/16/21 10:18*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: C-11208058-110921-CM-010
Date Collected: 11/09/21 11:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-10
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1221	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1232	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1242	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1248	**150**		100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1254	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1260	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1262	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1
Aroclor-1268	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*59*		*14 - 128*	*11/11/21 08:53*	*11/15/21 13:22*	*1*
DCB Decachlorobiphenyl	*79*		*10 - 132*	*11/11/21 08:53*	*11/15/21 13:22*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: C-11208058-110921-CM-011
Date Collected: 11/09/21 11:35
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-11
Matrix: Solid
Percent Solids: 99.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	510	U	510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5
Aroclor-1221	510	U	510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5
Aroclor-1232	510	U	510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5
Aroclor-1242	510	U	510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5
Aroclor-1248	510	U	510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5
Aroclor-1254	**1700**		510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5
Aroclor-1260	510	U	510		ug/Kg	☼	11/12/21 09:12	11/16/21 10:33	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*78*		*14 - 128*	*11/12/21 09:12*	*11/16/21 10:33*	*5*
DCB Decachlorobiphenyl	*103*		*10 - 132*	*11/12/21 09:12*	*11/16/21 10:33*	*5*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: C-11208058-110921-CM-012
Date Collected: 11/09/21 11:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-12
Matrix: Solid
Percent Solids: 97.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	520	U	520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5
Aroclor-1221	520	U	520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5
Aroclor-1232	520	U	520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5
Aroclor-1242	520	U	520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5
Aroclor-1248	**2000**		520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5
Aroclor-1254	520	U	520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5
Aroclor-1260	520	U	520		ug/Kg	☼	11/12/21 09:12	11/16/21 10:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*14 - 128*	*11/12/21 09:12*	*11/16/21 10:49*	*5*
DCB Decachlorobiphenyl	*95*		*10 - 132*	*11/12/21 09:12*	*11/16/21 10:49*	*5*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: SL-11208058-110921-CM-013
Date Collected: 11/09/21 12:00
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-13
Matrix: Waste

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	240	U	240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5
Aroclor-1221	240	U	240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5
Aroclor-1232	240	U	240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5
Aroclor-1242	240	U	240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5
Aroclor-1248	**1300**		240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5
Aroclor-1254	240	U	240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5
Aroclor-1260	240	U	240		ug/Kg		11/16/21 06:25	11/18/21 10:30	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*48*		*12 - 123*	*11/16/21 06:25*	*11/18/21 10:30*	*5*
DCB Decachlorobiphenyl	*48*		*10 - 136*	*11/16/21 06:25*	*11/18/21 10:30*	*5*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: S-11208058-110921-CM-002
Date Collected: 11/09/21 08:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 14:36	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:36	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 14:36	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 14:36	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 14:36	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 14:36	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 14:36	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: S-11208058-110921-CM-003
Date Collected: 11/09/21 09:05
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-3
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:51	1
Arsenic	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:51	1
Barium	0.50	U	0.50		mg/L		11/18/21 14:00	11/19/21 22:51	1
Cadmium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:51	1
Chromium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:51	1
Lead	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:51	1
Selenium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:51	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: S-11208058-110921-CM-004
Date Collected: 11/09/21 09:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-4
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.25	U F1	0.25		mg/L		11/19/21 14:00	11/22/21 19:12	5
Arsenic	0.25	U	0.25		mg/L		11/19/21 14:00	11/22/21 19:12	5
Barium	2.5	U F1	2.5		mg/L		11/19/21 14:00	11/22/21 19:12	5
Cadmium	0.25	U	0.25		mg/L		11/19/21 14:00	11/22/21 19:12	5
Chromium	0.25	U F1	0.25		mg/L		11/19/21 14:00	11/22/21 19:12	5
Lead	0.25	U F1	0.25		mg/L		11/19/21 14:00	11/22/21 19:12	5
Selenium	0.25	U	0.25		mg/L		11/19/21 14:00	11/22/21 19:12	5

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: S-11208058-110921-CM-005
Date Collected: 11/09/21 09:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-5
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:41	1
Barium	5.0	U	5.0		mg/L		11/16/21 14:00	11/17/21 14:41	1
Cadmium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:41	1
Chromium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:41	1
Lead	**0.66**		0.50		mg/L		11/16/21 14:00	11/17/21 14:41	1
Selenium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:41	1
Silver	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:41	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: S-11208058-110921-CM-006
Date Collected: 11/09/21 10:25
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-6
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:45	1
Barium	5.0	U	5.0		mg/L		11/16/21 14:00	11/17/21 14:45	1
Cadmium	**0.55**		0.50		mg/L		11/16/21 14:00	11/17/21 14:45	1
Chromium	**0.69**		0.50		mg/L		11/16/21 14:00	11/17/21 14:45	1
Lead	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:45	1
Selenium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:45	1
Silver	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 14:45	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: S-11208058-110921-CM-007
Date Collected: 11/09/21 10:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-7
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 12:35	1
Arsenic	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 12:35	1
Barium	0.50	U	0.50		mg/L		11/17/21 14:00	11/18/21 12:35	1
Cadmium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 12:35	1
Chromium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 12:35	1
Lead	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 12:35	1
Selenium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 12:35	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: C-11208058-110921-CM-008
Date Collected: 11/09/21 11:15
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-8
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:59	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 18:59	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:59	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:59	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:59	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:59	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:59	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: C-11208058-110921-CM-009
Date Collected: 11/09/21 11:20
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-9
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:03	1
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:03	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 19:03	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:03	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:03	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:03	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:03	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: C-11208058-110921-CM-010
Date Collected: 11/09/21 11:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-10
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:08	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 19:08	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:08	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:08	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:08	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:08	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:08	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: C-11208058-110921-CM-011
Date Collected: 11/09/21 11:35
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-11
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:12	1
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:12	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 19:12	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:12	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:12	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:12	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:12	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: C-11208058-110921-CM-012
Date Collected: 11/09/21 11:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-12
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:17	1
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:17	1
Barium	**0.58**		0.50		mg/L		11/16/21 14:00	11/17/21 19:17	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:17	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:17	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:17	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 19:17	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 6010B - Metals (ICP) - TCLP

Client Sample ID: SL-11208058-110921-CM-013
Date Collected: 11/09/21 12:00
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-13
Matrix: Waste

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0	U	1.0		mg/L		11/16/21 14:00	11/17/21 14:50	20
Barium	10	U	10		mg/L		11/16/21 14:00	11/17/21 14:50	20
Cadmium	1.0	U	1.0		mg/L		11/16/21 14:00	11/17/21 14:50	20
Chromium	**7.9**		1.0		mg/L		11/16/21 14:00	11/17/21 14:50	20
Lead	1.0	U	1.0		mg/L		11/16/21 14:00	11/17/21 14:50	20
Selenium	1.0	U	1.0		mg/L		11/16/21 14:00	11/17/21 14:50	20
Silver	1.0	U	1.0		mg/L		11/16/21 14:00	11/17/21 14:50	20

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: S-11208058-110921-CM-002
Date Collected: 11/09/21 08:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-2
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 14:04	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: S-11208058-110921-CM-003
Date Collected: 11/09/21 09:05
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-3
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/18/21 14:00	11/19/21 11:52	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: S-11208058-110921-CM-004
Date Collected: 11/09/21 09:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-4
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/19/21 12:00	11/23/21 11:53	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: S-11208058-110921-CM-005
Date Collected: 11/09/21 09:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-5
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 14:06	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: S-11208058-110921-CM-006
Date Collected: 11/09/21 10:25
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-6
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 14:08	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: S-11208058-110921-CM-007
Date Collected: 11/09/21 10:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-7
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/17/21 14:00	11/19/21 09:52	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: C-11208058-110921-CM-008
Date Collected: 11/09/21 11:15
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-8
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 15:34	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: C-11208058-110921-CM-009
Date Collected: 11/09/21 11:20
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-9
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 15:36	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: C-11208058-110921-CM-010
Date Collected: 11/09/21 11:30
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-10
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 15:38	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: C-11208058-110921-CM-011
Date Collected: 11/09/21 11:35
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-11
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 15:45	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: C-11208058-110921-CM-012
Date Collected: 11/09/21 11:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-12
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 15:47	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA) - TCLP

Client Sample ID: SL-11208058-110921-CM-013
Date Collected: 11/09/21 12:00
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-13
Matrix: Waste

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.040	U	0.040		mg/L		11/16/21 14:00	11/17/21 14:10	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

General Chemistry

Client Sample ID: C-11208058-110921-CM-009
Date Collected: 11/09/21 11:20
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-9
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	98.8		0.1		%			11/11/21 10:40	1
Percent Moisture	1.2		0.1		%			11/11/21 10:40	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

General Chemistry

Client Sample ID: C-11208058-110921-CM-011
Date Collected: 11/09/21 11:35
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-11
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99.2		0.1		%			11/11/21 10:40	1
Percent Moisture	0.8		0.1		%			11/11/21 10:40	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

General Chemistry

Client Sample ID: C-11208058-110921-CM-012
Date Collected: 11/09/21 11:45
Date Received: 11/10/21 08:00

Lab Sample ID: 240-159772-12
Matrix: Solid

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97.1		0.1		%			11/11/21 10:40	1
Percent Moisture	2.9		0.1		%			11/11/21 10:40	1

GC/MS VOA

Processed Batch: 512441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	Part Size Red	
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	Part Size Red	
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	Part Size Red	

Leach Batch: 513504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	1311	
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	1311	
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	1311	
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	1311	512441
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	1311	
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	1311	512441
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	1311	512441
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	1311	
LB 240-513504/1-A MB	Method Blank	TCLP	Solid	1311	

Analysis Batch: 513990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	8260B	513504
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	8260B	513504
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	8260B	513504
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	8260B	513504
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	8260B	513504
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	8260B	513504
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	8260B	513504
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	8260B	513504
LB 240-513504/1-A MB	Method Blank	TCLP	Solid	8260B	513504
LCS 240-513990/10	Lab Control Sample	Total/NA	Solid	8260B	

GC/MS Semi VOA

Processed Batch: 512441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	Part Size Red	
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	Part Size Red	
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	Part Size Red	

Leach Batch: 513079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	1311	
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	1311	
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	1311	
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	1311	

Leach Batch: 513080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	1311	
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	1311	512441
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	1311	
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	1311	512441
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	1311	512441

GC/MS Semi VOA

Prep Batch: 513362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	3510C	513079
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	3510C	513079
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	3510C	513079
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	3510C	513079
MB 240-513362/16-A	Method Blank	Total/NA	Solid	3510C	
LCS 240-513362/17-A	Lab Control Sample	Total/NA	Solid	3510C	

Prep Batch: 513366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	3510C	513080
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	3510C	513080
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	3510C	513080
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	3510C	513080
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	3510C	513080
MB 240-513366/10-A	Method Blank	Total/NA	Solid	3510C	
LCS 240-513366/11-A	Lab Control Sample	Total/NA	Solid	3510C	

Analysis Batch: 513567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-513362/16-A	Method Blank	Total/NA	Solid	8270C	513362
LCS 240-513362/17-A	Lab Control Sample	Total/NA	Solid	8270C	513362

Analysis Batch: 513793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	8270C	513362
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	8270C	513362
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	8270C	513362
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	8270C	513366
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	8270C	513366
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	8270C	513366
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	8270C	513366
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	8270C	513366
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	8270C	513362
MB 240-513366/10-A	Method Blank	Total/NA	Solid	8270C	513366
LCS 240-513366/11-A	Lab Control Sample	Total/NA	Solid	8270C	513366

GC Semi VOA

Prep Batch: 512470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	Total/NA	Solid	3540C	
240-159772-4	S-11208058-110921-CM-004	Total/NA	Solid	3540C	
240-159772-5	S-11208058-110921-CM-005	Total/NA	Solid	3540C	
240-159772-6	S-11208058-110921-CM-006	Total/NA	Solid	3540C	
MB 240-512470/19-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-512470/20-A	Lab Control Sample	Total/NA	Solid	3540C	

Prep Batch: 512472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	Total/NA	Solid	3540C	
240-159772-10	C-11208058-110921-CM-010	Total/NA	Solid	3540C	

GC Semi VOA (Continued)

Prep Batch: 512472 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-512472/9-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-512472/10-A	Lab Control Sample	Total/NA	Solid	3540C	
240-159772-8 MS	C-11208058-110921-CM-008	Total/NA	Solid	3540C	
240-159772-8 MSD	C-11208058-110921-CM-008	Total/NA	Solid	3540C	

Processed Batch: 512491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	Total/NA	Solid	Part Size Red	
240-159772-9	C-11208058-110921-CM-009	Total/NA	Solid	Part Size Red	
240-159772-11	C-11208058-110921-CM-011	Total/NA	Solid	Part Size Red	
240-159772-12	C-11208058-110921-CM-012	Total/NA	Solid	Part Size Red	

Analysis Batch: 512605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	Total/NA	Solid	8082A	512470
240-159772-4	S-11208058-110921-CM-004	Total/NA	Solid	8082A	512470
240-159772-5	S-11208058-110921-CM-005	Total/NA	Solid	8082A	512470
240-159772-6	S-11208058-110921-CM-006	Total/NA	Solid	8082A	512470
MB 240-512470/19-A	Method Blank	Total/NA	Solid	8082A	512470
LCS 240-512470/20-A	Lab Control Sample	Total/NA	Solid	8082A	512470

Prep Batch: 512662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	Total/NA	Solid	3540C	512491
MB 240-512662/22-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-512662/23-A	Lab Control Sample	Total/NA	Solid	3540C	

Prep Batch: 512664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	Total/NA	Solid	3540C	512491
240-159772-11	C-11208058-110921-CM-011	Total/NA	Solid	3540C	512491
240-159772-12	C-11208058-110921-CM-012	Total/NA	Solid	3540C	512491
MB 240-512664/7-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-512664/8-A	Lab Control Sample	Total/NA	Solid	3540C	

Analysis Batch: 512854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	Total/NA	Solid	8082A	512662
MB 240-512662/22-A	Method Blank	Total/NA	Solid	8082A	512662
LCS 240-512662/23-A	Lab Control Sample	Total/NA	Solid	8082A	512662

Analysis Batch: 512862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	Total/NA	Solid	8082A	512472
240-159772-10	C-11208058-110921-CM-010	Total/NA	Solid	8082A	512472
MB 240-512472/9-A	Method Blank	Total/NA	Solid	8082A	512472
LCS 240-512472/10-A	Lab Control Sample	Total/NA	Solid	8082A	512472
240-159772-8 MS	C-11208058-110921-CM-008	Total/NA	Solid	8082A	512472
240-159772-8 MSD	C-11208058-110921-CM-008	Total/NA	Solid	8082A	512472

GC Semi VOA

Processed Batch: 512909

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	Total/NA	Solid	Part Size Red	
240-159772-3 MS	S-11208058-110921-CM-003	Total/NA	Solid	Part Size Red	
240-159772-3 MSD	S-11208058-110921-CM-003	Total/NA	Solid	Part Size Red	

Analysis Batch: 513111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	Total/NA	Solid	8082A	512664
240-159772-11	C-11208058-110921-CM-011	Total/NA	Solid	8082A	512664
240-159772-12	C-11208058-110921-CM-012	Total/NA	Solid	8082A	512664
MB 240-512664/7-A	Method Blank	Total/NA	Solid	8082A	512664
LCS 240-512664/8-A	Lab Control Sample	Total/NA	Solid	8082A	512664

Prep Batch: 513136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-13	SL-11208058-110921-CM-013	Total/NA	Waste	3540C	
MB 240-513136/7-A	Method Blank	Total/NA	Waste	3540C	
LCS 240-513136/8-A	Lab Control Sample	Total/NA	Waste	3540C	

Prep Batch: 513137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	Total/NA	Solid	3540C	512909
MB 240-513137/11-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-513137/12-A	Lab Control Sample	Total/NA	Solid	3540C	
240-159772-3 MS	S-11208058-110921-CM-003	Total/NA	Solid	3540C	512909
240-159772-3 MSD	S-11208058-110921-CM-003	Total/NA	Solid	3540C	512909

Prep Batch: 513163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-1	O-11208058-110921-CM-001	Total/NA	Waste	3580A	
MB 240-513163/6-A	Method Blank	Total/NA	Waste	3580A	
LCS 240-513163/7-A	Lab Control Sample	Total/NA	Waste	3580A	

Analysis Batch: 513316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-1	O-11208058-110921-CM-001	Total/NA	Waste	8082A	513163
MB 240-513163/6-A	Method Blank	Total/NA	Waste	8082A	513163
LCS 240-513163/7-A	Lab Control Sample	Total/NA	Waste	8082A	513163

Analysis Batch: 513531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-13	SL-11208058-110921-CM-013	Total/NA	Waste	8082A	513136
MB 240-513136/7-A	Method Blank	Total/NA	Waste	8082A	513136
LCS 240-513136/8-A	Lab Control Sample	Total/NA	Waste	8082A	513136

Analysis Batch: 513661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	Total/NA	Solid	8082A	513137
MB 240-513137/11-A	Method Blank	Total/NA	Solid	8082A	513137
LCS 240-513137/12-A	Lab Control Sample	Total/NA	Solid	8082A	513137
240-159772-3 MS	S-11208058-110921-CM-003	Total/NA	Solid	8082A	513137
240-159772-3 MSD	S-11208058-110921-CM-003	Total/NA	Solid	8082A	513137

Metals

Processed Batch: 512441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	TCLP	Solid	Part Size Red	
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	Part Size Red	
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	Part Size Red	
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	Part Size Red	

Processed Batch: 512911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	TCLP	Solid	Part Size Red	

Leach Batch: 513079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	1311	
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	1311	
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	1311	
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	1311	
LB 240-513079/1-B	Method Blank	TCLP	Solid	1311	
LB 240-513079/1-C	Method Blank	TCLP	Solid	1311	

Leach Batch: 513080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	1311	
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	1311	512441
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	1311	
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	1311	512441
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	1311	512441
LB 240-513080/1-B	Method Blank	TCLP	Solid	1311	
LB 240-513080/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 513242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	3010A	513079
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	3010A	513079
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	3010A	513079
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	3010A	513079
LB 240-513079/1-B	Method Blank	TCLP	Solid	3010A	513079
MB 240-513242/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-513242/3-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 513245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	7470A	513079
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	7470A	513079
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	7470A	513079
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	7470A	513079
LB 240-513079/1-C	Method Blank	TCLP	Solid	7470A	513079
MB 240-513245/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-513245/3-A	Lab Control Sample	Total/NA	Solid	7470A	

Prep Batch: 513246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	3010A	513080

Metals (Continued)

Prep Batch: 513246 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	3010A	513080
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	3010A	513080
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	3010A	513080
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	3010A	513080
LB 240-513080/1-B	Method Blank	TCLP	Solid	3010A	513080
MB 240-513246/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-513246/3-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 513247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	7470A	513080
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	7470A	513080
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	7470A	513080
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	7470A	513080
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	7470A	513080
LB 240-513080/1-C	Method Blank	TCLP	Solid	7470A	513080
MB 240-513247/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-513247/3-A	Lab Control Sample	Total/NA	Solid	7470A	

Leach Batch: 513294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	TCLP	Solid	1311	512441
LB 240-513294/1-B	Method Blank	TCLP	Solid	1311	
LB 240-513294/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 513427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	TCLP	Solid	3010A	513294
LB 240-513294/1-B	Method Blank	TCLP	Solid	3010A	513294
MB 240-513427/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-513427/3-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 513431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	TCLP	Solid	7470A	513294
LB 240-513294/1-C	Method Blank	TCLP	Solid	7470A	513294
MB 240-513431/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-513431/3-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 513461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	6010B	513242
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	6010B	513242
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	6010B	513242
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	6010B	513246
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	6010B	513246
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	6010B	513246
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	6010B	513246
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	6010B	513246
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	6010B	513242
LB 240-513079/1-B	Method Blank	TCLP	Solid	6010B	513242

Metals (Continued)

Analysis Batch: 513461 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 240-513080/1-B	Method Blank	TCLP	Solid	6010B	513246
MB 240-513242/2-A	Method Blank	Total/NA	Solid	6010B	513242
MB 240-513246/2-A	Method Blank	Total/NA	Solid	6010B	513246
LCS 240-513242/3-A	Lab Control Sample	Total/NA	Solid	6010B	513242
LCS 240-513246/3-A	Lab Control Sample	Total/NA	Solid	6010B	513246

Leach Batch: 513497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	TCLP	Solid	1311	512911
LB 240-513497/1-B	Method Blank	TCLP	Solid	1311	
LB 240-513497/1-C	Method Blank	TCLP	Solid	1311	

Processed Batch: 513561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-4	S-11208058-110921-CM-004	TCLP	Solid	Part Size Red	
240-159772-4 MS	S-11208058-110921-CM-004	TCLP	Solid	Part Size Red	
240-159772-4 MSD	S-11208058-110921-CM-004	TCLP	Solid	Part Size Red	

Analysis Batch: 513593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-2	S-11208058-110921-CM-002	TCLP	Solid	7470A	513245
240-159772-5	S-11208058-110921-CM-005	TCLP	Solid	7470A	513245
240-159772-6	S-11208058-110921-CM-006	TCLP	Solid	7470A	513245
240-159772-8	C-11208058-110921-CM-008	TCLP	Solid	7470A	513247
240-159772-9	C-11208058-110921-CM-009	TCLP	Solid	7470A	513247
240-159772-10	C-11208058-110921-CM-010	TCLP	Solid	7470A	513247
240-159772-11	C-11208058-110921-CM-011	TCLP	Solid	7470A	513247
240-159772-12	C-11208058-110921-CM-012	TCLP	Solid	7470A	513247
240-159772-13	SL-11208058-110921-CM-013	TCLP	Waste	7470A	513245
LB 240-513079/1-C	Method Blank	TCLP	Solid	7470A	513245
LB 240-513080/1-C	Method Blank	TCLP	Solid	7470A	513247
MB 240-513245/2-A	Method Blank	Total/NA	Solid	7470A	513245
MB 240-513247/2-A	Method Blank	Total/NA	Solid	7470A	513247
LCS 240-513245/3-A	Lab Control Sample	Total/NA	Solid	7470A	513245
LCS 240-513247/3-A	Lab Control Sample	Total/NA	Solid	7470A	513247

Prep Batch: 513642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	TCLP	Solid	3010A	513497
LB 240-513497/1-B	Method Blank	TCLP	Solid	3010A	513497
MB 240-513642/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-513642/3-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 513644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	TCLP	Solid	7470A	513497
LB 240-513497/1-C	Method Blank	TCLP	Solid	7470A	513497
MB 240-513644/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-513644/3-A	Lab Control Sample	Total/NA	Solid	7470A	

Metals

Leach Batch: 513710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-4	S-11208058-110921-CM-004	TCLP	Solid	1311	513561
LB 240-513710/1-B	Method Blank	TCLP	Solid	1311	
LB 240-513710/1-C	Method Blank	TCLP	Solid	1311	
240-159772-4 MS	S-11208058-110921-CM-004	TCLP	Solid	1311	513561
240-159772-4 MSD	S-11208058-110921-CM-004	TCLP	Solid	1311	513561

Analysis Batch: 513774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-7	S-11208058-110921-CM-007	TCLP	Solid	6010B	513427
LB 240-513294/1-B	Method Blank	TCLP	Solid	6010B	513427
MB 240-513427/2-A	Method Blank	Total/NA	Solid	6010B	513427
LCS 240-513427/3-A	Lab Control Sample	Total/NA	Solid	6010B	513427

Prep Batch: 513836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-4	S-11208058-110921-CM-004	TCLP	Solid	3010A	513710
LB 240-513710/1-B	Method Blank	TCLP	Solid	3010A	513710
MB 240-513836/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-513836/3-A	Lab Control Sample	Total/NA	Solid	3010A	
240-159772-4 MS	S-11208058-110921-CM-004	TCLP	Solid	3010A	513710
240-159772-4 MSD	S-11208058-110921-CM-004	TCLP	Solid	3010A	513710

Prep Batch: 513838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-4	S-11208058-110921-CM-004	TCLP	Solid	7470A	513710
LB 240-513710/1-C	Method Blank	TCLP	Solid	7470A	513710
MB 240-513838/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-513838/3-A	Lab Control Sample	Total/NA	Solid	7470A	
240-159772-4 MS	S-11208058-110921-CM-004	TCLP	Solid	7470A	513710
240-159772-4 MSD	S-11208058-110921-CM-004	TCLP	Solid	7470A	513710

Analysis Batch: 513869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	TCLP	Solid	7470A	513644
240-159772-7	S-11208058-110921-CM-007	TCLP	Solid	7470A	513431
LB 240-513294/1-C	Method Blank	TCLP	Solid	7470A	513431
LB 240-513497/1-C	Method Blank	TCLP	Solid	7470A	513644
MB 240-513431/2-A	Method Blank	Total/NA	Solid	7470A	513431
MB 240-513644/2-A	Method Blank	Total/NA	Solid	7470A	513644
LCS 240-513431/3-A	Lab Control Sample	Total/NA	Solid	7470A	513431
LCS 240-513644/3-A	Lab Control Sample	Total/NA	Solid	7470A	513644

Analysis Batch: 513931

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-3	S-11208058-110921-CM-003	TCLP	Solid	6010B	513642
LB 240-513497/1-B	Method Blank	TCLP	Solid	6010B	513642
MB 240-513642/2-A	Method Blank	Total/NA	Solid	6010B	513642
LCS 240-513642/3-A	Lab Control Sample	Total/NA	Solid	6010B	513642

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Metals

Analysis Batch: 514258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-4	S-11208058-110921-CM-004	TCLP	Solid	6010B	513836
LB 240-513710/1-B	Method Blank	TCLP	Solid	6010B	513836
MB 240-513836/2-A	Method Blank	Total/NA	Solid	6010B	513836
LCS 240-513836/3-A	Lab Control Sample	Total/NA	Solid	6010B	513836
240-159772-4 MS	S-11208058-110921-CM-004	TCLP	Solid	6010B	513836
240-159772-4 MSD	S-11208058-110921-CM-004	TCLP	Solid	6010B	513836

Analysis Batch: 514354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-4	S-11208058-110921-CM-004	TCLP	Solid	7470A	513838
LB 240-513710/1-C	Method Blank	TCLP	Solid	7470A	513838
MB 240-513838/2-A	Method Blank	Total/NA	Solid	7470A	513838
LCS 240-513838/3-A	Lab Control Sample	Total/NA	Solid	7470A	513838
240-159772-4 MS	S-11208058-110921-CM-004	TCLP	Solid	7470A	513838
240-159772-4 MSD	S-11208058-110921-CM-004	TCLP	Solid	7470A	513838

General Chemistry

Processed Batch: 512491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	Total/NA	Solid	Part Size Red	
240-159772-11	C-11208058-110921-CM-011	Total/NA	Solid	Part Size Red	
240-159772-12	C-11208058-110921-CM-012	Total/NA	Solid	Part Size Red	

Analysis Batch: 512532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-159772-9	C-11208058-110921-CM-009	Total/NA	Solid	Moisture	512491
240-159772-11	C-11208058-110921-CM-011	Total/NA	Solid	Moisture	512491
240-159772-12	C-11208058-110921-CM-012	Total/NA	Solid	Moisture	512491

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LCS 240-513990/10
Matrix: Solid
Analysis Batch: 513990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.00	1.13		mg/L		113	74 - 127
1,2-Dichloroethane	1.00	0.852		mg/L		85	72 - 120
Benzene	1.00	0.964		mg/L		96	80 - 121
2-Butanone (MEK)	2.00	1.64		mg/L		82	68 - 130
Carbon tetrachloride	1.00	0.970		mg/L		97	69 - 120
Chlorobenzene	1.00	1.00		mg/L		100	80 - 120
Chloroform	1.00	0.953		mg/L		95	75 - 120
Tetrachloroethene	1.00	0.979		mg/L		98	74 - 120
Trichloroethene	1.00	0.897		mg/L		90	75 - 120
Vinyl chloride	1.00	1.08		mg/L		108	53 - 147

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*85*		*76 - 120*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*71 - 121*

Lab Sample ID: LB 240-513504/1-A MB
Matrix: Solid
Analysis Batch: 513990

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.025	U	0.025	mg/L			11/21/21 15:46	1
1,2-Dichloroethane	0.025	U	0.025	mg/L			11/21/21 15:46	1
Benzene	0.025	U	0.025	mg/L			11/21/21 15:46	1
2-Butanone (MEK)	0.25	U	0.25	mg/L			11/21/21 15:46	1
Carbon tetrachloride	0.025	U	0.025	mg/L			11/21/21 15:46	1
Chlorobenzene	0.025	U	0.025	mg/L			11/21/21 15:46	1
Chloroform	0.025	U	0.025	mg/L			11/21/21 15:46	1
Tetrachloroethene	0.025	U	0.025	mg/L			11/21/21 15:46	1
Trichloroethene	0.025	U	0.025	mg/L			11/21/21 15:46	1
Vinyl chloride	0.025	U	0.025	mg/L			11/21/21 15:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*76 - 120*		*11/21/21 15:46*	*1*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*		*11/21/21 15:46*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*11/21/21 15:46*	*1*
Dibromofluoromethane (Surr)	*95*		*71 - 121*		*11/21/21 15:46*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-513362/16-A
Matrix: Solid
Analysis Batch: 513567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513362

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040	mg/L		11/17/21 08:04	11/18/21 11:07	1
2,4,5-Trichlorophenol	0.0040	U	0.0040	mg/L		11/17/21 08:04	11/18/21 11:07	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-513362/16-A
Matrix: Solid
Analysis Batch: 513567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513362

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:04	11/18/21 11:07	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:04	11/18/21 11:07	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:04	11/18/21 11:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*89*		*38 - 120*	*11/17/21 08:04*	*11/18/21 11:07*	*1*
2-Fluorophenol (Surr)	*68*		*10 - 120*	*11/17/21 08:04*	*11/18/21 11:07*	*1*
2,4,6-Tribromophenol (Surr)	*94*		*26 - 120*	*11/17/21 08:04*	*11/18/21 11:07*	*1*
Nitrobenzene-d5 (Surr)	*77*		*34 - 120*	*11/17/21 08:04*	*11/18/21 11:07*	*1*
Phenol-d5 (Surr)	*56*		*10 - 120*	*11/17/21 08:04*	*11/18/21 11:07*	*1*
Terphenyl-d14 (Surr)	*104*		*31 - 126*	*11/17/21 08:04*	*11/18/21 11:07*	*1*

Lab Sample ID: LCS 240-513362/17-A
Matrix: Solid
Analysis Batch: 513567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513362

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dichlorobenzene			0.0800	0.0523		mg/L		65	52 - 120		
2,4,5-Trichlorophenol			0.0800	0.0668		mg/L		84	56 - 120		
2,4,6-Trichlorophenol			0.0800	0.0657		mg/L		82	58 - 120		
2,4-Dinitrotoluene			0.0800	0.0781		mg/L		98	65 - 120		
Hexachlorobenzene			0.0800	0.0718		mg/L		90	60 - 120		
Hexachlorobutadiene			0.0800	0.0577		mg/L		72	48 - 120		
Hexachloroethane			0.0800	0.0532		mg/L		67	47 - 120		
3 & 4 Methylphenol			0.0800	0.0538		mg/L		67	41 - 120		
2-Methylphenol			0.0800	0.0547		mg/L		68	45 - 120		
Nitrobenzene			0.0800	0.0573		mg/L		72	55 - 120		
Pentachlorophenol			0.160	0.158		mg/L		99	38 - 120		
Pyridine			0.160	0.0732		mg/L		46	17 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*80*		*38 - 120*
2-Fluorophenol (Surr)	*64*		*10 - 120*
2,4,6-Tribromophenol (Surr)	*93*		*26 - 120*
Nitrobenzene-d5 (Surr)	*75*		*34 - 120*
Phenol-d5 (Surr)	*55*		*10 - 120*
Terphenyl-d14 (Surr)	*104*		*31 - 126*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-513366/10-A
Matrix: Solid
Analysis Batch: 513793

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513366

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
2,4,5-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
2,4,6-Trichlorophenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
2,4-Dinitrotoluene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
Hexachlorobenzene	0.00080	U	0.00080		mg/L		11/17/21 08:15	11/19/21 09:58	1
Hexachlorobutadiene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
Hexachloroethane	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
3 & 4 Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
2-Methylphenol	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
Nitrobenzene	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1
Pentachlorophenol	0.016	U	0.016		mg/L		11/17/21 08:15	11/19/21 09:58	1
Pyridine	0.0040	U	0.0040		mg/L		11/17/21 08:15	11/19/21 09:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*73*		*38 - 120*	*11/17/21 08:15*	*11/19/21 09:58*	*1*
2-Fluorophenol (Surr)	*61*		*10 - 120*	*11/17/21 08:15*	*11/19/21 09:58*	*1*
2,4,6-Tribromophenol (Surr)	*81*		*26 - 120*	*11/17/21 08:15*	*11/19/21 09:58*	*1*
Nitrobenzene-d5 (Surr)	*64*		*34 - 120*	*11/17/21 08:15*	*11/19/21 09:58*	*1*
Phenol-d5 (Surr)	*51*		*10 - 120*	*11/17/21 08:15*	*11/19/21 09:58*	*1*
Terphenyl-d14 (Surr)	*98*		*31 - 126*	*11/17/21 08:15*	*11/19/21 09:58*	*1*

Lab Sample ID: LCS 240-513366/11-A
Matrix: Solid
Analysis Batch: 513793

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513366

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dichlorobenzene			0.0800	0.0624		mg/L		78	52 - 120		
2,4,5-Trichlorophenol			0.0800	0.0737		mg/L		92	56 - 120		
2,4,6-Trichlorophenol			0.0800	0.0703		mg/L		88	58 - 120		
2,4-Dinitrotoluene			0.0800	0.0783		mg/L		98	65 - 120		
Hexachlorobenzene			0.0800	0.0755		mg/L		94	60 - 120		
Hexachlorobutadiene			0.0800	0.0639		mg/L		80	48 - 120		
Hexachloroethane			0.0800	0.0608		mg/L		76	47 - 120		
3 & 4 Methylphenol			0.0800	0.0627		mg/L		78	41 - 120		
2-Methylphenol			0.0800	0.0672		mg/L		84	45 - 120		
Nitrobenzene			0.0800	0.0610		mg/L		76	55 - 120		
Pentachlorophenol			0.160	0.154		mg/L		96	38 - 120		
Pyridine			0.160	0.0846		mg/L		53	17 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*86*		*38 - 120*
2-Fluorophenol (Surr)	*75*		*10 - 120*
2,4,6-Tribromophenol (Surr)	*99*		*26 - 120*
Nitrobenzene-d5 (Surr)	*80*		*34 - 120*
Phenol-d5 (Surr)	*64*		*10 - 120*
Terphenyl-d14 (Surr)	*111*		*31 - 126*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-512470/19-A
Matrix: Solid
Analysis Batch: 512605

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512470

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1221	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1232	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1242	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1248	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1254	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1260	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1262	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1
Aroclor-1268	50	U	50		ug/Kg		11/11/21 08:49	11/12/21 12:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*79*		*14 - 128*	*11/11/21 08:49*	*11/12/21 12:10*	*1*
DCB Decachlorobiphenyl	*90*		*10 - 132*	*11/11/21 08:49*	*11/12/21 12:10*	*1*

Lab Sample ID: LCS 240-512470/20-A
Matrix: Solid
Analysis Batch: 512605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512470

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			1000	756		ug/Kg		76	47 - 120		
Aroclor-1260			1000	804		ug/Kg		80	46 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*14 - 128*
DCB Decachlorobiphenyl	*86*		*10 - 132*

Lab Sample ID: MB 240-512472/9-A
Matrix: Solid
Analysis Batch: 512862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512472

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1221	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1232	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1242	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1248	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1254	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1260	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1262	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1
Aroclor-1268	100	U	100		ug/Kg		11/11/21 08:53	11/15/21 12:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*61*		*14 - 128*	*11/11/21 08:53*	*11/15/21 12:09*	*1*
DCB Decachlorobiphenyl	*74*		*10 - 132*	*11/11/21 08:53*	*11/15/21 12:09*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 240-512472/10-A
Matrix: Solid
Analysis Batch: 512862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512472

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			2000	1260		ug/Kg		63	47 - 120		
Aroclor-1260			2000	1450		ug/Kg		73	46 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*61*		*14 - 128*
DCB Decachlorobiphenyl	*82*		*10 - 132*

Lab Sample ID: 240-159772-8 MS
Matrix: Solid
Analysis Batch: 512862

Client Sample ID: C-11208058-110921-CM-008
Prep Type: Total/NA
Prep Batch: 512472

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016	100	U F2	1980	1970		ug/Kg		99	31 - 120		
Aroclor-1260	100	U F2	1980	1960		ug/Kg		99	21 - 122		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*104*		*14 - 128*
DCB Decachlorobiphenyl	*113*		*10 - 132*

Lab Sample ID: 240-159772-8 MSD
Matrix: Solid
Analysis Batch: 512862

Client Sample ID: C-11208058-110921-CM-008
Prep Type: Total/NA
Prep Batch: 512472

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016	100	U F2	1900	1380	F2	ug/Kg		73	31 - 120	35	30
Aroclor-1260	100	U F2	1900	1350	F2	ug/Kg		71	21 - 122	37	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*73*		*14 - 128*
DCB Decachlorobiphenyl	*78*		*10 - 132*

Lab Sample ID: MB 240-512662/22-A
Matrix: Solid
Analysis Batch: 512854

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512662

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1
Aroclor-1221	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1
Aroclor-1232	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1
Aroclor-1242	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1
Aroclor-1248	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1
Aroclor-1254	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1
Aroclor-1260	50	U	50		ug/Kg		11/12/21 09:06	11/15/21 12:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*77*		*14 - 128*	*11/12/21 09:06*	*11/15/21 12:45*	*1*
DCB Decachlorobiphenyl	*85*		*10 - 132*	*11/12/21 09:06*	*11/15/21 12:45*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 240-512662/23-A
Matrix: Solid
Analysis Batch: 512854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512662

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			1000	726		ug/Kg		73	47 - 120		
Aroclor-1260			1000	744		ug/Kg		74	46 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*71*		*14 - 128*
DCB Decachlorobiphenyl	*77*		*10 - 132*

Lab Sample ID: MB 240-512664/7-A
Matrix: Solid
Analysis Batch: 513111

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512664

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1
Aroclor-1221	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1
Aroclor-1232	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1
Aroclor-1242	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1
Aroclor-1248	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1
Aroclor-1254	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1
Aroclor-1260	100	U	100		ug/Kg		11/12/21 09:12	11/16/21 09:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*57*		*14 - 128*	*11/12/21 09:12*	*11/16/21 09:01*	*1*
DCB Decachlorobiphenyl	*74*		*10 - 132*	*11/12/21 09:12*	*11/16/21 09:01*	*1*

Lab Sample ID: LCS 240-512664/8-A
Matrix: Solid
Analysis Batch: 513111

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512664

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			2000	1540		ug/Kg		77	47 - 120		
Aroclor-1260			2000	1630		ug/Kg		81	46 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*78*		*14 - 128*
DCB Decachlorobiphenyl	*86*		*10 - 132*

Lab Sample ID: MB 240-513136/7-A
Matrix: Waste
Analysis Batch: 513531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513136

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1
Aroclor-1221	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1
Aroclor-1232	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1
Aroclor-1242	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1
Aroclor-1248	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1
Aroclor-1254	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1
Aroclor-1260	50	U	50		ug/Kg		11/16/21 06:25	11/18/21 10:45	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	51		12 - 123	11/16/21 06:25	11/18/21 10:45	1
DCB Decachlorobiphenyl	55		10 - 136	11/16/21 06:25	11/18/21 10:45	1

Lab Sample ID: LCS 240-513136/8-A
Matrix: Waste
Analysis Batch: 513531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513136

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			1000	526		ug/Kg		53	48 - 120		
Aroclor-1260			1000	557		ug/Kg		56	44 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	54		12 - 123
DCB Decachlorobiphenyl	57		10 - 136

Lab Sample ID: MB 240-513137/11-A
Matrix: Solid
Analysis Batch: 513661

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513137

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1
Aroclor-1221	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1
Aroclor-1232	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1
Aroclor-1242	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1
Aroclor-1248	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1
Aroclor-1254	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1
Aroclor-1260	100	U	100		ug/Kg		11/16/21 06:28	11/18/21 16:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	39		14 - 128	11/16/21 06:28	11/18/21 16:28	1
DCB Decachlorobiphenyl	48		10 - 132	11/16/21 06:28	11/18/21 16:28	1

Lab Sample ID: LCS 240-513137/12-A
Matrix: Solid
Analysis Batch: 513661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513137

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			2000	1060		ug/Kg		53	47 - 120		
Aroclor-1260			2000	1200		ug/Kg		60	46 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	46		14 - 128
DCB Decachlorobiphenyl	61		10 - 132

Lab Sample ID: 240-159772-3 MS
Matrix: Solid
Analysis Batch: 513661

Client Sample ID: S-11208058-110921-CM-003
Prep Type: Total/NA
Prep Batch: 513137

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016	980	U F1	1880	3540	F1	ug/Kg		189	31 - 120		
Aroclor-1260	980	U F1	1880	2650	F1	ug/Kg		141	21 - 122		

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	117		14 - 128
DCB Decachlorobiphenyl	105		10 - 132

Lab Sample ID: 240-159772-3 MSD — **Client Sample ID: S-11208058-110921-CM-003**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 513661 — **Prep Batch: 513137**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016	980	U F1	1920	2840	F1	ug/Kg		148	31 - 120	22	30
Aroclor-1260	980	U F1	1920	2020		ug/Kg		105	21 - 122	27	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	85		14 - 128
DCB Decachlorobiphenyl	30	p	10 - 132

Lab Sample ID: MB 240-513163/6-A — **Client Sample ID: Method Blank**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 513316 — **Prep Batch: 513163**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1
Aroclor-1221	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1
Aroclor-1232	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1
Aroclor-1242	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1
Aroclor-1248	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1
Aroclor-1254	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1
Aroclor-1260	500	U	500		ug/Kg		11/16/21 08:44	11/17/21 08:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		23 - 160	11/16/21 08:44	11/17/21 08:48	1
DCB Decachlorobiphenyl	103		10 - 191	11/16/21 08:44	11/17/21 08:48	1

Lab Sample ID: LCS 240-513163/7-A — **Client Sample ID: Lab Control Sample**
Matrix: Waste — **Prep Type: Total/NA**
Analysis Batch: 513316 — **Prep Batch: 513163**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			10000	9210		ug/Kg		92	51 - 160		
Aroclor-1260			10000	8940		ug/Kg		89	32 - 160		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	92		23 - 160
DCB Decachlorobiphenyl	98		10 - 191

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-513242/2-A
Matrix: Solid
Analysis Batch: 513461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513242

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:33	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 13:33	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:33	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:33	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:33	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:33	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:33	1

Lab Sample ID: LCS 240-513242/3-A
Matrix: Solid
Analysis Batch: 513461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513242

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			2.00	2.16		mg/L		108	50 - 150		
Barium			2.00	1.98		mg/L		99	50 - 150		
Cadmium			1.00	1.04		mg/L		104	50 - 150		
Chromium			1.00	1.01		mg/L		101	50 - 150		
Lead			1.00	0.897		mg/L		90	50 - 150		
Selenium			2.00	2.14		mg/L		107	50 - 150		
Silver			0.100	0.109		mg/L		109	50 - 150		

Lab Sample ID: MB 240-513246/2-A
Matrix: Solid
Analysis Batch: 513461

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513246

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:20	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 18:20	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:20	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:20	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:20	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:20	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:20	1

Lab Sample ID: LCS 240-513246/3-A
Matrix: Solid
Analysis Batch: 513461

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513246

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			2.00	2.15		mg/L		107	50 - 150		
Barium			2.00	2.10		mg/L		105	50 - 150		
Cadmium			1.00	1.05		mg/L		105	50 - 150		
Chromium			1.00	1.05		mg/L		105	50 - 150		
Lead			1.00	0.967		mg/L		97	50 - 150		
Selenium			2.00	2.13		mg/L		106	50 - 150		
Silver			0.100	0.102		mg/L		102	50 - 150		

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 240-513427/2-A
Matrix: Solid
Analysis Batch: 513774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513427

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:39	1
Barium	0.50	U	0.50		mg/L		11/17/21 14:00	11/18/21 11:39	1
Cadmium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:39	1
Chromium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:39	1
Lead	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:39	1
Selenium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:39	1
Silver	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:39	1

Lab Sample ID: LCS 240-513427/3-A
Matrix: Solid
Analysis Batch: 513774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513427

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			2.00	1.97		mg/L		99	50 - 150		
Barium			2.00	1.74		mg/L		87	50 - 150		
Cadmium			1.00	0.917		mg/L		92	50 - 150		
Chromium			1.00	0.884		mg/L		88	50 - 150		
Lead			1.00	0.827		mg/L		83	50 - 150		
Selenium			2.00	1.94		mg/L		97	50 - 150		
Silver			0.100	0.0961		mg/L		96	50 - 150		

Lab Sample ID: MB 240-513642/2-A
Matrix: Solid
Analysis Batch: 513931

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513642

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:21	1
Barium	0.50	U	0.50		mg/L		11/18/21 14:00	11/19/21 22:21	1
Cadmium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:21	1
Chromium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:21	1
Lead	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:21	1
Selenium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:21	1
Silver	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:21	1

Lab Sample ID: LCS 240-513642/3-A
Matrix: Solid
Analysis Batch: 513931

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513642

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			2.00	2.03		mg/L		102	50 - 150		
Barium			2.00	1.99		mg/L		100	50 - 150		
Cadmium			1.00	1.03		mg/L		103	50 - 150		
Chromium			1.00	0.994		mg/L		99	50 - 150		
Lead			1.00	0.954		mg/L		95	50 - 150		
Selenium			2.00	1.98		mg/L		99	50 - 150		
Silver			0.100	0.0964		mg/L		96	50 - 150		

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 240-513836/2-A
Matrix: Solid
Analysis Batch: 514258

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513836

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 19:03	1
Barium	0.50	U	0.50		mg/L		11/19/21 14:00	11/22/21 19:03	1
Cadmium	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 19:03	1
Chromium	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 19:03	1
Lead	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 19:03	1
Selenium	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 19:03	1
Silver	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 19:03	1

Lab Sample ID: LCS 240-513836/3-A
Matrix: Solid
Analysis Batch: 514258

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513836

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			2.00	1.84		mg/L		92	50 - 150		
Barium			2.00	1.68		mg/L		84	50 - 150		
Cadmium			1.00	0.881		mg/L		88	50 - 150		
Chromium			1.00	0.842		mg/L		84	50 - 150		
Lead			1.00	0.809		mg/L		81	50 - 150		
Selenium			2.00	1.80		mg/L		90	50 - 150		
Silver			0.100	0.0894		mg/L		89	50 - 150		

Lab Sample ID: LB 240-513079/1-B
Matrix: Solid
Analysis Batch: 513461

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513242

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:29	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 13:29	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:29	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:29	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:29	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:29	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 13:29	1

Lab Sample ID: LB 240-513080/1-B
Matrix: Solid
Analysis Batch: 513461

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513246

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:15	1
Barium	0.50	U	0.50		mg/L		11/16/21 14:00	11/17/21 18:15	1
Cadmium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:15	1
Chromium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:15	1
Lead	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:15	1
Selenium	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:15	1
Silver	0.050	U	0.050		mg/L		11/16/21 14:00	11/17/21 18:15	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LB 240-513294/1-B
Matrix: Solid
Analysis Batch: 513774

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513427

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:34	1
Barium	0.50	U	0.50		mg/L		11/17/21 14:00	11/18/21 11:34	1
Cadmium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:34	1
Chromium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:34	1
Lead	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:34	1
Selenium	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:34	1
Silver	0.050	U	0.050		mg/L		11/17/21 14:00	11/18/21 11:34	1

Lab Sample ID: LB 240-513497/1-B
Matrix: Solid
Analysis Batch: 513931

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513642

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:17	1
Barium	0.50	U	0.50		mg/L		11/18/21 14:00	11/19/21 22:17	1
Cadmium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:17	1
Chromium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:17	1
Lead	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:17	1
Selenium	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:17	1
Silver	0.050	U	0.050		mg/L		11/18/21 14:00	11/19/21 22:17	1

Lab Sample ID: LB 240-513710/1-B
Matrix: Solid
Analysis Batch: 514258

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513836

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 18:58	1
Barium	0.50	U	0.50		mg/L		11/19/21 14:00	11/22/21 18:58	1
Cadmium	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 18:58	1
Chromium	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 18:58	1
Lead	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 18:58	1
Selenium	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 18:58	1
Silver	0.050	U	0.050		mg/L		11/19/21 14:00	11/22/21 18:58	1

Lab Sample ID: 240-159772-4 MS
Matrix: Solid
Analysis Batch: 514258

Client Sample ID: S-11208058-110921-CM-004
Prep Type: TCLP
Prep Batch: 513836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.25	U	5.00	3.85		mg/L		77	75 - 125		
Barium	2.5	U F1	50.0	36.2	F1	mg/L		72	75 - 125		
Cadmium	0.25	U	1.00	0.761		mg/L		76	75 - 125		
Chromium	0.25	U F1	5.00	3.62	F1	mg/L		72	75 - 125		
Lead	0.25	U F1	5.00	3.60	F1	mg/L		72	75 - 125		
Selenium	0.25	U	1.00	0.777		mg/L		78	75 - 125		
Silver	0.25	U F1	1.00	0.735	F1	mg/L		74	75 - 125		

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 240-159772-4 MSD — **Client Sample ID: S-11208058-110921-CM-004**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 514258 — **Prep Batch: 513836**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.25	U	5.00	4.00		mg/L		80	75 - 125	4	20
Barium	2.5	U F1	50.0	37.4		mg/L		75	75 - 125	3	20
Cadmium	0.25	U	1.00	0.789		mg/L		79	75 - 125	4	20
Chromium	0.25	U F1	5.00	3.72	F1	mg/L		74	75 - 125	3	20
Lead	0.25	U F1	5.00	3.73		mg/L		75	75 - 125	4	20
Selenium	0.25	U	1.00	0.796		mg/L		80	75 - 125	2	20
Silver	0.25	U F1	1.00	0.755		mg/L		75	75 - 125	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-513245/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 513593 — **Prep Batch: 513245**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 13:37	1

Lab Sample ID: LCS 240-513245/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 513593 — **Prep Batch: 513245**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00500	0.00519		mg/L		104	80 - 120		

Lab Sample ID: MB 240-513247/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 513593 — **Prep Batch: 513247**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/16/21 14:00	11/17/21 15:23	1

Lab Sample ID: LCS 240-513247/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 513593 — **Prep Batch: 513247**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00500	0.00544		mg/L		109	80 - 120		

Lab Sample ID: MB 240-513431/2-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 513869 — **Prep Batch: 513431**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/17/21 14:00	11/19/21 09:33	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-513431/3-A
Matrix: Solid
Analysis Batch: 513869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00492		mg/L		98	80 - 120

Lab Sample ID: MB 240-513644/2-A
Matrix: Solid
Analysis Batch: 513869

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513644

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	mg/L		11/18/21 14:00	11/19/21 11:41	1

Lab Sample ID: LCS 240-513644/3-A
Matrix: Solid
Analysis Batch: 513869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513644

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00496		mg/L		99	80 - 120

Lab Sample ID: MB 240-513838/2-A
Matrix: Solid
Analysis Batch: 514354

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513838

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	mg/L		11/19/21 12:00	11/23/21 11:49	1

Lab Sample ID: LCS 240-513838/3-A
Matrix: Solid
Analysis Batch: 514354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00527		mg/L		105	80 - 120

Lab Sample ID: LB 240-513079/1-C
Matrix: Solid
Analysis Batch: 513593

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513245

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	mg/L		11/16/21 14:00	11/17/21 13:35	1

Lab Sample ID: LB 240-513080/1-C
Matrix: Solid
Analysis Batch: 513593

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513247

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	mg/L		11/16/21 14:00	11/17/21 15:21	1

Lab Sample ID: LB 240-513294/1-C
Matrix: Solid
Analysis Batch: 513869

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513431

Analyte	LB Result	LB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	mg/L		11/17/21 14:00	11/19/21 09:26	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LB 240-513497/1-C
Matrix: Solid
Analysis Batch: 513869

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513644

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/18/21 14:00	11/19/21 11:34	1

Lab Sample ID: LB 240-513710/1-C
Matrix: Solid
Analysis Batch: 514354

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 513838

Analyte	LB Result	LB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020		mg/L		11/19/21 12:00	11/23/21 11:47	1

Lab Sample ID: 240-159772-4 MS
Matrix: Solid
Analysis Batch: 514354

Client Sample ID: S-11208058-110921-CM-004
Prep Type: TCLP
Prep Batch: 513838

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.0020	U	0.00500	0.00543		mg/L		109	80 - 120		

Lab Sample ID: 240-159772-4 MSD
Matrix: Solid
Analysis Batch: 514354

Client Sample ID: S-11208058-110921-CM-004
Prep Type: TCLP
Prep Batch: 513838

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0020	U	0.00500	0.00544		mg/L		109	80 - 120	0	20

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(76-120)	(80-120)	(80-120)	(71-121)
LCS 240-513990/10	Lab Control Sample	85	105	102	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(76-120)	(80-120)	(80-120)	(71-121)
240-159772-2	S-11208058-110921-CM-002	88	96	97	96
240-159772-6	S-11208058-110921-CM-006	89	96	99	93
240-159772-8	C-11208058-110921-CM-008	88	93	96	93
240-159772-9	C-11208058-110921-CM-009	89	95	97	94
240-159772-10	C-11208058-110921-CM-010	92	94	96	96
240-159772-11	C-11208058-110921-CM-011	87	94	97	95
240-159772-12	C-11208058-110921-CM-012	92	95	98	93
LB 240-513504/1-A MB	Method Blank	90	95	97	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Waste — **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(76-120)	(80-120)	(80-120)	(71-121)
240-159772-13	SL-11208058-110921-CM-013	91	99	99	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(38-120)	(10-120)	(26-120)	(34-120)	(10-120)	(31-126)
LCS 240-513362/17-A	Lab Control Sample	80	64	93	75	55	104
LCS 240-513366/11-A	Lab Control Sample	86	75	99	80	64	111
MB 240-513362/16-A	Method Blank	89	68	94	77	56	104

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(38-120)	(10-120)	(26-120)	(34-120)	(10-120)	(31-126)
MB 240-513366/10-A	Method Blank	73	61	81	64	51	98

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(38-120)	(10-120)	(26-120)	(34-120)	(10-120)	(31-126)
240-159772-2	S-11208058-110921-CM-002	93	79	107	84	67	98
240-159772-5	S-11208058-110921-CM-005	85	44	96	71	36	84
240-159772-6	S-11208058-110921-CM-006	86	59	96	80	41	100
240-159772-8	C-11208058-110921-CM-008	72	60	81	67	52	94
240-159772-9	C-11208058-110921-CM-009	87	72	96	81	59	108
240-159772-10	C-11208058-110921-CM-010	83	66	87	75	52	92
240-159772-11	C-11208058-110921-CM-011	78	62	93	69	54	100
240-159772-12	C-11208058-110921-CM-012	87	73	99	78	61	109

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Waste **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(38-120)	(10-120)	(26-120)	(34-120)	(10-120)	(31-126)
240-159772-13	SL-11208058-110921-CM-013	94	40	90	81	21	87

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Surrogate Summary

Client: GHD Services Inc. Job ID: 240-159772-1
Project/Site: 11208058, RACER Bay City

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (14-128)	TCX2 (14-128)	DCBP1 (10-132)	DCBP2 (10-132)
240-159772-2	S-11208058-110921-CM-002	76		99	
240-159772-3	S-11208058-110921-CM-003	88	69	78	79
240-159772-3 MS	S-11208058-110921-CM-003	117		105	
240-159772-3 MSD	S-11208058-110921-CM-003	85		30 p	
240-159772-4	S-11208058-110921-CM-004	90		86	
240-159772-5	S-11208058-110921-CM-005	93		110	
240-159772-6	S-11208058-110921-CM-006	71		73	
240-159772-7	S-11208058-110921-CM-007		20		14
240-159772-8	C-11208058-110921-CM-008	91		101	
240-159772-8 MS	C-11208058-110921-CM-008	104		113	
240-159772-8 MSD	C-11208058-110921-CM-008	73		78	
240-159772-9	C-11208058-110921-CM-009	88		100	
240-159772-10	C-11208058-110921-CM-010	59		79	
240-159772-11	C-11208058-110921-CM-011	78		103	
240-159772-12	C-11208058-110921-CM-012	90		95	
LCS 240-512470/20-A	Lab Control Sample	73		86	
LCS 240-512472/10-A	Lab Control Sample	61		82	
LCS 240-512662/23-A	Lab Control Sample		71		77
LCS 240-512664/8-A	Lab Control Sample	78		86	
LCS 240-513137/12-A	Lab Control Sample	46		61	
MB 240-512470/19-A	Method Blank	79		90	
MB 240-512472/9-A	Method Blank	61		74	
MB 240-512662/22-A	Method Blank		77		85
MB 240-512664/7-A	Method Blank	57		74	
MB 240-513137/11-A	Method Blank	39		48	

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Waste **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (23-160)	TCX2 (23-160)	DCBP1 (10-191)	DCBP2 (10-191)
240-159772-1	O-11208058-110921-CM-001	72	78	144	132
LCS 240-513163/7-A	Lab Control Sample	92		98	
MB 240-513163/6-A	Method Blank	96		103	

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Waste **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	TCX1 (12-123)	DCBP1 (10-136)		
240-159772-13	SL-11208058-110921-CM-013	48	48		
LCS 240-513136/8-A	Lab Control Sample	54	57		

Surrogate Summary

Client: GHD Services Inc. Job ID: 240-159772-1
Project/Site: 11208058, RACER Bay City

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Matrix: Waste **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	TCX1 (12-123)	DCBP1 (10-136)								
MB 240-513136/7-A	Method Blank	51	55								

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Client Sample ID: O-11208058-110921-CM-001

Lab Sample ID: 240-159772-1

Date Collected: 11/09/21 08:15

Matrix: Waste

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3580A			513163	11/16/21 08:44	TEC	TAL CAN
Total/NA	Analysis	8082A		1	513316	11/17/21 10:27	LSH	TAL CAN

Client Sample ID: S-11208058-110921-CM-002

Lab Sample ID: 240-159772-2

Date Collected: 11/09/21 08:45

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		2	513990	11/21/21 16:30	TJL1	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513362	11/17/21 08:04	BMB	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 16:04	JMG	TAL CAN
Total/NA	Prep	3540C			512470	11/11/21 08:49	TEC	TAL CAN
Total/NA	Analysis	8082A		1	512605	11/12/21 14:31	KMG	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513242	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 14:36	DSH	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513245	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 14:04	MRL	TAL CAN

Client Sample ID: S-11208058-110921-CM-003

Lab Sample ID: 240-159772-3

Date Collected: 11/09/21 09:05

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512909	11/15/21 08:35	POP	TAL CAN
Total/NA	Prep	3540C			513137	11/16/21 06:28	EMB	TAL CAN
Total/NA	Analysis	8082A		10	513661	11/18/21 16:59	KMG	TAL CAN
TCLP	Processed	Part Size Red			512911	11/15/21 08:37	POP	TAL CAN
TCLP	Leach	1311			513497	11/17/21 17:10	DRJ	TAL CAN
TCLP	Prep	3010A			513642	11/18/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513931	11/19/21 22:51	DSH	TAL CAN
TCLP	Processed	Part Size Red			512911	11/15/21 08:37	POP	TAL CAN
TCLP	Leach	1311			513497	11/17/21 17:10	DRJ	TAL CAN
TCLP	Prep	7470A			513644	11/18/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513869	11/19/21 11:52	MRL	TAL CAN

Client Sample ID: S-11208058-110921-CM-004

Lab Sample ID: 240-159772-4

Date Collected: 11/09/21 09:30

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			512470	11/11/21 08:49	TEC	TAL CAN
Total/NA	Analysis	8082A		10	512605	11/12/21 14:59	KMG	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Client Sample ID: S-11208058-110921-CM-004

Lab Sample ID: 240-159772-4
Date Collected: 11/09/21 09:30
Matrix: Solid
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			513561	11/18/21 06:26	POP	TAL CAN
TCLP	Leach	1311			513710	11/18/21 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			513836	11/19/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		5	514258	11/22/21 19:12	RKT	TAL CAN
TCLP	Processed	Part Size Red			513561	11/18/21 06:26	POP	TAL CAN
TCLP	Leach	1311			513710	11/18/21 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			513838	11/19/21 12:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	514354	11/23/21 11:53	MRL	TAL CAN

Client Sample ID: S-11208058-110921-CM-005

Lab Sample ID: 240-159772-5
Date Collected: 11/09/21 09:45
Matrix: Solid
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513362	11/17/21 08:04	BMB	TAL CAN
TCLP	Analysis	8270C		2.5	513793	11/19/21 16:52	JMG	TAL CAN
Total/NA	Prep	3540C			512470	11/11/21 08:49	TEC	TAL CAN
Total/NA	Analysis	8082A		10	512605	11/12/21 15:13	KMG	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513242	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 14:41	DSH	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513245	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 14:06	MRL	TAL CAN

Client Sample ID: S-11208058-110921-CM-006

Lab Sample ID: 240-159772-6
Date Collected: 11/09/21 10:25
Matrix: Solid
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		1	513990	11/21/21 16:52	TJL1	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513362	11/17/21 08:04	BMB	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 16:28	JMG	TAL CAN
Total/NA	Prep	3540C			512470	11/11/21 08:49	TEC	TAL CAN
Total/NA	Analysis	8082A		5	512605	11/12/21 15:27	KMG	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513242	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 14:45	DSH	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513245	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 14:08	MRL	TAL CAN

Client Sample ID: S-11208058-110921-CM-007

Lab Sample ID: 240-159772-7

Date Collected: 11/09/21 10:45

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Prep	3540C			512662	11/12/21 09:06	TEC	TAL CAN
Total/NA	Analysis	8082A		1	512854	11/15/21 18:40	KMG	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513294	11/16/21 17:20	DRJ	TAL CAN
TCLP	Prep	3010A			513427	11/17/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513774	11/18/21 12:35	RKT	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513294	11/16/21 17:20	DRJ	TAL CAN
TCLP	Prep	7470A			513431	11/17/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513869	11/19/21 09:52	MRL	TAL CAN

Client Sample ID: C-11208058-110921-CM-008

Lab Sample ID: 240-159772-8

Date Collected: 11/09/21 11:15

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		1	513990	11/21/21 17:15	TJL1	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513366	11/17/21 08:15	MDH	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 11:11	JMG	TAL CAN
Total/NA	Prep	3540C			512472	11/11/21 08:53	TEC	TAL CAN
Total/NA	Analysis	8082A		1	512862	11/15/21 12:38	LSH	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513246	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 18:59	DSH	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513247	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 15:34	MRL	TAL CAN

Client Sample ID: C-11208058-110921-CM-009

Lab Sample ID: 240-159772-9

Date Collected: 11/09/21 11:20

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		1	513990	11/21/21 17:37	TJL1	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513366	11/17/21 08:15	MDH	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 11:36	JMG	TAL CAN

Client Sample ID: C-11208058-110921-CM-009

Lab Sample ID: 240-159772-9
Date Collected: 11/09/21 11:20
Matrix: Solid
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513246	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 19:03	DSH	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513247	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 15:36	MRL	TAL CAN
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Analysis	Moisture		1	512532	11/11/21 10:40	AJ	TAL CAN

Client Sample ID: C-11208058-110921-CM-009

Lab Sample ID: 240-159772-9
Date Collected: 11/09/21 11:20
Matrix: Solid
Date Received: 11/10/21 08:00
Percent Solids: 98.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Prep	3540C			512664	11/12/21 09:12	TEC	TAL CAN
Total/NA	Analysis	8082A		1	513111	11/16/21 10:18	LSH	TAL CAN

Client Sample ID: C-11208058-110921-CM-010

Lab Sample ID: 240-159772-10
Date Collected: 11/09/21 11:30
Matrix: Solid
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		1	513990	11/21/21 17:59	TJL1	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513366	11/17/21 08:15	MDH	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 12:00	JMG	TAL CAN
Total/NA	Prep	3540C			512472	11/11/21 08:53	TEC	TAL CAN
Total/NA	Analysis	8082A		1	512862	11/15/21 13:22	LSH	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513246	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 19:08	DSH	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513247	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 15:38	MRL	TAL CAN

Client Sample ID: C-11208058-110921-CM-011

Lab Sample ID: 240-159772-11

Date Collected: 11/09/21 11:35

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		1	513990	11/21/21 18:21	TJL1	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513366	11/17/21 08:15	MDH	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 12:25	JMG	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513246	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 19:12	DSH	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513247	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 15:45	MRL	TAL CAN
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Analysis	Moisture		1	512532	11/11/21 10:40	AJ	TAL CAN

Client Sample ID: C-11208058-110921-CM-011

Lab Sample ID: 240-159772-11

Date Collected: 11/09/21 11:35

Matrix: Solid

Date Received: 11/10/21 08:00

Percent Solids: 99.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Prep	3540C			512664	11/12/21 09:12	TEC	TAL CAN
Total/NA	Analysis	8082A		5	513111	11/16/21 10:33	LSH	TAL CAN

Client Sample ID: C-11208058-110921-CM-012

Lab Sample ID: 240-159772-12

Date Collected: 11/09/21 11:45

Matrix: Solid

Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		1	513990	11/21/21 18:43	TJL1	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513366	11/17/21 08:15	MDH	TAL CAN
TCLP	Analysis	8270C		1	513793	11/19/21 12:49	JMG	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513246	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		1	513461	11/17/21 19:17	DSH	TAL CAN
TCLP	Processed	Part Size Red			512441	11/11/21 08:06	POP	TAL CAN
TCLP	Leach	1311			513080	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513247	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 15:47	MRL	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-159772-1

Client Sample ID: C-11208058-110921-CM-012
Lab Sample ID: 240-159772-12
Date Collected: 11/09/21 11:45
Matrix: Solid
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Analysis	Moisture		1	512532	11/11/21 10:40	AJ	TAL CAN

Client Sample ID: C-11208058-110921-CM-012
Lab Sample ID: 240-159772-12
Date Collected: 11/09/21 11:45
Matrix: Solid
Date Received: 11/10/21 08:00
Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Processed	Part Size Red			512491	11/11/21 09:25	POP	TAL CAN
Total/NA	Prep	3540C			512664	11/12/21 09:12	TEC	TAL CAN
Total/NA	Analysis	8082A		5	513111	11/16/21 10:49	LSH	TAL CAN

Client Sample ID: SL-11208058-110921-CM-013
Lab Sample ID: 240-159772-13
Date Collected: 11/09/21 12:00
Matrix: Waste
Date Received: 11/10/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			513504	11/17/21 18:35	DRJ	TAL CAN
TCLP	Analysis	8260B		4	513990	11/21/21 19:06	TJL1	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3510C			513362	11/17/21 08:04	BMB	TAL CAN
TCLP	Analysis	8270C		20	513793	11/19/21 17:17	JMG	TAL CAN
Total/NA	Prep	3540C			513136	11/16/21 06:25	EMB	TAL CAN
Total/NA	Analysis	8082A		5	513531	11/18/21 10:30	LSH	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	3010A			513242	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	6010B		20	513461	11/17/21 14:50	DSH	TAL CAN
TCLP	Leach	1311			513079	11/15/21 17:25	DRJ	TAL CAN
TCLP	Prep	7470A			513245	11/16/21 14:00	SHB	TAL CAN
TCLP	Analysis	7470A		1	513593	11/17/21 14:10	MRL	TAL CAN

Laboratory References:

SC0144 = P&K Microbiology, 3000 Lincoln Drive East, Suite A, Marlton, NJ 08053, TEL (856)334-1001

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 240-159772-1
Project/Site: 11208058, RACER Bay City

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

0-5/10-6

Chain of Custody Record

MICHIGAN 190

506936

eurofins | Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Jeff Latham	Site Contact: Connor McLean	Date: 11-9-21	COC No:
Company Name: GHD	Tel/Email: Jeffrey.Latham@ghd.com	Lab Contact: Denise Hechler	Carrier: 1	____ of ____ COCs
Address: 26850 Haggerty Road	Analysis Turnaround Time: ☑ CALENDAR DAYS ☐ WORKING DAYS			Sampler:
City/State/Zip: Farmington Hills, MI 48331	TAT if different from Below ____			For Lab Use Only:
Phone: 248 893 3400	☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day			
Fax:				
Project Name: RACER Bay City FEA Stormwater				
Site: RACER Bay City				
PO #: 11208058-B02				

240-159772 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PCBs	TCLP RCRA Metals	TCLP VOCs	TCLP SVOCs	Asbestos	Sample Specific Notes:
0-11208058-11021-CM-001	11-9-21	8:15	G	O	1	N	N	X					Oil
S- -002		8:45		S				X	X	X	X		white paint
S- -003		9:05						X	X				Friable caulk ext. windows
S- -004		9:30						X	X				Fresh caulk ext. windows
S- -005		9:45						X	X	X	X		Green paint on metal
S- -006		10:25						X	X	X	X		Tan paint on pumps
S- -007		10:45						X	X				Roof material
C- -008		11:15						X	X	X	X		South Floor
C- -009		11:20						X	X	X	X		South Block Wall
C- -010		11:30						X	X	X	X		North Floor
C- -011		11:35						X	X	X	X		North Block Wall
C- -012		11:45						X	X	X	X	X	Small Bldg Floor

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Connor McLean	GHD	11-9-21 15:20		EXA	11/9/21 1540
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	EXA	11/9/21 1540	Mandy Blue	EXA	11-10-21 8:00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Chain of Custody Record

0-5/0-6

5068 MICHIGAN 190

Environment Testing TestAmerica

Address: _____

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Jeff Latham	Site Contact: Connor Mclean	Date: 11-9-21	COC No:
Company Name: GHD	Tel/Email: Jeffrey.Latham@ghd.com	Lab Contact: Denise Hackler	Carrier:	_____ of _____ COCs
Address: 26850 Haggerty Road	Analysis Turnaround Time			Sampler:
City/State/Zip: Farmington Hills, MI	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 248 893 3400	TAT if different from Below _____			Walk-in Client:
Fax:	☑ 2 weeks			Lab Sampling:
Project Name: RACER Bay City FEA Stormwater	☐ 1 week			
Site: RACER Bay City	☐ 2 days			Job / SDG No.:
PO # 11208058-B02	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	PCBs	TCLP RCRA Metals	TCLP VOCs	TCLP SVOCs	Asbestos	Sample Specific Notes:
SL-11208058-110921-CM-013	11-9-21	12:00	G	S	1			X	X	X	X		
ASB-[redacted]HA1		9:00			7							X	A-G Pipe Insulation
[redacted]HA2		9:15			3							X	A-C Friable Window Caulk
[redacted]HA3		9:30			3							X	A-C Fresh window Caulk
[redacted]HA4		9:45			3							X	A-C Roof Material
[redacted]HA5		10:00			3							X	A-C Wall Block

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Connor Mclean	GHD	11-9-21 1530		ETA	11/9/21 1540
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	ETA	11/9/21 1540	Mandy Bleau	ETA	11-10-21 8:00
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 154472**
Canton Facility

Client GHD Site Name

Cooler Received on 11-10-21 Opened on 11-10-21

Cooler unpacked by: Mandolyn Block

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp. 0.5 °C Corrected Cooler Temp. 0.6 °C
   IR GUN #IR-15 (CF +0.2°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC157842**
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
17. Was a LL Hg or Me Hg trip blank present?	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

Attachment B

Laboratory Certificate of Analysis (ACM)

eurofins | EMLab P&K

Report for:

Ms. Denise Heckler
TestAmerica-Canton
4101 Shuffel St. NW
North Canton, OH 44720

Regarding: Project: 11208058, RACER Bay City; Project #24006288
EML ID: 2785606

Approved by:

Approved Signatory
Balu Krishnan

Dates of Analysis:
Asbestos PLM: 11-22-2021

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200844-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EMLab P&K
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: TestAmerica-Canton
C/O: Ms. Denise Heckler
Re: 11208058, RACER Bay City; Project #24006288

Date of Sampling: 11-09-2021
Date of Receipt: 11-12-2021
Date of Report: 11-22-2021

ASBESTOS PLM REPORT

Total Samples Submitted:	19
Total Samples Analyzed:	19
Total Samples with Layer Asbestos Content > 1%:	9

Location: 240-159772-14a, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333687-1

Sample Layers	Asbestos Content
White Insulation	25% Amosite 4% Chrysotile
Sample Composite Homogeneity:	Good

Location: 240-159772-14b, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333688-1

Sample Layers	Asbestos Content
White Insulation	20% Amosite 4% Chrysotile
Light Gray Woven Material	ND
Composite Non-Asbestos Content:	30% Cellulose
Sample Composite Homogeneity:	Good

Location: 240-159772-14c, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333689-1

Sample Layers	Asbestos Content
Gray Insulation	30% Chrysotile
White Insulation	20% Amosite 3% Chrysotile
Multicolored Woven Material	ND
Composite Non-Asbestos Content:	30% Cellulose
Sample Composite Homogeneity:	Good

Location: 240-159772-14d, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333690-1

Sample Layers	Asbestos Content
White Insulation	20% Amosite 3% Chrysotile
Gray Insulation	30% Chrysotile
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins EMLab P&K
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: TestAmerica-Canton
C/O: Ms. Denise Heckler
Re: 11208058, RACER Bay City; Project #24006288

Date of Sampling: 11-09-2021
Date of Receipt: 11-12-2021
Date of Report: 11-22-2021

ASBESTOS PLM REPORT

Location: 240-159772-14e, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333691-1

Sample Layers	Asbestos Content
White Insulation	ND
Composite Non-Asbestos Content:	95% Mineral Wool
Sample Composite Homogeneity:	Good

Location: 240-159772-14f, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333692-1

Sample Layers	Asbestos Content
White Insulation	20% Amosite 3% Chrysotile
Sample Composite Homogeneity:	Good

Location: 240-159772-14g, ABS-11208058-110921-CM-HA1 Lab ID-Version‡: 13333693-1

Sample Layers	Asbestos Content
White Insulation	20% Amosite 3% Chrysotile
Sample Composite Homogeneity:	Good

Location: 240-159772-15a, ABS-11208058-110921-CM-HA2 Lab ID-Version‡: 13333694-1

Sample Layers	Asbestos Content
Gray Window Glazing	3% Chrysotile
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins EMLab P&K
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: TestAmerica-Canton
C/O: Ms. Denise Heckler
Re: 11208058, RACER Bay City; Project #24006288

Date of Sampling: 11-09-2021
Date of Receipt: 11-12-2021
Date of Report: 11-22-2021

ASBESTOS PLM REPORT

Location: 240-159772-15b, ABS-11208058-110921-CM-HA2 Lab ID-Version‡: 13333695-1

Sample Layers	Asbestos Content
Gray Window Glazing	3% Chrysotile
Sample Composite Homogeneity:	Good

Location: 240-159772-15c, ABS-11208058-110921-CM-HA2 Lab ID-Version‡: 13333696-1

Sample Layers	Asbestos Content
Gray Window Glazing	3% Chrysotile
Sample Composite Homogeneity:	Good

Location: 240-159772-16a, ABS-11208058-110921-CM-HA3 Lab ID-Version‡: 13333697-1

Sample Layers	Asbestos Content
Gray Caulk	ND
Sample Composite Homogeneity:	Good

Location: 240-159772-16b, ABS-11208058-110921-CM-HA3 Lab ID-Version‡: 13333698-1

Sample Layers	Asbestos Content
Gray Caulk	ND
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins EMLab P&K
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: TestAmerica-Canton
C/O: Ms. Denise Heckler
Re: 11208058, RACER Bay City; Project #24006288

Date of Sampling: 11-09-2021
Date of Receipt: 11-12-2021
Date of Report: 11-22-2021

ASBESTOS PLM REPORT

Location: 240-159772-16c, ABS-11208058-110921-CM-HA3 Lab ID-Version‡: 13333699-1

Sample Layers	Asbestos Content
Gray Caulk	ND
Sample Composite Homogeneity:	Good

Location: 240-159772-17a, ABS-11208058-110921-CM-HA4 Lab ID-Version‡: 13333700-1

Sample Layers	Asbestos Content
Black Roofing Shingle / Gray Pebbles	ND
Composite Non-Asbestos Content:	15% Cellulose
Sample Composite Homogeneity:	Good

Location: 240-159772-17b, ABS-11208058-110921-CM-HA4 Lab ID-Version‡: 13333701-1

Sample Layers	Asbestos Content
Black Roofing Shingle / Gray Pebbles	ND
Composite Non-Asbestos Content:	15% Cellulose
Sample Composite Homogeneity:	Good

Location: 240-159772-17c, ABS-11208058-110921-CM-HA4 Lab ID-Version‡: 13333702-1

Sample Layers	Asbestos Content
Black Roofing Shingle / Gray Pebbles	ND
Composite Non-Asbestos Content:	15% Cellulose
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Eurofins EMLab P&K
3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 Fax (856) 334-1040 www.emlab.com

Client: TestAmerica-Canton
C/O: Ms. Denise Heckler
Re: 11208058, RACER Bay City; Project #24006288

Date of Sampling: 11-09-2021
Date of Receipt: 11-12-2021
Date of Report: 11-22-2021

ASBESTOS PLM REPORT

Location: 240-159772-18a, ABS-11208058-110921-CM-HA5 Lab ID-Version‡: 13333703-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 240-159772-18b, ABS-11208058-110921-CM-HA5 Lab ID-Version‡: 13333704-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

Location: 240-159772-18c, ABS-11208058-110921-CM-HA5 Lab ID-Version‡: 13333705-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity:	Good

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

ghd.com

→ The Power of Commitment

Appendix D

Proposed Backfill Characterization

Memorandum

Draft for Review

January 29, 2018

To:	Dave Favero (RACER)	Ref. No.:	058502
From:	John-Eric Pardys/kf/28		
Subject:	**Soil Characterization Results**		

GHD Services Inc. (GHD) has prepared the following memorandum at the request of RACER to document the results of soil samples collected from material stockpiled by Dan's Excavating Inc. from the nearby Interstate 75 (I-75) construction project at RACER's Saginaw Nodular Industrial Land (Site) in Saginaw, Michigan. Figure 1 presents the approximate location of the source of the stockpiled material from I-75 construction project. The purpose of the sampling was to characterize the stockpiled material for future re-use. Possible future re-use scenarios include but are not limited to; use as on-Site structural fill for future development or cover material for impacted sediments in the Secondary Pond.

The material removed from the I-75 construction project and stockpiled at the Site consisted of road bedding material (sand). Stockpiling of the road bedding material was initiated in June 2017. The material was placed in two stockpiles, one located near the Secondary Pond and the other located behind the former Waste Water Treatment Plant (WWTP) as presented in Figure 2. Material was unloaded at the Site then spread out and positioned at the top of the stockpile utilizing a bull-dozer. The estimated total volume of the stockpiled material is between 40,000 and 50,000 cubic yards with 2/3's of the material stockpiled near the Secondary Pond and 1/3 of the material stockpiled behind the former WWTP. Material stockpiling at the Site was stopped in November 2017, after which the stockpiles were stabilized and seeded.

On December 18, 2017, GHD staff collected 20 discrete samples of the stockpiled material, 12 from the stockpile located near the Secondary Pond and 8 from the stockpile located behind the former WWTP. Samples were collected utilizing a hand auger with locations spread out evenly around the stockpiles and at various depths. Figure 2 presents the approximate sample locations. The samples were submitted to TestAmerica Laboratories, Inc. on a standard 2-week turn, for analysis of Michigan 10 metals (SW 6010/6020/7471), VOCs (SW 8260), SVOCs (SW 8270), PCBs (SW 8082), TCL Herbicides (SW 8151), TCL Pesticides (SW 8082), and organic carbon (Walkley black method). The laboratory analytical reports are presented as Attachment A.

The sample results were initially compared to the Statewide Default Background levels. If the data were above State Default Background levels, the data were screened against the 2017 Proposed Non-Residential MDEQ Part 201 Criteria:

- Direct Contact,Criteria
- Particulate Soil Inhalation Criteria
- Infinite Source Volatile Soil Inhalation Criteria.

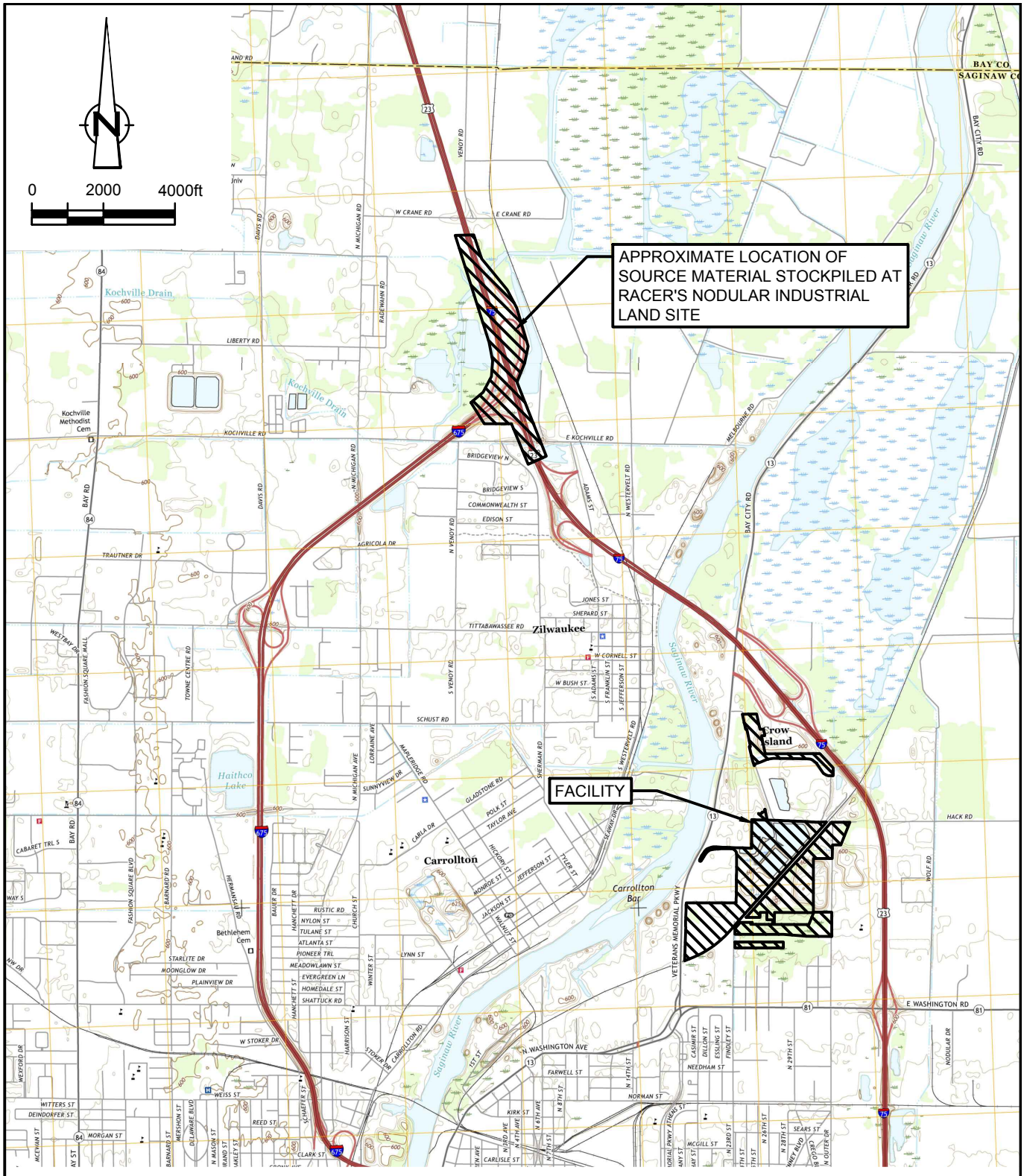
The data were not screened against:

- Groundwater/Surface Water Interface (GSI) Protection Criteria since there is no GSI Protection Criteria in the 2017 Proposed Non-Residential MDEQ Part 201 Criteria.
- Drinking Water Protection Criteria as the use of water as a potable source will be restricted at the Site.
- Residential Criteria since the Site will be restricted to non-residential use.

Table 1 presents a summary of the results. There were no exceedances of criteria for any of the samples.

In addition to the above analysis, GHD collected one sample from each stockpile to test for geotechnical properties (Proctor, Grain Size Analysis, Atterburg Limits, and Moisture Content). Please note that based on the sand content in Sample 2, the Atterburg limits were not able to be performed. The results of the geotechnical analysis are presented as Attachment B. Based on the sand content and gradation results, the material was deemed suitable for general back fill as well as structural back fill. Both the proctors and the visual observation of the material indicated good compaction properties.

Therefore, based on the analytical and geotechnical results, GHD has determined the stockpiled material is suitable for re-use on the site as either a general back fill or a structural back fill material.

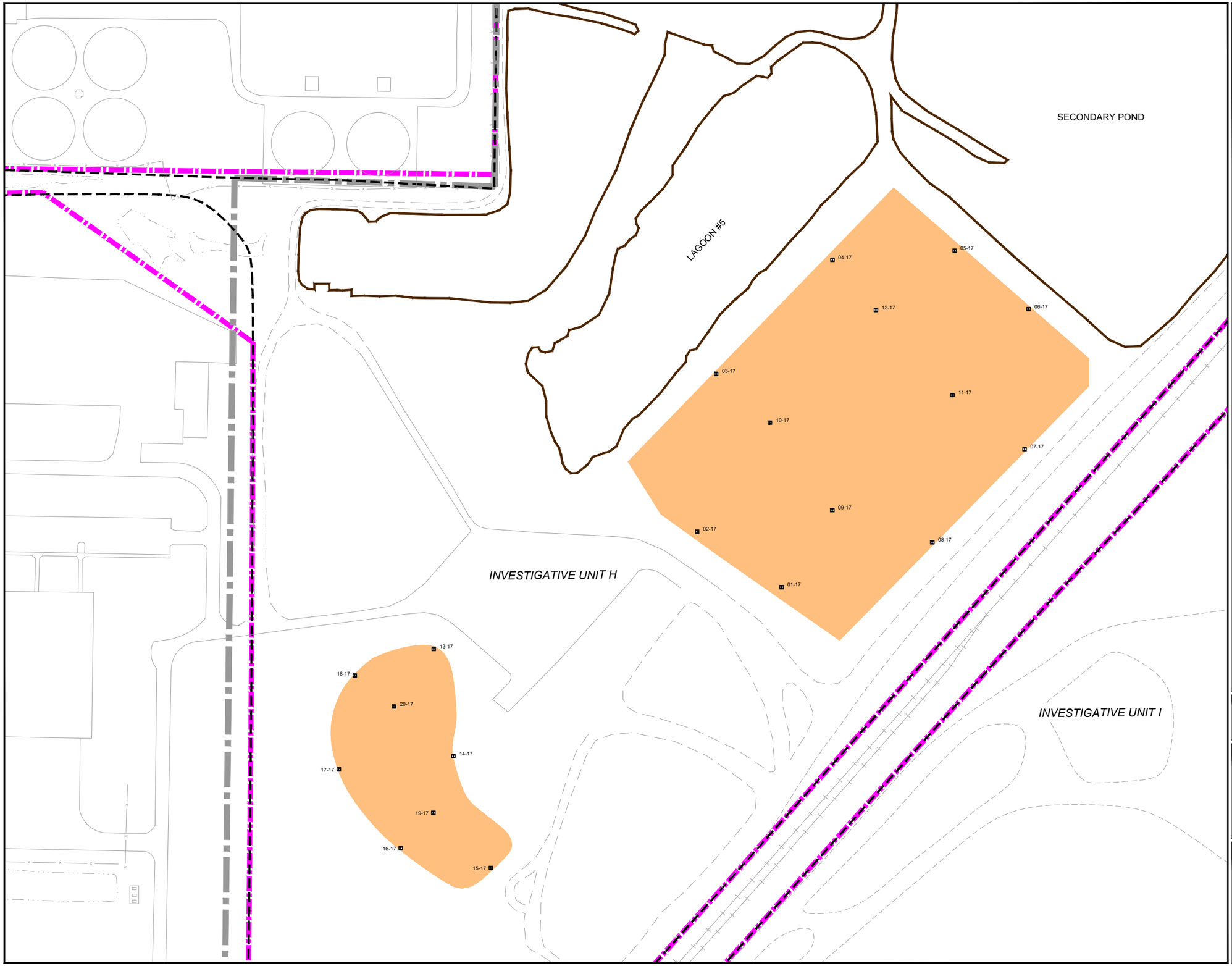


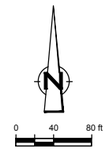
SOURCE: USGS QUADRANGLE MAP; SAGINAW AND BAY CITY, MICHIGAN 2017.

figure 1

STOCKPILE SOURCE LOCATION
RACER - SAGINAW NODULAR INDUSTRIAL LAND
Saginaw, Michigan

GHD

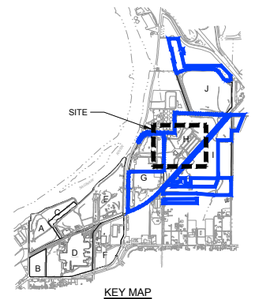




LEGEND

- INVESTIGATIVE UNIT BOUNDARY
- RACER PROPERTY
- APPROXIMATE LOCATION OF MATERIAL STOCKPILED BY DAN'S EXCAVATING
- APPROXIMATE STOCKPILE CHARACTERIZATION SAMPLE LOCATION

NOTE:
SAMPLES COLLECTED AT TOP EDGE OF SLOPE.



KEY MAP

SCALE VERIFICATION

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

REVITALIZING AUTO COMMUNITES ENVIRONMENTAL RESPONSE

SAGINAW, MICHIGAN

MATERIAL STOCKPILE CHARACTERIZATION SAMPLE LOCATIONS - DEC. 18, 2017

GHD

Source Reference:
MICHIGAN STATE PLANE SOUTH, NAD 83 USING INTERNATIONAL FEET, NGVD 88 SPICER SURVEY, OCTOBER 2009.

Project Manager:	Reviewed By:	Date:	
I.R.	M.T.	JANUARY 2018	
Scale: 1:80	Project Nº: 58502-T02	Report Nº: MEMO028	Drawing Nº: figure 2

58502-T02(MEMO028)GN-WA001 JAN 29, 2018

Table 1

Summary of Soil Sampling Results from Stockpiled Material- December 2017
RACER Nodular Industrial Land
Saginaw, MI

Sample Location:						Stockpile-01-17	Stockpile-02-17	Stockpile-03-17	Stockpile-04-17	Stockpile-05-17	Stockpile-06-17	Stockpile-07-17	Stockpile-08-17	Stockpile-09-17
Sample ID:						**S-58502-121817-SSH-1001**	**S-58502-121817-SSH-1002**	**S-58502-121817-SSH-1003**	**S-58502-121817-SSH-1004**	**S-58502-121817-SSH-1005**	**S-58502-121817-SSH-1006**	**S-58502-121817-SSH-1007**	**S-58502-121817-SSH-1008**	**S-58502-121817-SSH-1009**
Sample Date:						**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**
Sample Depth:						**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**
Parameters	**Units**	**Statewide Default Background**	**NONRES_Direct Contact Criteria**	**AA_NONRES_Particulate Soil Inhalation**	**AA_NONRES_Infinite Source Volatile Soil Inhalation Criteria**									
VOAs		a	b	c	d									
1,1,1-Trichloroethane	mg/kg	-	100000	350000000	3700	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,1,2,2-Tetrachloroethane	mg/kg	-	170	52000	4.6	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,1,2-Trichloroethane	mg/kg	-	340	15	0.00066	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,1-Dichloroethane	mg/kg	-	5800	1900000	24	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,1-Dichloroethene	mg/kg	-	43000	15000000	120	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,2,4-Trichlorobenzene	mg/kg	-	1100	150000	27	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	-	41	540	0.1	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	-	17	5000	0.26	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
1,2-Dichlorobenzene	mg/kg	-	100000	23000000	1600	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
1,2-Dichloroethane	mg/kg	-	360	120000	3.1	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,2-Dichloropropane	mg/kg	-	920	310000	7	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
1,3-Dichlorobenzene	mg/kg	-	1700	230000	14	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
1,4-Dichlorobenzene	mg/kg	-	2600	770000	48	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	-	100000	250000000	18000	0.78 U	0.8 U	0.75 U	0.74 U	0.74 U	0.77 U	0.77 U	0.76 U	0.72 U
2-Hexanone	mg/kg	-	4300	2300000	180	2.6 U	2.7 U	2.5 U	2.5 U	2.5 U	2.6 U	2.6 U	2.5 U	2.4 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	-	43000	150000000	9400	2.6 U	2.7 U	2.5 U	2.5 U	2.5 U	2.6 U	2.6 U	2.5 U	2.4 U
Acetone	mg/kg	-	100000	1600000000	130000	0.78 U	0.8 U	0.75 U	0.74 U	0.74 U	0.77 U	0.77 U	0.76 U	0.72 U
Benzene	mg/kg	-	430	380000	8.2	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Bromodichloromethane	mg/kg	-	530	150000	3.7	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
Bromoform	mg/kg	-	4200	2700000	160	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
Bromomethane (Methyl bromide)	mg/kg	-	17000	770000	6.8	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Carbon disulfide	mg/kg	-	55000	54000000	400	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Carbon tetrachloride	mg/kg	-	510	540000	5.2	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Chlorobenzene	mg/kg	-	17000	3800000	150	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Chloroethane	mg/kg	-	17000	310000000	2500	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Chloroform (Trichloromethane)	mg/kg	-	8500	130000	2.1	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Chloromethane (Methyl chloride)	mg/kg	-	10000	6900000	52	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
cis-1,2-Dichloroethene	mg/kg	-	1700	620000	9.3	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
cis-1,3-Dichloropropene	mg/kg	-	-	-	-	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Cyclohexane	mg/kg	-	-	460000000	3200	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Dibromochloromethane	mg/kg	-	390	120000	5.9	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Dichlorodifluoromethane (CFC-12)	mg/kg	-	4300	25000000	160	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
Ethylbenzene	mg/kg	-	3000	1200000	41	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Isopropyl benzene	mg/kg	-	85000	290000	11	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Methyl acetate	mg/kg	-	-	-	-	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Methyl cyclohexane	mg/kg	-	-	-	-	1.3 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Methyl tert butyl ether (MTBE)	mg/kg	-	9800	12000000	340	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Methylene chloride	mg/kg	-	5100	46000000	610	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Styrene	mg/kg	-	2600	5300000	290	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Tetrachloroethene	mg/kg	-	5100	2100000	30	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Toluene	mg/kg	-	67000	380000000	9700	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
trans-1,2-Dichloroethene	mg/kg	-	17000	40000000	460	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
trans-1,3-Dichloropropene	mg/kg	-	-	-	-	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Trichloroethene	mg/kg	-	250	100000	1.4	0.052 U	0.054 U	0.05 U	0.049 U	0.049 U	0.051 U	0.051 U	0.051 U	0.048 U
Trichlorofluoromethane (CFC-11)	mg/kg	-	100000	34000000	240	0.1 U	0.11 U	0.1 U	0.099 U	0.099 U	0.1 U	0.1 U	0.1 U	0.096 U
Trifluorotrichloroethane (CFC-113)	mg/kg	-	100000	1500000000	14000	0.26 U	0.27 U	0.25 U	0.25 U	0.25 U	0.26 U	0.26 U	0.25 U	0.24 U
Vinyl chloride	mg/kg	-	46	680000	4.3	0.042 U	0.043 U	0.04 U	0.04 U	0.039 U	0.041 U	0.041 U	0.041 U	0.038 U
Xylenes (total)	mg/kg	-	100000	17000000	580	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.14 U
SVOAs														
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2,4,5-Trichlorophenol	mg/kg	-	26000	27000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2,4,6-Trichlorophenol	mg/kg	-	3000	970000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2,4-Dichlorophenol	mg/kg	-	17000	850000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2,4-Dimethylphenol	mg/kg	-	17000	5400000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2,4-Dinitrophenol	mg/kg	-	1700	540000	-	0.17 U	0.18 U	0.17 U	0.17 U	0.16 U	0.17 U	0.17 U	0.17 U	0.16 U
2,4-Dinitrotoluene	mg/kg	-	49	34000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2,6-Dinitrotoluene	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2-Chloronaphthalene	mg/kg	-	68000	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2-Chlorophenol	mg/kg	-	4000	900000	680	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2-Methylnaphthalene	mg/kg	-	3400	770000	270	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2-Methylphenol	mg/kg	-	100000	7700000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
2-Nitroaniline	mg/kg	-	-	-	-	0.23 U	0.24 U	0.22 U	0.22 U	0.22 U	0.23 U	0.22 U	0.22 U	0.22 U
2-Nitrophenol	mg/kg	-	1700	3900	2.7	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
3&4-Methylphenol	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
3,3'-Dichlorobenzidine	mg/kg	-	74	8800	-	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
3-Nitroaniline	mg/kg	-	-	-	-	0.23 U	0.24 U	0.22 U	0.22 U	0.22 U	0.23 U	0.22 U	0.22 U	0.22 U
4,6-Dinitro-2-methylphenol	mg/kg	-	340	150000	-	0.17 U	0.18 U	0.17 U	0.17 U	0.16 U	0.17 U	0.17 U	0.17 U	0.16 U
4-Bromophenyl phenyl ether	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
4-Chloro-3-methylphenol	mg/kg	-	50000	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
4-Chloroaniline	mg/kg	-	170	-	-	0.23 U	0.24 U	0.22 U	0.22 U	0.22 U	0.23 U	0.22 U	0.22 U	0.22 U
4-Chlorophenyl phenyl ether	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
4-Nitroaniline	mg/kg	-	-	-	-	0.23 U	0.24 U	0.22 U	0.22 U	0.22 U	0.23 U	0.22 U	0.22 U	0.22 U
4-Nitrophenol	mg/kg	-	-	-	-	0.38 U	0.4 U	0.37 U	0.37 U	0.36 U	0.38 U	0.37 U	0.37 U	0.36 U

Table 1

Summary of Soil Sampling Results from Stockpiled Material- December 2017
RACER Nodular Industrial Land
Saginaw, MI

Sample Location:						Stockpile-01-17	Stockpile-02-17	Stockpile-03-17	Stockpile-04-17	Stockpile-05-17	Stockpile-06-17	Stockpile-07-17	Stockpile-08-17	Stockpile-09-17
Sample ID:						S-58502-121817-SSH-1001	S-58502-121817-SSH-1002	S-58502-121817-SSH-1003	S-58502-121817-SSH-1004	S-58502-121817-SSH-1005	S-58502-121817-SSH-1006	S-58502-121817-SSH-1007	S-58502-121817-SSH-1008	S-58502-121817-SSH-1009
Sample Date:						12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017	12/18/2017
Sample Depth:						(0-1) ft BGS	(1-2) ft BGS	(2-3) ft BGS	(0-1) ft BGS	(1-2) ft BGS	(2-3) ft BGS	(0-1) ft BGS	(1-2) ft BGS	(2-3) ft BGS
Parameters	**Units**	**Statewide Default Background**	**NONRES_Direct Contact Criteria**	**AA_NONRES_Particulate Soil Inhalation**	**AA_NONRES_Infinite Source Volatile Soil Inhalation Criteria**									
Acenaphthene	mg/kg	-	51000	16000000	14000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Acenaphthylene	mg/kg	-	51000	16000000	18000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Acetophenone	mg/kg	-	100000	160000000	58000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Anthracene	mg/kg	-	100000	77000000	240000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Atrazine	mg/kg	-	15000	1600000	-	0.046 U	0.048 U	0.045 U	0.045 U	0.044 U*	0.046 U*	0.045 U*	0.045 U*	0.044 U*
Benzaldehyde	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Benzo(a)anthracene	mg/kg	-	-	50000	1300	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Benzo(a)pyrene	mg/kg	-	41	100	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Benzo(b)fluoranthene	mg/kg	-	-	50000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Benzo(g,h,i)perylene	mg/kg	-	2100	540000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Benzo(k)fluoranthene	mg/kg	-	-	500000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Biphenyl (1,1-Biphenyl)	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
bis(2-Chloroethoxy)methane	mg/kg	-	-	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
bis(2-Chloroethyl)ether	mg/kg	-	30	9100	1.8	0.091 U	0.096 U	0.089 U	0.09 U	0.088 U	0.092 U	0.09 U	0.089 U	0.088 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	-	3400	1900000	-	0.3 U	0.32 U	0.29 U	0.3 UF1	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Butyl benzylphthalate (BBP)	mg/kg	-	9900	60000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Caprolactam	mg/kg	-	100000	170000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Carbazole	mg/kg	-	340	1100000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Chrysene	mg/kg	-	-	5000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Dibenz(a,h)anthracene	mg/kg	-	-	5000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Dibenzofuran	mg/kg	-	850	310000	410	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Diethyl phthalate	mg/kg	-	100000	220000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Dimethyl phthalate	mg/kg	-	85000	3800000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Di-n-butylphthalate (DBP)	mg/kg	-	3300	1000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Di-n-octyl phthalate (DnOP)	mg/kg	-	15000	36000000	450000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Fluoranthene	mg/kg	-	49000	11000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Fluorene	mg/kg	-	34000	11000000	15000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Hexachlorobenzene	mg/kg	-	12	2700	1.1	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Hexachlorobutadiene	mg/kg	-	430	140000	8.8	0.046 U	0.048 U	0.045 U	0.045 U	0.044 U	0.046 U	0.045 U	0.045 U	0.044 U
Hexachlorocyclopentadiene	mg/kg	-	7400	15000	0.78	0.3 U	0.32 U	0.29 U	0.3 UF2F1	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Hexachloroethane	mg/kg	-	600	300000	14	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Indeno(1,2,3-cd)pyrene	mg/kg	-	-	50000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Isophorone	mg/kg	-	35000	11000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Naphthalene	mg/kg	-	85000	88000	24	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Nitrobenzene	mg/kg	-	1700	75000	33	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
N-Nitrosodi-n-propylamine	mg/kg	-	4.7	1500	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
N-Nitrosodiphenylamine	mg/kg	-	6800	-	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Pentachlorophenol	mg/kg	-	65	27000	-	0.17 U	0.18 U	0.17 U	0.17 U	0.16 U	0.17 U	0.17 U	0.17 U	0.16 U
Phenanthrene	mg/kg	-	26000	7700	28	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Phenol	mg/kg	-	100000	15000000	-	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Pyrene	mg/kg	-	37000	7700000	110000	0.3 U	0.32 U	0.29 U	0.3 U	0.29 U	0.3 U	0.3 U	0.29 U	0.29 U
Metals														
Arsenic	mg/kg	5.5	52	700	-	4.7	3.1	4.8	2.0	2.5	2.4	2.3	1.4	3.3
Barium	mg/kg	45	100000	380000	-	24	63	25	25	37	45	21	8.7	38
Cadmium	mg/kg	2	220	1700	-	0.10	0.25	0.11	0.12	0.13	0.18	0.092	0.065 U	0.12
Chromium	mg/kg	-	-	-	-	8.5	22	10	8.3	11	14	7.1	3.7	12
Copper	mg/kg	14	2500	150000	-	6.9	20	7.3	7.1	8.7	11	6.1	2.4	8.0
Lead	mg/kg	11	760	12000	-	16	16	4.3	3.6	5.3	11	9.4	13	5.3
Mercury	mg/kg	-	150	23000	0.19	0.043 U	0.048 U	0.048 U	0.041 U	0.039 U	0.051 U	0.044 U	0.045 U	0.043 U
Selenium	mg/kg	0.61	12000	1500000	-	0.32	0.72	0.32	0.39	0.37	0.48	0.27	0.14	0.36
Silver	mg/kg	-	670	230000	-	0.074 U	0.072 U	0.065 U	0.073 U	0.080 U	0.075 U	0.076 U	0.065 U	0.078 U
Zinc	mg/kg	39	100000	-	-	23	84	45	21	24	35	31	11	24
PCBs														
Aroclor-1016 (PCB-1016)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Aroclor-1221 (PCB-1221)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Aroclor-1232 (PCB-1232)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Aroclor-1242 (PCB-1242)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Aroclor-1248 (PCB-1248)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Aroclor-1254 (PCB-1254)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Aroclor-1260 (PCB-1260)	mg/kg	-	-	-	-	0.056 U	0.06 U	0.057 U	0.055 U	0.054 U	0.056 U	0.056 U	0.056 U	0.054 U
Pesticides														
4,4'-DDD	mg/kg	-	200	43000	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
4,4'-DDE	mg/kg	-	140	31000	290	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
4,4'-DDT	mg/kg	-	230	31000	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Aldrin	mg/kg	-	2.8	610	6.3	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
alpha-BHC	mg/kg	-	5.3	1700	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
alpha-Chlordane	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
beta-BHC	mg/kg	-	18	5700	-	0.0059 U*	0.0062 U*	0.0058 U*	0.0056 U*	0.029 U*	0.0057 U*	0.0058 U*	0.0058 U*	0.0056 U
delta-BHC	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Dieldrin	mg/kg	-	3	650	6.9	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Endosulfan I	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Endosulfan II	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U

Table 1

Summary of Soil Sampling Results from Stockpiled Material- December 2017
RACER Nodular Industrial Land
Saginaw, MI

Sample Location:						Stockpile-01-17	Stockpile-02-17	Stockpile-03-17	Stockpile-04-17	Stockpile-05-17	Stockpile-06-17	Stockpile-07-17	Stockpile-08-17	Stockpile-09-17
Sample ID:						**S-58502-121817-SSH-1001**	**S-58502-121817-SSH-1002**	**S-58502-121817-SSH-1003**	**S-58502-121817-SSH-1004**	**S-58502-121817-SSH-1005**	**S-58502-121817-SSH-1006**	**S-58502-121817-SSH-1007**	**S-58502-121817-SSH-1008**	**S-58502-121817-SSH-1009**
Sample Date:						**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**
Sample Depth:						**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**
Parameters	**Units**	**Statewide Default Background**	**NONRES_Direct Contact Criteria**	**AA_NONRES_Particulate Soil Inhalation**	**AA_NONRES_Infinite Source Volatile Soil Inhalation Criteria**									
Endosulfan sulfate	mg/kg	-	-	-	-	0.0059 U*	0.0062 U*	0.0058 U*	0.0056 U*	0.029 U*	0.0057 U*	0.0058 U*	0.0058 U*	0.0056 U*
Endrin	mg/kg	-	370	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Endrin aldehyde	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Endrin ketone	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
gamma-BHC (lindane)	mg/kg	-	39	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
gamma-Chlordane	mg/kg	-	-	-	-	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Heptachlor	mg/kg	-	40	2300	38	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Heptachlor epoxide	mg/kg	-	13	1200	4.8	0.0059 U	0.0062 U	0.0058 U	0.0056 U	0.029 U	0.0057 U	0.0058 U	0.0058 U	0.0056 U
Methoxychlor	mg/kg	-	3500	-	-	0.011 U	0.012 U	0.011 U	0.011 U	0.056 U	0.011 U	0.011 U	0.011 U	0.011 U
Toxaphene	mg/kg	-	44	9400	-	0.12 U	0.12 U	0.11 U	0.11 U	0.56 U	0.11 U	0.11 U	0.11 U	0.11 U
Herbicides														
2,4,5-T	mg/kg	-	-	-	-	0.0077 U	0.01 U	0.0075 U	0.013 U	0.0096 U	0.013 U	0.017 U	0.038 U	0.0073 U
2,4,5-TP (Silvex)	mg/kg	-	6800	-	-	0.0077 U	0.01 U	0.0075 U	0.013 U	0.0096 U	0.013 U	0.017 U	0.038 U	0.0073 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/kg	-	53000	13000000	-	0.0077 U	0.01 U	0.0075 U	0.013 U	0.0096 U	0.013 U	0.017 U	0.038 U	0.0073 U
Wet														
Total organic carbon (TOC)	mg/kg	-	-	-	-	3500	13000	3800	4000	4500	6000	3400	2900	4100

Footnotes:

U Not detected at the associated reporting limit.

Table 1

Summary of Soil Sampling Results from Stockpiled Material- December 2017
RACER Nodular Industrial Land
Saginaw, MI

Sample Location:		Stockpile-10-17	Stockpile-11-17	Stockpile-12-17	Stockpile-13-17	Stockpile-14-17	Stockpile-15-17	Stockpile-16-17	Stockpile-17-17	Stockpile-18-17	Stockpile-19-17	Stockpile-20-17	Stockpile-20-17
Sample ID:		**S-58502-121817-SSH-1010**	**S-58502-121817-SSH-1011**	**S-58502-121817-SSH-1012**	**S-58502-121817-SSH-1013**	**S-58502-121817-SSH-1014**	**S-58502-121817-SSH-1015**	**S-58502-121817-SSH-1016**	**S-58502-121817-SSH-1017**	**S-58502-121817-SSH-1018**	**S-58502-121817-SSH-1019**	**S-58502-121817-SSH-1020**	**S-58502-121817-SSH-1021**
Sample Date:		**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**
Sample Depth:		**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(1-2) ft BGS (Duplicate)**
Parameters	**Units**												
VOAs													
1,1,1-Trichloroethane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,1,2,2-Tetrachloroethane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,1,2-Trichloroethane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,1-Dichloroethane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,1-Dichloroethene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,2,4-Trichlorobenzene	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
1,2-Dibromoethane (Ethylene dibromide)	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
1,2-Dichlorobenzene	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
1,2-Dichloroethane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,2-Dichloropropane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
1,3-Dichlorobenzene	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
1,4-Dichlorobenzene	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/kg	0.68 U	0.78 U	0.75 U	0.83 U	0.72 U	0.75 U	0.8 U	0.68 U	0.72 U	0.73 U	0.81 U	0.7 U*
2-Hexanone	mg/kg	2.3 U	2.6 U	2.5 U	2.8 U	2.4 U	2.5 U	2.7 U	2.3 U	2.4 U	2.4 U	2.7 U	2.3 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/kg	2.3 U	2.6 U	2.5 U	2.8 U	2.4 U	2.5 U	2.7 U	2.3 U	2.4 U	2.4 U	2.7 U	2.3 U
Acetone	mg/kg	0.68 U	0.78 U	0.75 U	0.83 U	0.72 U	0.75 U	0.8 U	0.68 U	0.72 U	0.73 U	0.81 U	0.7 U
Benzene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Bromodichloromethane	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
Bromoform	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
Bromomethane (Methyl bromide)	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Carbon disulfide	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Carbon tetrachloride	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Chlorobenzene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Chloroethane	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Chloroform (Trichloromethane)	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Chloromethane (Methyl chloride)	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
cis-1,2-Dichloroethene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
cis-1,3-Dichloropropene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Cyclohexane	mg/kg	1.1 U	1.2 U	1.2 U	1.3 U	1.1 U	1.2 U	1.3 U	1.1 U	1.1 U	1.2 U	1.3 U	1.1 U
Dibromochloromethane	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
Ethylbenzene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Isopropyl benzene	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Methyl acetate	mg/kg	1.1 U	1.2 U	1.2 U	1.3 U	1.1 U	1.2 U	1.3 U	1.1 U	1.1 U	1.2 U	1.3 U	1.1 U
Methyl cyclohexane	mg/kg	1.1 U	1.2 U	1.2 U	1.3 U	1.1 U	1.2 U	1.3 U	1.1 U	1.1 U	1.2 U	1.3 U	1.1 U
Methyl tert butyl ether (MTBE)	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Methylene chloride	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Styrene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Tetrachloroethene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Toluene	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
trans-1,2-Dichloroethene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
trans-1,3-Dichloropropene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Trichloroethene	mg/kg	0.045 U	0.052 U	0.05 U	0.055 U	0.048 U	0.05 U	0.054 U	0.046 U	0.048 U	0.049 U	0.054 U	0.047 U
Trichlorofluoromethane (CFC-11)	mg/kg	0.09 U	0.1 U	0.099 U	0.11 U	0.095 U	0.1 U	0.11 U	0.091 U	0.096 U	0.097 U	0.11 U	0.093 U
Trifluorotrichloroethane (CFC-113)	mg/kg	0.23 U	0.26 U	0.25 U	0.28 U	0.24 U	0.25 U	0.27 U	0.23 U	0.24 U	0.24 U	0.27 U	0.23 U
Vinyl chloride	mg/kg	0.036 U	0.041 U	0.04 U	0.044 U	0.038 U	0.04 U	0.043 U	0.037 U	0.038 U	0.039 U	0.043 U	0.037 U
Xylenes (total)	mg/kg	0.14 U	0.16 U	0.15 U	0.17 U	0.14 U	0.15 U	0.16 U	0.14 U	0.14 U	0.15 U	0.16 U	0.14 U
SVOAs													
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2,4,5-Trichlorophenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2,4,6-Trichlorophenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2,4-Dichlorophenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2,4-Dimethylphenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2,4-Dinitrophenol	mg/kg	0.16 U	0.18 U	0.17 U	0.18 U	0.17 U	0.17 U	0.18 U	0.16 U	0.17 U	0.16 U	0.18 U	0.17 U
2,4-Dinitrotoluene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2,6-Dinitrotoluene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2-Chloronaphthalene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2-Chlorophenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2-Methylnaphthalene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2-Methylphenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
2-Nitroaniline	mg/kg	0.22 U	0.24 U	0.23 U	0.24 U	0.23 U	0.23 U	0.23 U	0.21 U	0.22 U	0.22 U	0.24 U	0.23 U
2-Nitrophenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
3&4-Methylphenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
3,3'-Dichlorobenzidine	mg/kg	1.7 U	1.9 U	1.8 U	1.9 U	1.8 U	1.8 U	1.9 U	1.7 U	1.8 U	1.7 U	1.9 U	1.8 U
3-Nitroaniline	mg/kg	0.22 U	0.24 U	0.23 U	0.24 U	0.23 U	0.23 U	0.23 U	0.21 U	0.22 U	0.22 U	0.24 U	0.23 U
4,6-Dinitro-2-methylphenol	mg/kg	0.16 U	0.18 U	0.17 U	0.18 U	0.17 U	0.17 U	0.18 U	0.16 U	0.17 U	0.16 U	0.18 U	0.17 U
4-Bromophenyl phenyl ether	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
4-Chloro-3-methylphenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
4-Chloroaniline	mg/kg	0.22 U	0.24 U	0.23 U	0.24 U	0.23 U	0.23 U	0.23 U	0.21 U	0.22 U	0.22 U	0.24 U	0.23 U
4-Chlorophenyl phenyl ether	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
4-Nitroaniline	mg/kg	0.22 U	0.24 U	0.23 U	0.24 U	0.23 U	0.23 U	0.23 U	0.21 U	0.22 U	0.22 U	0.24 U	0.23 U
4-Nitrophenol	mg/kg	0.36 U	0.39 U	0.37 U	0.4 U	0.37 U	0.37 U	0.39 U	0.35 U	0.37 U	0.36 U	0.39 U	0.37 U

Table 1

Summary of Soil Sampling Results from Stockpiled Material- December 2017
RACER Nodular Industrial Land
Saginaw, MI

Sample Location:		Stockpile-10-17	Stockpile-11-17	Stockpile-12-17	Stockpile-13-17	Stockpile-14-17	Stockpile-15-17	Stockpile-16-17	Stockpile-17-17	Stockpile-18-17	Stockpile-19-17	Stockpile-20-17	Stockpile-20-17
Sample ID:		**S-58502-121817-SSH-1010**	**S-58502-121817-SSH-1011**	**S-58502-121817-SSH-1012**	**S-58502-121817-SSH-1013**	**S-58502-121817-SSH-1014**	**S-58502-121817-SSH-1015**	**S-58502-121817-SSH-1016**	**S-58502-121817-SSH-1017**	**S-58502-121817-SSH-1018**	**S-58502-121817-SSH-1019**	**S-58502-121817-SSH-1020**	**S-58502-121817-SSH-1021**
Sample Date:		**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**
Sample Depth:		**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(1-2) ft BGS (Duplicate)**
Parameters	**Units**												
Acenaphthene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Acenaphthylene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Acetophenone	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Anthracene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Atrazine	mg/kg	0.044 U*	0.047 U*	0.045 U*	0.048 U*	0.045 U*	0.045 U*	0.047 U*	0.042 U*	0.045 U*	0.044 U*	0.048 U*	0.045 U*
Benzaldehyde	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Benzo(a)anthracene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.32	0.32 U	0.3 U
Benzo(a)pyrene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Benzo(b)fluoranthene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.43	0.32 U	0.3 U
Benzo(g,h,i)perylene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Benzo(k)fluoranthene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Biphenyl (1,1-Biphenyl)	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
bis(2-Chloroethoxy)methane	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
bis(2-Chloroethyl)ether	mg/kg	0.087 U	0.094 U	0.091 U	0.097 U	0.091 U	0.09 U	0.094 U	0.084 U	0.089 U	0.087 U	0.095 U	0.09 U
bis(2-Ethylhexyl)phthalate (DEHP)	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Butyl benzylphthalate (BBP)	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Caprolactam	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Carbazole	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Chrysene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.31	0.32 U	0.3 U
Dibenz(a,h)anthracene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Dibenzofuran	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Diethyl phthalate	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Dimethyl phthalate	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Di-n-butylphthalate (DBP)	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Di-n-octyl phthalate (DnOP)	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Fluoranthene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.87	0.32 U	0.3 U
Fluorene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Hexachlorobenzene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Hexachlorobutadiene	mg/kg	0.044 U	0.047 U	0.045 U	0.048 U	0.045 U	0.045 U	0.047 U	0.042 U	0.045 U	0.044 U	0.048 U	0.045 U
Hexachlorocyclopentadiene	mg/kg	0.29 U	0.31 UF1	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Hexachloroethane	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Isophorone	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Naphthalene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Nitrobenzene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
N-Nitrosodi-n-propylamine	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
N-Nitrosodiphenylamine	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Pentachlorophenol	mg/kg	0.16 U	0.18 U	0.17 U	0.18 U	0.17 U	0.17 U	0.18 U	0.16 U	0.17 U	0.16 U	0.18 U	0.17 U
Phenanthrene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.55	0.32 U	0.3 U
Phenol	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.29 U	0.32 U	0.3 U
Pyrene	mg/kg	0.29 U	0.31 U	0.3 U	0.32 U	0.3 U	0.3 U	0.31 U	0.28 U	0.3 U	0.76	0.32 U	0.3 U
Metals													
Arsenic	mg/kg	2.3	2.3	2.1	3.3	3.3	3.1	2.4	1.7	2.8	2.4	3.7	1.9
Barium	mg/kg	21	29	47	35	30	22	23	8.0	27	21	28	40
Cadmium	mg/kg	0.10	0.12	0.12	0.14	0.15	0.12	0.097	0.058 U	0.13	0.11	0.24	0.21
Chromium	mg/kg	7.1	8.5	14	11	9.2	5.7	7.2	3.1	7.1	7.1	9.0	11
Copper	mg/kg	5.0	6.8	9.9	9.6	7.6	6.0	5.9	2.7	6.0	5.1	11	14
Lead	mg/kg	7.0	8.4	5.0	8.0	11	11	6.7	5.0	13	7.0	39	37
Mercury	mg/kg	0.048 U	0.045 U	0.045 U	0.050 U	0.051 U	0.051 U	0.050 U	0.046 U	0.048 U	0.043	0.050 U	0.042 U*
Selenium	mg/kg	0.20	0.38	0.45	0.40	0.31	0.23	0.26	0.16	0.24	0.17	0.31	0.16
Silver	mg/kg	0.086 U	0.082 U	0.079 U	0.079 U	0.089 U	0.065 U	0.072 U	0.058 U	0.066 U	0.080 U	0.089 U	0.033 U
Zinc	mg/kg	18	24	25	36	36	26	17	9.5	27	25	47	67
PCBs													
Aroclor-1016 (PCB-1016)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Aroclor-1221 (PCB-1221)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Aroclor-1232 (PCB-1232)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Aroclor-1242 (PCB-1242)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Aroclor-1248 (PCB-1248)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Aroclor-1254 (PCB-1254)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Aroclor-1260 (PCB-1260)	mg/kg	0.055 U	0.059 U	0.054 U	0.06 U	0.055 U	0.056 U	0.058 U	0.053 U	0.055 U	0.055 U	0.059 U	0.057 U
Pesticides													
4,4'-DDD	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
4,4'-DDE	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
4,4'-DDT	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Aldrin	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
alpha-BHC	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
alpha-Chlordane	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
beta-BHC	mg/kg	0.0055 U*	0.03 U*	0.0056 U*	0.0061 U*	0.0059 U	0.0056 U*	0.0059 U*	0.0053 U*	0.0057 U*	0.0056 U*	0.03 U*	0.028 U
delta-BHC	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Dieldrin	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Endosulfan I	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Endosulfan II	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U

Table 1

Summary of Soil Sampling Results from Stockpiled Material- December 2017
RACER Nodular Industrial Land
Saginaw, MI

Sample Location:		**Stockpile-10-17**	**Stockpile-11-17**	**Stockpile-12-17**	**Stockpile-13-17**	**Stockpile-14-17**	**Stockpile-15-17**	**Stockpile-16-17**	**Stockpile-17-17**	**Stockpile-18-17**	**Stockpile-19-17**	**Stockpile-20-17**	**Stockpile-20-17**
Sample ID:		**S-58502-121817-SSH-1010**	**S-58502-121817-SSH-1011**	**S-58502-121817-SSH-1012**	**S-58502-121817-SSH-1013**	**S-58502-121817-SSH-1014**	**S-58502-121817-SSH-1015**	**S-58502-121817-SSH-1016**	**S-58502-121817-SSH-1017**	**S-58502-121817-SSH-1018**	**S-58502-121817-SSH-1019**	**S-58502-121817-SSH-1020**	**S-58502-121817-SSH-1021**
Sample Date:		**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**	**12/18/2017**
Sample Depth:		**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(2-3) ft BGS**	**(0-1) ft BGS**	**(1-2) ft BGS**	**(1-2) ft BGS (Duplicate)**
Parameters	**Units**												
Endosulfan sulfate	mg/kg	0.0055 U*	0.03 U*	0.0056 U*	0.0061 U*	0.0059 U*	0.0056 U*	0.0059 U*	0.0053 U*	0.0057 U*	0.0056 U*	0.03 U*	0.028 U
Endrin	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Endrin aldehyde	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Endrin ketone	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
gamma-BHC (lindane)	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
gamma-Chlordane	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Heptachlor	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Heptachlor epoxide	mg/kg	0.0055 U	0.03 U	0.0056 U	0.0061 U	0.0059 U	0.0056 U	0.0059 U	0.0053 U	0.0057 U	0.0056 U	0.03 U	0.028 U
Methoxychlor	mg/kg	0.011 U	0.058 U	0.011 U	0.012 U	0.011 U	0.011 U	0.011 U	0.01 U	0.011 U	0.011 U	0.058 U	0.055 U
Toxaphene	mg/kg	0.11 U	0.58 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U	0.1 U	0.11 U	0.11 U	0.59 U	0.56 U
Herbicides													
2,4,5-T	mg/kg	0.014 U	0.0078 U	0.013 U	0.039 U	0.012 U	0.061 U	0.0083 U	0.0083 U	0.039 U	0.061 U	0.039 U	0.0076 U
2,4,5-TP (Silvex)	mg/kg	0.014 U	0.0078 U	0.013 U	0.039 U	0.012 U	0.061 U	0.0083 U	0.0083 U	0.039 U	0.061 U	0.039 U	0.0076 U
2,4-Dichlorophenoxyacetic acid (2,4-D)	mg/kg	0.014 U	0.0078 U	0.013 U	0.039 U	0.012 U	0.061 U	0.0083 U	0.0083 U	0.039 U	0.061 U	0.039 U	0.0076 U
Wet													
Total organic carbon (TOC)	mg/kg	3500	3600	4500	7200	5400	3800	2700	2200	3100	4100	9600	8200

Footnotes:

U Not detected at the associated reporting limit.

Attachment A
Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

TestAmerica Job ID: 240-89576-1
Client Project/Site: 58502-019, RACER Nodular Iron

For:
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Attn: James Abston

Denise D Heckler

Authorized for release by:
1/5/2018 2:02:21 PM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Definitions/Glossary 6
Sample Summary 8
Detection Summary 9
Method Summary 15
Client Sample Results 16
QC Association Summary 247
QC Sample Results 259
Surrogate Summary 290
Lab Chronicle 294
Certification Summary 309
Chain of Custody 310
Receipt Checklists 318

Job ID: 240-89576-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-89576-1

Comments
No additional comments.

Receipt
The samples were received on 12/19/2017 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.5º C and 5.5º C.

GC/MS VOA
Method(s) 5035: All samples were received in pre-weighed containers with a label that was added in the field, which would cause a slight low bias in the final results.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-308903 and analytical batch 240-309086.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-308903 and analytical batch 240-309377.

Method(s) 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-308992 and analytical batch 240-309377.

Method(s) 8260B: The laboratory control sample (LCS) for preparation batch 240-308992 and analytical batch 240-309377 recovered outside control limits for 2-butanone. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The method blank for preparation batch 240-308992 contained Chlorobenzene above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method(s) 5035: Insufficient sample volume was available to perform a client requested matrix spike/matrix spike duplicate (MS/MSD) for sample S-58502-121817-SSH-1011 (240-89576-11) associated with preparation batch 240-308903.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C: The laboratory control sample (LCS) for prep batch 309572 recovered outside control limits for the following analytes: Atrazine. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-121817-SSH-1001 (240-89576-1), S-58502-121817-SSH-1002 (240-89576-2), S-58502-121817-SSH-1003 (240-89576-3), S-58502-121817-SSH-1004 (240-89576-4), S-58502-121817-SSH-1005 (240-89576-5), S-58502-121817-SSH-1006 (240-89576-6), S-58502-121817-SSH-1007 (240-89576-7), S-58502-121817-SSH-1008 (240-89576-8), S-58502-121817-SSH-1009 (240-89576-9), S-58502-121817-SSH-1010 (240-89576-10), S-58502-121817-SSH-1011 (240-89576-11), S-58502-121817-SSH-1011 (240-89576-11[MS]), S-58502-121817-SSH-1011 (240-89576-11[MSD]), S-58502-121817-SSH-1012 (240-89576-12), S-58502-121817-SSH-1013 (240-89576-13), S-58502-121817-SSH-1014 (240-89576-14) and S-58502-121817-SSH-1015 (240-89576-15).3394463, 3154249, 3361889.

Method(s) 8082A: Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate

Job ID: 240-89576-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

compounds outside limits: S-58502-121817-SSH-1001 (240-89576-1). These results have been reported and qualified.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-121817-SSH-1016 (240-89576-16) and S-58502-121817-SSH-1017 (240-89576-17).3414952, 3154249, 3361889.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-121817-SSH-1019 (240-89576-19) and S-58502-121817-SSH-1020 (240-89576-20).3414952, 3154249, 3361889.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-58502-121817-SSH-1021 (240-89576-21).3414952, 3154249, 3361889.

Method(s) 8081A: The laboratory control sample (LCS) for preparation batch 240-309456 and analytical batch 240-309735 recovered outside control limits for the following analytes Endosulfan sulfate and beta-BHC: These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8081A: Surrogate Tetrachloro-m-xylene recovery for the following sample was outside the upper control limit: S-58502-121817-SSH-1005 (240-89576-5). This sample did not contain any target analytes; therefore, re-extraction and re-analysis was not performed.

Method(s) 8081A: The following samples were diluted due to the nature of the sample matrix : S-58502-121817-SSH-1020 (240-89576-20), S-58502-121817-SSH-1021 (240-89576-21) and (240-89578-E-4-G). As such, surrogate recoveries might be below the calibration range, and elevated reporting limits (RLs) are provided.

Method(s) 8081A: The laboratory control sample (LCS) for preparation batch 240-309456 and analytical batch 240-309842 recovered outside control limits for the following analytes: beta-BHC and Endosulfan sulfate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8081A: The following samples were diluted due to the nature of the sample matrix S-58502-121817-SSH-1005 (240-89576-5) and S-58502-121817-SSH-1011 (240-89576-11). As such, surrogate recoveries may be below the calibration range, and elevated reporting limits (RLs) are provided.

Method(s) 8151A: The continuing calibration verification (CCV) associated with batch 600-228778 recovered above the upper control limit for 2,4-D(19.9%), and DCAA(24.8%),. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 600-228778/27).

Method(s) 8151A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 600-228696 and analytical batch 600-228778 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8151A: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 600-228696 and analytical batch 600-228778 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method(s) 8151A: The continuing calibration verification (CCV) associated with batch 600-228778 recovered above the upper control limit for 2,4-D(37.3%), DCAA(38.8%),and 2,4,5-TP(26.6%) The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 600-228778/51) and (CCV 600-228778/52).

Method(s) 8151A: Surrogate recovery for the following samples was outside control limits: S-58502-121817-SSH-1009 (240-89576-9), S-58502-121817-SSH-1011 (240-89576-11), S-58502-121817-SSH-1012 (240-89576-12), S-58502-121817-SSH-1019 (240-89576-19) and S-58502-121817-SSH-1020 (240-89576-20). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8151A: The following samples was diluted due to dark color appearance: S-58502-121817-SSH-1008 (240-89576-8), S-58502-121817-SSH-1013 (240-89576-13), S-58502-121817-SSH-1015 (240-89576-15), S-58502-121817-SSH-1018 (240-89576-18) and S-58502-121817-SSH-1020 (240-89576-20). Elevated reporting limits (RL) are provided.

Job ID: 240-89576-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: S-58502-121817-SSH-1001 (240-89576-1), S-58502-121817-SSH-1002 (240-89576-2), S-58502-121817-SSH-1003 (240-89576-3), S-58502-121817-SSH-1004 (240-89576-4), S-58502-121817-SSH-1005 (240-89576-5), S-58502-121817-SSH-1006 (240-89576-6), S-58502-121817-SSH-1007 (240-89576-7), S-58502-121817-SSH-1008 (240-89576-8), S-58502-121817-SSH-1009 (240-89576-9), S-58502-121817-SSH-1010 (240-89576-10), S-58502-121817-SSH-1011 (240-89576-11), S-58502-121817-SSH-1012 (240-89576-12), S-58502-121817-SSH-1013 (240-89576-13), S-58502-121817-SSH-1014 (240-89576-14), S-58502-121817-SSH-1015 (240-89576-15), S-58502-121817-SSH-1016 (240-89576-16), S-58502-121817-SSH-1017 (240-89576-17), S-58502-121817-SSH-1018 (240-89576-18), S-58502-121817-SSH-1019 (240-89576-19) and S-58502-121817-SSH-1020 (240-89576-20)The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 6020: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: S-58502-121817-SSH-1001 (240-89576-1), S-58502-121817-SSH-1002 (240-89576-2), S-58502-121817-SSH-1003 (240-89576-3), S-58502-121817-SSH-1004 (240-89576-4), S-58502-121817-SSH-1005 (240-89576-5), S-58502-121817-SSH-1006 (240-89576-6), S-58502-121817-SSH-1007 (240-89576-7), S-58502-121817-SSH-1008 (240-89576-8), S-58502-121817-SSH-1009 (240-89576-9), S-58502-121817-SSH-1010 (240-89576-10), S-58502-121817-SSH-1011 (240-89576-11), S-58502-121817-SSH-1012 (240-89576-12), S-58502-121817-SSH-1013 (240-89576-13), S-58502-121817-SSH-1014 (240-89576-14), S-58502-121817-SSH-1015 (240-89576-15), S-58502-121817-SSH-1016 (240-89576-16), S-58502-121817-SSH-1017 (240-89576-17), S-58502-121817-SSH-1018 (240-89576-18), S-58502-121817-SSH-1019 (240-89576-19) and S-58502-121817-SSH-1020 (240-89576-20). The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 7471A, 7471B: The laboratory control sample (LCS) for preparation batch 240-308713 and analytical batch 240-308949 recovered outside control limits for the following analytes: mercury. These analytes were biased high in the LCS and were below the requested reporting limit in the associated samples; therefore, the data have been reported.S-58502-121817-SSH-1021 (240-89576-21)

Method(s) 200.7 Rev 4.4, 6010B, 6010C: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: S-58502-121817-SSH-1021 (240-89576-21). The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 6020: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: S-58502-121817-SSH-1021 (240-89576-21). The continuing calibration blanks and method blanks may not support the lower PQL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 8151A: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: S-58502-121817-SSH-1002 (240-89576-2), S-58502-121817-SSH-1004 (240-89576-4), S-58502-121817-SSH-1005 (240-89576-5), S-58502-121817-SSH-1006 (240-89576-6), S-58502-121817-SSH-1007 (240-89576-7), S-58502-121817-SSH-1010 (240-89576-10), S-58502-121817-SSH-1012 (240-89576-12), S-58502-121817-SSH-1013 (240-89576-13), S-58502-121817-SSH-1014 (240-89576-14), S-58502-121817-SSH-1015 (240-89576-15), S-58502-121817-SSH-1016 (240-89576-16), S-58502-121817-SSH-1017 (240-89576-17), S-58502-121817-SSH-1018 (240-89576-18) and S-58502-121817-SSH-1019 (240-89576-19).

Method(s) 8151A: Due to the matrix, the following samples could not be concentrated to the final method required volume: S-58502-121817-SSH-1007 (240-89576-7), S-58502-121817-SSH-1013 (240-89576-13) and S-58502-121817-SSH-1019 (240-89576-19). The reporting limits (RLs) are elevated proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Sample Summary

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-89576-1	S-58502-121817-SSH-1001	Solid	12/18/17 09:30	12/19/17 10:30
240-89576-2	S-58502-121817-SSH-1002	Solid	12/18/17 09:40	12/19/17 10:30
240-89576-3	S-58502-121817-SSH-1003	Solid	12/18/17 09:55	12/19/17 10:30
240-89576-4	S-58502-121817-SSH-1004	Solid	12/18/17 10:05	12/19/17 10:30
240-89576-5	S-58502-121817-SSH-1005	Solid	12/18/17 10:15	12/19/17 10:30
240-89576-6	S-58502-121817-SSH-1006	Solid	12/18/17 10:30	12/19/17 10:30
240-89576-7	S-58502-121817-SSH-1007	Solid	12/18/17 10:40	12/19/17 10:30
240-89576-8	S-58502-121817-SSH-1008	Solid	12/18/17 10:50	12/19/17 10:30
240-89576-9	S-58502-121817-SSH-1009	Solid	12/18/17 11:05	12/19/17 10:30
240-89576-10	S-58502-121817-SSH-1010	Solid	12/18/17 11:20	12/19/17 10:30
240-89576-11	S-58502-121817-SSH-1011	Solid	12/18/17 11:30	12/19/17 10:30
240-89576-12	S-58502-121817-SSH-1012	Solid	12/18/17 11:45	12/19/17 10:30
240-89576-13	S-58502-121817-SSH-1013	Solid	12/18/17 12:15	12/19/17 10:30
240-89576-14	S-58502-121817-SSH-1014	Solid	12/18/17 12:25	12/19/17 10:30
240-89576-15	S-58502-121817-SSH-1015	Solid	12/18/17 12:40	12/19/17 10:30
240-89576-16	S-58502-121817-SSH-1016	Solid	12/18/17 12:50	12/19/17 10:30
240-89576-17	S-58502-121817-SSH-1017	Solid	12/18/17 13:00	12/19/17 10:30
240-89576-18	S-58502-121817-SSH-1018	Solid	12/18/17 13:15	12/19/17 10:30
240-89576-19	S-58502-121817-SSH-1019	Solid	12/18/17 13:25	12/19/17 10:30
240-89576-20	S-58502-121817-SSH-1020	Solid	12/18/17 13:40	12/19/17 10:30
240-89576-21	S-58502-121817-SSH-1021	Solid	12/18/17 13:41	12/19/17 10:30

Detection Summary

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Client Sample ID: S-58502-121817-SSH-1001 — Lab Sample ID: 240-89576-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	24		0.74		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.10		0.074		mg/Kg	1	☼	6010B	Total/NA
Chromium	8.5		0.74		mg/Kg	1	☼	6010B	Total/NA
Copper	6.9		0.74		mg/Kg	1	☼	6010B	Total/NA
Zinc	23		1.8		mg/Kg	1	☼	6010B	Total/NA
Lead	16		0.22		mg/Kg	1	☼	6010B	Total/NA
Arsenic	4.7		0.074		mg/Kg	2	☼	6020	Total/NA
Selenium	0.32		0.15		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3500		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1002 — Lab Sample ID: 240-89576-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	63		0.72		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.25		0.072		mg/Kg	1	☼	6010B	Total/NA
Chromium	22		0.72		mg/Kg	1	☼	6010B	Total/NA
Copper	20		0.72		mg/Kg	1	☼	6010B	Total/NA
Zinc	84		1.8		mg/Kg	1	☼	6010B	Total/NA
Lead	16		0.22		mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.1		0.072		mg/Kg	2	☼	6020	Total/NA
Selenium	0.72		0.14		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	13000		1200		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1003 — Lab Sample ID: 240-89576-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	25		0.65		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.11		0.065		mg/Kg	1	☼	6010B	Total/NA
Chromium	10		0.65		mg/Kg	1	☼	6010B	Total/NA
Copper	7.3		0.65		mg/Kg	1	☼	6010B	Total/NA
Zinc	45		1.6		mg/Kg	1	☼	6010B	Total/NA
Lead	4.3		0.20		mg/Kg	1	☼	6010B	Total/NA
Arsenic	4.8		0.065		mg/Kg	2	☼	6020	Total/NA
Selenium	0.32		0.13		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3800		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1004 — Lab Sample ID: 240-89576-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	25		0.73		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.073		mg/Kg	1	☼	6010B	Total/NA
Chromium	8.3		0.73		mg/Kg	1	☼	6010B	Total/NA
Copper	7.1		0.73		mg/Kg	1	☼	6010B	Total/NA
Zinc	21		1.8		mg/Kg	1	☼	6010B	Total/NA
Lead	3.6		0.22		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.0		0.073		mg/Kg	2	☼	6020	Total/NA
Selenium	0.39		0.15		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	4000		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1005 — Lab Sample ID: 240-89576-5

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-58502-121817-SSH-1005 (Continued) — Lab Sample ID: 240-89576-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	37		0.80		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.13		0.080		mg/Kg	1	☼	6010B	Total/NA
Chromium	11		0.80		mg/Kg	1	☼	6010B	Total/NA
Copper	8.7		0.80		mg/Kg	1	☼	6010B	Total/NA
Zinc	24		2.0		mg/Kg	1	☼	6010B	Total/NA
Lead	5.3		0.24		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.5		0.080		mg/Kg	2	☼	6020	Total/NA
Selenium	0.37		0.16		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	4500		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1006 — Lab Sample ID: 240-89576-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	45		0.75		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.18		0.075		mg/Kg	1	☼	6010B	Total/NA
Chromium	14		0.75		mg/Kg	1	☼	6010B	Total/NA
Copper	11		0.75		mg/Kg	1	☼	6010B	Total/NA
Zinc	35		1.9		mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.22		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.4		0.075		mg/Kg	2	☼	6020	Total/NA
Selenium	0.48		0.15		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	6000		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1007 — Lab Sample ID: 240-89576-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	21		0.76		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.092		0.076		mg/Kg	1	☼	6010B	Total/NA
Chromium	7.1		0.76		mg/Kg	1	☼	6010B	Total/NA
Copper	6.1		0.76		mg/Kg	1	☼	6010B	Total/NA
Zinc	31		1.9		mg/Kg	1	☼	6010B	Total/NA
Lead	9.4		0.23		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.3		0.076		mg/Kg	2	☼	6020	Total/NA
Selenium	0.27		0.15		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3400		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1008 — Lab Sample ID: 240-89576-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	8.7		0.65		mg/Kg	1	☼	6010B	Total/NA
Chromium	3.7		0.65		mg/Kg	1	☼	6010B	Total/NA
Copper	2.4		0.65		mg/Kg	1	☼	6010B	Total/NA
Zinc	11		1.6		mg/Kg	1	☼	6010B	Total/NA
Lead	13		0.20		mg/Kg	1	☼	6010B	Total/NA
Arsenic	1.4		0.065		mg/Kg	2	☼	6020	Total/NA
Selenium	0.14		0.13		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	2900		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1009 — Lab Sample ID: 240-89576-9

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-58502-121817-SSH-1009 (Continued) — Lab Sample ID: 240-89576-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	38		0.78		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.078		mg/Kg	1	☼	6010B	Total/NA
Chromium	12		0.78		mg/Kg	1	☼	6010B	Total/NA
Copper	8.0		0.78		mg/Kg	1	☼	6010B	Total/NA
Zinc	24		1.9		mg/Kg	1	☼	6010B	Total/NA
Lead	5.3		0.23		mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.3		0.078		mg/Kg	2	☼	6020	Total/NA
Selenium	0.36		0.16		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	4100		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1010 — Lab Sample ID: 240-89576-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	21		0.86		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.10		0.086		mg/Kg	1	☼	6010B	Total/NA
Chromium	7.1		0.86		mg/Kg	1	☼	6010B	Total/NA
Copper	5.0		0.86		mg/Kg	1	☼	6010B	Total/NA
Zinc	18		2.2		mg/Kg	1	☼	6010B	Total/NA
Lead	7.0		0.26		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.3		0.086		mg/Kg	2	☼	6020	Total/NA
Selenium	0.20		0.17		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3500		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1011 — Lab Sample ID: 240-89576-11

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	29		0.82		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.082		mg/Kg	1	☼	6010B	Total/NA
Chromium	8.5		0.82		mg/Kg	1	☼	6010B	Total/NA
Copper	6.8		0.82		mg/Kg	1	☼	6010B	Total/NA
Zinc	24		2.0		mg/Kg	1	☼	6010B	Total/NA
Lead	8.4		0.25		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.3		0.082		mg/Kg	2	☼	6020	Total/NA
Selenium	0.38		0.16		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3600		1200		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1012 — Lab Sample ID: 240-89576-12

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	47		0.79		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.079		mg/Kg	1	☼	6010B	Total/NA
Chromium	14		0.79		mg/Kg	1	☼	6010B	Total/NA
Copper	9.9		0.79		mg/Kg	1	☼	6010B	Total/NA
Zinc	25		2.0		mg/Kg	1	☼	6010B	Total/NA
Lead	5.0		0.24		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.1		0.079		mg/Kg	2	☼	6020	Total/NA
Selenium	0.45		0.16		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	4500		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1013 — Lab Sample ID: 240-89576-13

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-58502-121817-SSH-1013 (Continued) — Lab Sample ID: 240-89576-13

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	35		0.79		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.14		0.079		mg/Kg	1	☼	6010B	Total/NA
Chromium	11		0.79		mg/Kg	1	☼	6010B	Total/NA
Copper	9.6		1.6		mg/Kg	2	☼	6010B	Total/NA
Zinc	36		2.0		mg/Kg	1	☼	6010B	Total/NA
Lead	8.0		0.24		mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.3		0.079		mg/Kg	2	☼	6020	Total/NA
Selenium	0.40		0.16		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	7200		1200		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1014 — Lab Sample ID: 240-89576-14

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	30		0.89		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.15		0.089		mg/Kg	1	☼	6010B	Total/NA
Chromium	9.2		0.89		mg/Kg	1	☼	6010B	Total/NA
Copper	7.6		0.89		mg/Kg	1	☼	6010B	Total/NA
Zinc	36		2.2		mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.27		mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.3		0.089		mg/Kg	2	☼	6020	Total/NA
Selenium	0.31		0.18		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	5400		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1015 — Lab Sample ID: 240-89576-15

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	22		0.65		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.12		0.065		mg/Kg	1	☼	6010B	Total/NA
Chromium	5.7		0.65		mg/Kg	1	☼	6010B	Total/NA
Copper	6.0		0.65		mg/Kg	1	☼	6010B	Total/NA
Zinc	26		1.6		mg/Kg	1	☼	6010B	Total/NA
Lead	11		0.19		mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.1		0.065		mg/Kg	2	☼	6020	Total/NA
Selenium	0.23		0.13		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3800		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1016 — Lab Sample ID: 240-89576-16

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	23		0.72		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.097		0.072		mg/Kg	1	☼	6010B	Total/NA
Chromium	7.2		0.72		mg/Kg	1	☼	6010B	Total/NA
Copper	5.9		0.72		mg/Kg	1	☼	6010B	Total/NA
Zinc	17		1.8		mg/Kg	1	☼	6010B	Total/NA
Lead	6.7		0.22		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.4		0.072		mg/Kg	2	☼	6020	Total/NA
Selenium	0.26		0.14		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	2700		1200		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1017 — Lab Sample ID: 240-89576-17

This Detection Summary does not include radiochemical test results.

Client Sample ID: S-58502-121817-SSH-1017 (Continued) — Lab Sample ID: 240-89576-17

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	8.0		0.58		mg/Kg	1	☼	6010B	Total/NA
Chromium	3.1		0.58		mg/Kg	1	☼	6010B	Total/NA
Copper	2.7		0.58		mg/Kg	1	☼	6010B	Total/NA
Zinc	9.5		1.4		mg/Kg	1	☼	6010B	Total/NA
Lead	5.0		0.17		mg/Kg	1	☼	6010B	Total/NA
Arsenic	1.7		0.058		mg/Kg	2	☼	6020	Total/NA
Selenium	0.16		0.12		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	2200		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1018 — Lab Sample ID: 240-89576-18

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	27		0.66		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.13		0.066		mg/Kg	1	☼	6010B	Total/NA
Chromium	7.1		0.66		mg/Kg	1	☼	6010B	Total/NA
Copper	6.0		0.66		mg/Kg	1	☼	6010B	Total/NA
Zinc	27		1.7		mg/Kg	1	☼	6010B	Total/NA
Lead	13		0.20		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.8		0.066		mg/Kg	2	☼	6020	Total/NA
Selenium	0.24		0.13		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	3100		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1019 — Lab Sample ID: 240-89576-19

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzo[a]anthracene	320		290		ug/Kg	1	☼	8270C	Total/NA
Benzo[b]fluoranthene	430		290		ug/Kg	1	☼	8270C	Total/NA
Chrysene	310		290		ug/Kg	1	☼	8270C	Total/NA
Fluoranthene	870		290		ug/Kg	1	☼	8270C	Total/NA
Phenanthrene	550		290		ug/Kg	1	☼	8270C	Total/NA
Pyrene	760		290		ug/Kg	1	☼	8270C	Total/NA
Barium	21		0.80		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.11		0.080		mg/Kg	1	☼	6010B	Total/NA
Chromium	7.1		0.80		mg/Kg	1	☼	6010B	Total/NA
Copper	5.1		0.80		mg/Kg	1	☼	6010B	Total/NA
Zinc	25		2.0		mg/Kg	1	☼	6010B	Total/NA
Lead	7.0		0.24		mg/Kg	1	☼	6010B	Total/NA
Arsenic	2.4		0.080		mg/Kg	2	☼	6020	Total/NA
Selenium	0.17		0.16		mg/Kg	2	☼	6020	Total/NA
Mercury	0.043		0.041		mg/Kg	1	☼	7471A	Total/NA
Total Organic Carbon	4100		1100		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1020 — Lab Sample ID: 240-89576-20

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	28		0.89		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.24		0.089		mg/Kg	1	☼	6010B	Total/NA
Chromium	9.0		0.89		mg/Kg	1	☼	6010B	Total/NA
Copper	11		0.89		mg/Kg	1	☼	6010B	Total/NA
Zinc	47		2.2		mg/Kg	1	☼	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Client Sample ID: S-58502-121817-SSH-1020 (Continued) — Lab Sample ID: 240-89576-20

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Lead	39		0.27		mg/Kg	1	☼	6010B	Total/NA
Arsenic	3.7		0.089		mg/Kg	2	☼	6020	Total/NA
Selenium	0.31		0.18		mg/Kg	2	☼	6020	Total/NA
Total Organic Carbon	9600		1200		mg/Kg	1	☼	Walkley Black	Total/NA

Client Sample ID: S-58502-121817-SSH-1021 — Lab Sample ID: 240-89576-21

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Barium	40		0.67		mg/Kg	1	☼	6010B	Total/NA
Cadmium	0.21		0.067		mg/Kg	1	☼	6010B	Total/NA
Chromium	11		0.67		mg/Kg	1	☼	6010B	Total/NA
Copper	14		0.67		mg/Kg	1	☼	6010B	Total/NA
Zinc	67		1.7		mg/Kg	1	☼	6010B	Total/NA
Lead	37		0.20		mg/Kg	1	☼	6010B	Total/NA
Arsenic	1.9		0.033		mg/Kg	1	☼	6020	Total/NA
Selenium	0.16		0.067		mg/Kg	1	☼	6020	Total/NA
Total Organic Carbon	8200		1100		mg/Kg	1	☼	Walkley Black	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
8081A	Organochlorine Pesticides (GC)	SW846	TAL CAN
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
8151	Herbicides	SW846	TAL HOU
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
7471A	Mercury (CVAA)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
Walkley Black	Organic Carbon, Total (TOC)	MSA	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

MSA = "Methods Of Soil Analysis, Chemical And Microbiological Properties", Part 2, 2nd Ed., 1982 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	780	U	780		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Benzene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Bromomethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
2-Butanone (MEK)	780	U	780		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Carbon disulfide	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Carbon tetrachloride	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Chlorobenzene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Chloroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Chloroform	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Chloromethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,1-Dichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,2-Dichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,1-Dichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,2-Dichloropropane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
cis-1,3-Dichloropropene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
trans-1,3-Dichloropropene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Ethylbenzene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
2-Hexanone	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Methylene Chloride	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
4-Methyl-2-pentanone (MIBK)	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Styrene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,1,2,2-Tetrachloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Tetrachloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Trichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Vinyl chloride	42	U	42		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Xylenes, Total	160	U	160		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,1,1-Trichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,1,2-Trichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Cyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,2-Dibromo-3-Chloropropane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,2-Dibromoethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
cis-1,2-Dichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
trans-1,2-Dichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Isopropylbenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Methyl acetate	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Methyl tert-butyl ether	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,2,4-Trichlorobenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Dibromochloromethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1
Methylcyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 15:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		64 - 144	12/22/17 11:39	12/26/17 15:33	1
4-Bromofluorobenzene (Surr)	93		58 - 142	12/22/17 11:39	12/26/17 15:33	1
Toluene-d8 (Surr)	96		61 - 137	12/22/17 11:39	12/26/17 15:33	1
Dibromofluoromethane (Surr)	105		31 - 155	12/22/17 11:39	12/26/17 15:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	800	U	800		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Benzene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Bromodichloromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Bromoform	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Bromomethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
2-Butanone (MEK)	800	U	800		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Carbon disulfide	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Carbon tetrachloride	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Chlorobenzene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Chloroethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Chloroform	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Chloromethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,1-Dichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,2-Dichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,1-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,2-Dichloropropane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
cis-1,3-Dichloropropene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
trans-1,3-Dichloropropene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Ethylbenzene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
2-Hexanone	2700	U	2700		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Methylene Chloride	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
4-Methyl-2-pentanone (MIBK)	2700	U	2700		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Styrene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,1,2,2-Tetrachloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Tetrachloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Toluene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Trichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Vinyl chloride	43	U	43		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Xylenes, Total	160	U	160		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,1,1-Trichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,1,2-Trichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Cyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,2-Dibromo-3-Chloropropane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,2-Dibromoethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Dichlorodifluoromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
cis-1,2-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
trans-1,2-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Isopropylbenzene	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Methyl acetate	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Methyl tert-butyl ether	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,2,4-Trichlorobenzene	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,2-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,3-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
1,4-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Trichlorofluoromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Dibromochloromethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1
Methylcyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 15:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		64 - 144	12/22/17 11:39	12/26/17 15:56	1
4-Bromofluorobenzene (Surr)	104		58 - 142	12/22/17 11:39	12/26/17 15:56	1
Toluene-d8 (Surr)	109		61 - 137	12/22/17 11:39	12/26/17 15:56	1
Dibromofluoromethane (Surr)	115		31 - 155	12/22/17 11:39	12/26/17 15:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	750	U	750		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Benzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Bromomethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
2-Butanone (MEK)	750	U	750		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Carbon disulfide	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Carbon tetrachloride	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Chlorobenzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Chloroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Chloroform	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Chloromethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,1-Dichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,2-Dichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,1-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,2-Dichloropropane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
cis-1,3-Dichloropropene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
trans-1,3-Dichloropropene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Ethylbenzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
2-Hexanone	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Methylene Chloride	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
4-Methyl-2-pentanone (MIBK)	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Styrene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,1,2,2-Tetrachloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Tetrachloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Trichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Vinyl chloride	40	U	40		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,1,1-Trichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,1,2-Trichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,2-Dibromo-3-Chloropropane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,2-Dibromoethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
cis-1,2-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
trans-1,2-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Isopropylbenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Methyl tert-butyl ether	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,2,4-Trichlorobenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Dibromochloromethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 16:19	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		64 - 144	12/22/17 11:39	12/26/17 16:19	1
4-Bromofluorobenzene (Surr)	97		58 - 142	12/22/17 11:39	12/26/17 16:19	1
Toluene-d8 (Surr)	103		61 - 137	12/22/17 11:39	12/26/17 16:19	1
Dibromofluoromethane (Surr)	107		31 - 155	12/22/17 11:39	12/26/17 16:19	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	740	U	740		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Benzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Bromodichloromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Bromoform	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Bromomethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
2-Butanone (MEK)	740	U	740		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Carbon disulfide	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Carbon tetrachloride	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Chlorobenzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Chloroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Chloroform	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Chloromethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,1-Dichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,2-Dichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,1-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,2-Dichloropropane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
cis-1,3-Dichloropropene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
trans-1,3-Dichloropropene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Ethylbenzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
2-Hexanone	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Methylene Chloride	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
4-Methyl-2-pentanone (MIBK)	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Styrene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,1,2,2-Tetrachloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Tetrachloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Toluene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Trichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Vinyl chloride	40	U	40		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,1,1-Trichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,1,2-Trichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,2-Dibromo-3-Chloropropane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,2-Dibromoethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Dichlorodifluoromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
cis-1,2-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
trans-1,2-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Isopropylbenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Methyl tert-butyl ether	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,2,4-Trichlorobenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,2-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,3-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
1,4-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Trichlorofluoromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Dibromochloromethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 16:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		64 - 144	12/22/17 11:39	12/26/17 16:41	1
4-Bromofluorobenzene (Surr)	101		58 - 142	12/22/17 11:39	12/26/17 16:41	1
Toluene-d8 (Surr)	106		61 - 137	12/22/17 11:39	12/26/17 16:41	1
Dibromofluoromethane (Surr)	107		31 - 155	12/22/17 11:39	12/26/17 16:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	740	U	740		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Benzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Bromodichloromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Bromoform	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Bromomethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
2-Butanone (MEK)	740	U	740		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Carbon disulfide	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Carbon tetrachloride	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Chlorobenzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Chloroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Chloroform	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Chloromethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,1-Dichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,2-Dichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,1-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,2-Dichloropropane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
cis-1,3-Dichloropropene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
trans-1,3-Dichloropropene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Ethylbenzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
2-Hexanone	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Methylene Chloride	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
4-Methyl-2-pentanone (MIBK)	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Styrene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,1,2,2-Tetrachloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Tetrachloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Toluene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Trichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Vinyl chloride	39	U	39		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,1,1-Trichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,1,2-Trichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,2-Dibromo-3-Chloropropane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,2-Dibromoethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Dichlorodifluoromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
cis-1,2-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
trans-1,2-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Isopropylbenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Methyl tert-butyl ether	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,2,4-Trichlorobenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,2-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,3-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
1,4-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Trichlorofluoromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Dibromochloromethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:03	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		64 - 144	12/22/17 11:39	12/26/17 17:03	1
4-Bromofluorobenzene (Surr)	95		58 - 142	12/22/17 11:39	12/26/17 17:03	1
Toluene-d8 (Surr)	101		61 - 137	12/22/17 11:39	12/26/17 17:03	1
Dibromofluoromethane (Surr)	104		31 - 155	12/22/17 11:39	12/26/17 17:03	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	770	U	770		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Benzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Bromomethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
2-Butanone (MEK)	770	U	770		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Carbon disulfide	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Carbon tetrachloride	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Chlorobenzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Chloroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Chloroform	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Chloromethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,1-Dichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,2-Dichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,1-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,2-Dichloropropane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
cis-1,3-Dichloropropene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
trans-1,3-Dichloropropene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Ethylbenzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
2-Hexanone	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Methylene Chloride	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
4-Methyl-2-pentanone (MIBK)	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Styrene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,1,2,2-Tetrachloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Tetrachloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Trichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Vinyl chloride	41	U	41		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,1,1-Trichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,1,2-Trichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,2-Dibromo-3-Chloropropane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,2-Dibromoethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
cis-1,2-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
trans-1,2-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Isopropylbenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Methyl tert-butyl ether	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,2,4-Trichlorobenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Dibromochloromethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		64 - 144	12/22/17 11:39	12/26/17 17:26	1
4-Bromofluorobenzene (Surr)	101		58 - 142	12/22/17 11:39	12/26/17 17:26	1
Toluene-d8 (Surr)	108		61 - 137	12/22/17 11:39	12/26/17 17:26	1
Dibromofluoromethane (Surr)	109		31 - 155	12/22/17 11:39	12/26/17 17:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	770	U	770		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Benzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Bromomethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
2-Butanone (MEK)	770	U	770		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Carbon disulfide	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Carbon tetrachloride	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Chlorobenzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Chloroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Chloroform	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Chloromethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,1-Dichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,2-Dichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,1-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,2-Dichloropropane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
cis-1,3-Dichloropropene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
trans-1,3-Dichloropropene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Ethylbenzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
2-Hexanone	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Methylene Chloride	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
4-Methyl-2-pentanone (MIBK)	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Styrene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,1,2,2-Tetrachloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Tetrachloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Trichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Vinyl chloride	41	U	41		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,1,1-Trichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,1,2-Trichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,2-Dibromo-3-Chloropropane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,2-Dibromoethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
cis-1,2-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
trans-1,2-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Isopropylbenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Methyl tert-butyl ether	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,2,4-Trichlorobenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Dibromochloromethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 17:49	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		64 - 144	12/22/17 11:39	12/26/17 17:49	1
4-Bromofluorobenzene (Surr)	98		58 - 142	12/22/17 11:39	12/26/17 17:49	1
Toluene-d8 (Surr)	103		61 - 137	12/22/17 11:39	12/26/17 17:49	1
Dibromofluoromethane (Surr)	106		31 - 155	12/22/17 11:39	12/26/17 17:49	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	760	U	760		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Benzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Bromomethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
2-Butanone (MEK)	760	U	760		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Carbon disulfide	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Carbon tetrachloride	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Chlorobenzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Chloroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Chloroform	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Chloromethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,1-Dichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,2-Dichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,1-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,2-Dichloropropane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
cis-1,3-Dichloropropene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
trans-1,3-Dichloropropene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Ethylbenzene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
2-Hexanone	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Methylene Chloride	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
4-Methyl-2-pentanone (MIBK)	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Styrene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,1,2,2-Tetrachloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Tetrachloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Trichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Vinyl chloride	41	U	41		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,1,1-Trichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,1,2-Trichloroethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,2-Dibromo-3-Chloropropane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,2-Dibromoethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
cis-1,2-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
trans-1,2-Dichloroethene	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Isopropylbenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Methyl tert-butyl ether	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,2,4-Trichlorobenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Dibromochloromethane	51	U	51		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 18:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		64 - 144	12/22/17 11:39	12/26/17 18:11	1
4-Bromofluorobenzene (Surr)	97		58 - 142	12/22/17 11:39	12/26/17 18:11	1
Toluene-d8 (Surr)	100		61 - 137	12/22/17 11:39	12/26/17 18:11	1
Dibromofluoromethane (Surr)	99		31 - 155	12/22/17 11:39	12/26/17 18:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	720	U	720		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Benzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Bromodichloromethane	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Bromoform	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Bromomethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
2-Butanone (MEK)	720	U	720		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Carbon disulfide	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Carbon tetrachloride	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Chlorobenzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Chloroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Chloroform	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Chloromethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,1-Dichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,2-Dichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,1-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,2-Dichloropropane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
cis-1,3-Dichloropropene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
trans-1,3-Dichloropropene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Ethylbenzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
2-Hexanone	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Methylene Chloride	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
4-Methyl-2-pentanone (MIBK)	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Styrene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,1,2,2-Tetrachloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Tetrachloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Toluene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Trichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Vinyl chloride	38	U	38		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Xylenes, Total	140	U	140		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,1,1-Trichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,1,2-Trichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,2-Dibromo-3-Chloropropane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,2-Dibromoethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Dichlorodifluoromethane	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
cis-1,2-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
trans-1,2-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Isopropylbenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Methyl tert-butyl ether	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,2,4-Trichlorobenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,2-Dichlorobenzene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,3-Dichlorobenzene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
1,4-Dichlorobenzene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Trichlorofluoromethane	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Dibromochloromethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 18:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		64 - 144	12/22/17 11:39	12/26/17 18:33	1
4-Bromofluorobenzene (Surr)	95		58 - 142	12/22/17 11:39	12/26/17 18:33	1
Toluene-d8 (Surr)	102		61 - 137	12/22/17 11:39	12/26/17 18:33	1
Dibromofluoromethane (Surr)	104		31 - 155	12/22/17 11:39	12/26/17 18:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	680	U	680		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Benzene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Bromodichloromethane	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Bromoform	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Bromomethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
2-Butanone (MEK)	680	U	680		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Carbon disulfide	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Carbon tetrachloride	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Chlorobenzene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Chloroethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Chloroform	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Chloromethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,1-Dichloroethane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,2-Dichloroethane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,1-Dichloroethene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,2-Dichloropropane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
cis-1,3-Dichloropropene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
trans-1,3-Dichloropropene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Ethylbenzene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
2-Hexanone	2300	U	2300		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Methylene Chloride	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
4-Methyl-2-pentanone (MIBK)	2300	U	2300		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Styrene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,1,2,2-Tetrachloroethane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Tetrachloroethene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Toluene	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Trichloroethene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Vinyl chloride	36	U	36		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Xylenes, Total	140	U	140		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,1,1-Trichloroethane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,1,2-Trichloroethane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Cyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,2-Dibromo-3-Chloropropane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,2-Dibromoethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Dichlorodifluoromethane	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
cis-1,2-Dichloroethene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
trans-1,2-Dichloroethene	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Isopropylbenzene	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Methyl acetate	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Methyl tert-butyl ether	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,2,4-Trichlorobenzene	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,2-Dichlorobenzene	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,3-Dichlorobenzene	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
1,4-Dichlorobenzene	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Trichlorofluoromethane	90	U	90		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Dibromochloromethane	45	U	45		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1
Methylcyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 18:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		64 - 144	12/22/17 11:39	12/26/17 18:56	1
4-Bromofluorobenzene (Surr)	94		58 - 142	12/22/17 11:39	12/26/17 18:56	1
Toluene-d8 (Surr)	97		61 - 137	12/22/17 11:39	12/26/17 18:56	1
Dibromofluoromethane (Surr)	96		31 - 155	12/22/17 11:39	12/26/17 18:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	780	U	780		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Benzene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Bromomethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
2-Butanone (MEK)	780	U	780		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Carbon disulfide	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Carbon tetrachloride	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Chlorobenzene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Chloroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Chloroform	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Chloromethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,1-Dichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,2-Dichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,1-Dichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,2-Dichloropropane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
cis-1,3-Dichloropropene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
trans-1,3-Dichloropropene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Ethylbenzene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
2-Hexanone	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Methylene Chloride	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
4-Methyl-2-pentanone (MIBK)	2600	U	2600		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Styrene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,1,2,2-Tetrachloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Tetrachloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Trichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Vinyl chloride	41	U	41		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Xylenes, Total	160	U	160		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,1,1-Trichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,1,2-Trichloroethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,2-Dibromo-3-Chloropropane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,2-Dibromoethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
cis-1,2-Dichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
trans-1,2-Dichloroethene	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Isopropylbenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Methyl tert-butyl ether	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,2,4-Trichlorobenzene	260	U	260		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Dibromochloromethane	52	U	52		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 19:19	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		64 - 144	12/22/17 11:39	12/26/17 19:19	1
4-Bromofluorobenzene (Surr)	105		58 - 142	12/22/17 11:39	12/26/17 19:19	1
Toluene-d8 (Surr)	109		61 - 137	12/22/17 11:39	12/26/17 19:19	1
Dibromofluoromethane (Surr)	106		31 - 155	12/22/17 11:39	12/26/17 19:19	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	750	U	750		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Benzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Bromodichloromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Bromoform	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Bromomethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
2-Butanone (MEK)	750	U	750		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Carbon disulfide	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Carbon tetrachloride	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Chlorobenzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Chloroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Chloroform	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Chloromethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,1-Dichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,2-Dichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,1-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,2-Dichloropropane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
cis-1,3-Dichloropropene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
trans-1,3-Dichloropropene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Ethylbenzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
2-Hexanone	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Methylene Chloride	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
4-Methyl-2-pentanone (MIBK)	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Styrene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,1,2,2-Tetrachloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Tetrachloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Toluene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Trichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Vinyl chloride	40	U	40		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,1,1-Trichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,1,2-Trichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,2-Dibromo-3-Chloropropane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,2-Dibromoethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Dichlorodifluoromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
cis-1,2-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
trans-1,2-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Isopropylbenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Methyl tert-butyl ether	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,2,4-Trichlorobenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,2-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,3-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
1,4-Dichlorobenzene	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Trichlorofluoromethane	99	U	99		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Dibromochloromethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 19:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		64 - 144	12/22/17 11:39	12/26/17 19:42	1
4-Bromofluorobenzene (Surr)	92		58 - 142	12/22/17 11:39	12/26/17 19:42	1
Toluene-d8 (Surr)	99		61 - 137	12/22/17 11:39	12/26/17 19:42	1
Dibromofluoromethane (Surr)	100		31 - 155	12/22/17 11:39	12/26/17 19:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	830	U	830		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Benzene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Bromodichloromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Bromoform	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Bromomethane	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
2-Butanone (MEK)	830	U	830		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Carbon disulfide	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Carbon tetrachloride	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Chlorobenzene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Chloroethane	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Chloroform	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Chloromethane	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,1-Dichloroethane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,2-Dichloroethane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,1-Dichloroethene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,2-Dichloropropane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
cis-1,3-Dichloropropene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
trans-1,3-Dichloropropene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Ethylbenzene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
2-Hexanone	2800	U	2800		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Methylene Chloride	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
4-Methyl-2-pentanone (MIBK)	2800	U	2800		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Styrene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,1,2,2-Tetrachloroethane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Tetrachloroethene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Toluene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Trichloroethene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Vinyl chloride	44	U	44		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Xylenes, Total	170	U	170		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,1,1-Trichloroethane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,1,2-Trichloroethane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Cyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,2-Dibromo-3-Chloropropane	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,2-Dibromoethane	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Dichlorodifluoromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
cis-1,2-Dichloroethene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
trans-1,2-Dichloroethene	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Isopropylbenzene	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Methyl acetate	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Methyl tert-butyl ether	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,2,4-Trichlorobenzene	280	U	280		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,2-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,3-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
1,4-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Trichlorofluoromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Dibromochloromethane	55	U	55		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1
Methylcyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 20:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		64 - 144	12/22/17 11:39	12/26/17 20:04	1
4-Bromofluorobenzene (Surr)	100		58 - 142	12/22/17 11:39	12/26/17 20:04	1
Toluene-d8 (Surr)	107		61 - 137	12/22/17 11:39	12/26/17 20:04	1
Dibromofluoromethane (Surr)	89		31 - 155	12/22/17 11:39	12/26/17 20:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	720	U	720		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Benzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Bromodichloromethane	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Bromoform	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Bromomethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
2-Butanone (MEK)	720	U	720		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Carbon disulfide	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Carbon tetrachloride	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Chlorobenzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Chloroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Chloroform	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Chloromethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,1-Dichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,2-Dichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,1-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,2-Dichloropropane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
cis-1,3-Dichloropropene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
trans-1,3-Dichloropropene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Ethylbenzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
2-Hexanone	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Methylene Chloride	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
4-Methyl-2-pentanone (MIBK)	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Styrene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,1,2,2-Tetrachloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Tetrachloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Toluene	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Trichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Vinyl chloride	38	U	38		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Xylenes, Total	140	U	140		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,1,1-Trichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,1,2-Trichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Cyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,2-Dibromo-3-Chloropropane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,2-Dibromoethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Dichlorodifluoromethane	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
cis-1,2-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
trans-1,2-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Isopropylbenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Methyl acetate	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Methyl tert-butyl ether	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,2,4-Trichlorobenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,2-Dichlorobenzene	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,3-Dichlorobenzene	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
1,4-Dichlorobenzene	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Trichlorofluoromethane	95	U	95		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Dibromochloromethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1
Methylcyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		64 - 144	12/22/17 11:39	12/26/17 20:25	1
4-Bromofluorobenzene (Surr)	94		58 - 142	12/22/17 11:39	12/26/17 20:25	1
Toluene-d8 (Surr)	99		61 - 137	12/22/17 11:39	12/26/17 20:25	1
Dibromofluoromethane (Surr)	89		31 - 155	12/22/17 11:39	12/26/17 20:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	750	U	750		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Benzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Bromodichloromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Bromoform	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Bromomethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
2-Butanone (MEK)	750	U	750		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Carbon disulfide	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Carbon tetrachloride	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Chlorobenzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Chloroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Chloroform	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Chloromethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,1-Dichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,2-Dichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,1-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,2-Dichloropropane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
cis-1,3-Dichloropropene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
trans-1,3-Dichloropropene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Ethylbenzene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
2-Hexanone	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Methylene Chloride	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
4-Methyl-2-pentanone (MIBK)	2500	U	2500		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Styrene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,1,2,2-Tetrachloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Tetrachloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Toluene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Trichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Vinyl chloride	40	U	40		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,1,1-Trichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,1,2-Trichloroethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,2-Dibromo-3-Chloropropane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,2-Dibromoethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Dichlorodifluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
cis-1,2-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
trans-1,2-Dichloroethene	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Isopropylbenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Methyl tert-butyl ether	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,2,4-Trichlorobenzene	250	U	250		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,2-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,3-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
1,4-Dichlorobenzene	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Trichlorofluoromethane	100	U	100		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Dibromochloromethane	50	U	50		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/26/17 20:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		64 - 144	12/22/17 11:39	12/26/17 20:48	1
4-Bromofluorobenzene (Surr)	95		58 - 142	12/22/17 11:39	12/26/17 20:48	1
Toluene-d8 (Surr)	102		61 - 137	12/22/17 11:39	12/26/17 20:48	1
Dibromofluoromethane (Surr)	98		31 - 155	12/22/17 11:39	12/26/17 20:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	800	U	800		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Benzene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Bromodichloromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Bromoform	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Bromomethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
2-Butanone (MEK)	800	U	800		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Carbon disulfide	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Carbon tetrachloride	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Chlorobenzene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Chloroethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Chloroform	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Chloromethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,1-Dichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,2-Dichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,1-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,2-Dichloropropane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
cis-1,3-Dichloropropene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
trans-1,3-Dichloropropene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Ethylbenzene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
2-Hexanone	2700	U	2700		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Methylene Chloride	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
4-Methyl-2-pentanone (MIBK)	2700	U	2700		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Styrene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,1,2,2-Tetrachloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Tetrachloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Toluene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Trichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Vinyl chloride	43	U	43		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Xylenes, Total	160	U	160		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,1,1-Trichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,1,2-Trichloroethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Cyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,2-Dibromo-3-Chloropropane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,2-Dibromoethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Dichlorodifluoromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
cis-1,2-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
trans-1,2-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Isopropylbenzene	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Methyl acetate	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Methyl tert-butyl ether	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,2,4-Trichlorobenzene	270	U	270		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,2-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,3-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
1,4-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Trichlorofluoromethane	110	U	110		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Dibromochloromethane	54	U	54		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1
Methylcyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 11:39	12/26/17 21:18	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		64 - 144	12/22/17 11:39	12/26/17 21:18	1
4-Bromofluorobenzene (Surr)	91		58 - 142	12/22/17 11:39	12/26/17 21:18	1
Toluene-d8 (Surr)	96		61 - 137	12/22/17 11:39	12/26/17 21:18	1
Dibromofluoromethane (Surr)	94		31 - 155	12/22/17 11:39	12/26/17 21:18	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	680	U	680		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Benzene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Bromodichloromethane	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Bromoform	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Bromomethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
2-Butanone (MEK)	680	U	680		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Carbon disulfide	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Carbon tetrachloride	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Chlorobenzene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Chloroethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Chloroform	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Chloromethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,1-Dichloroethane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,2-Dichloroethane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,1-Dichloroethene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,2-Dichloropropane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
cis-1,3-Dichloropropene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
trans-1,3-Dichloropropene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Ethylbenzene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
2-Hexanone	2300	U	2300		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Methylene Chloride	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
4-Methyl-2-pentanone (MIBK)	2300	U	2300		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Styrene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,1,2,2-Tetrachloroethane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Tetrachloroethene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Toluene	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Trichloroethene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Vinyl chloride	37	U	37		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Xylenes, Total	140	U	140		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,1,1-Trichloroethane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,1,2-Trichloroethane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Cyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,2-Dibromo-3-Chloropropane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,2-Dibromoethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Dichlorodifluoromethane	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
cis-1,2-Dichloroethene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
trans-1,2-Dichloroethene	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Isopropylbenzene	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Methyl acetate	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Methyl tert-butyl ether	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,2,4-Trichlorobenzene	230	U	230		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,2-Dichlorobenzene	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,3-Dichlorobenzene	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
1,4-Dichlorobenzene	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Trichlorofluoromethane	91	U	91		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Dibromochloromethane	46	U	46		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1
Methylcyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 21:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		64 - 144	12/22/17 11:39	12/26/17 21:41	1
4-Bromofluorobenzene (Surr)	97		58 - 142	12/22/17 11:39	12/26/17 21:41	1
Toluene-d8 (Surr)	102		61 - 137	12/22/17 11:39	12/26/17 21:41	1
Dibromofluoromethane (Surr)	100		31 - 155	12/22/17 11:39	12/26/17 21:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	720	U	720		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Benzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Bromodichloromethane	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Bromoform	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Bromomethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
2-Butanone (MEK)	720	U	720		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Carbon disulfide	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Carbon tetrachloride	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Chlorobenzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Chloroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Chloroform	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Chloromethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,1-Dichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,2-Dichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,1-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,2-Dichloropropane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
cis-1,3-Dichloropropene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
trans-1,3-Dichloropropene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Ethylbenzene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
2-Hexanone	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Methylene Chloride	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
4-Methyl-2-pentanone (MIBK)	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Styrene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,1,2,2-Tetrachloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Tetrachloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Toluene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Trichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Vinyl chloride	38	U	38		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Xylenes, Total	140	U	140		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,1,1-Trichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,1,2-Trichloroethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Cyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,2-Dibromo-3-Chloropropane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,2-Dibromoethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Dichlorodifluoromethane	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
cis-1,2-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
trans-1,2-Dichloroethene	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Isopropylbenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Methyl acetate	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Methyl tert-butyl ether	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,1,2-Trichloro-1,2,2-trifluoroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,2,4-Trichlorobenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,2-Dichlorobenzene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,3-Dichlorobenzene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
1,4-Dichlorobenzene	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Trichlorofluoromethane	96	U	96		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Dibromochloromethane	48	U	48		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1
Methylcyclohexane	1100	U	1100		ug/Kg	☼	12/22/17 11:39	12/26/17 22:03	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		64 - 144	12/22/17 11:39	12/26/17 22:03	1
4-Bromofluorobenzene (Surr)	94		58 - 142	12/22/17 11:39	12/26/17 22:03	1
Toluene-d8 (Surr)	98		61 - 137	12/22/17 11:39	12/26/17 22:03	1
Dibromofluoromethane (Surr)	92		31 - 155	12/22/17 11:39	12/26/17 22:03	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	730	U	730		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Benzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Bromodichloromethane	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Bromoform	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Bromomethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
2-Butanone (MEK)	730	U	730		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Carbon disulfide	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Carbon tetrachloride	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Chlorobenzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Chloroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Chloroform	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Chloromethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,1-Dichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,2-Dichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,1-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,2-Dichloropropane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
cis-1,3-Dichloropropene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
trans-1,3-Dichloropropene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Ethylbenzene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
2-Hexanone	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Methylene Chloride	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
4-Methyl-2-pentanone (MIBK)	2400	U	2400		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Styrene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,1,2,2-Tetrachloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Tetrachloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Toluene	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Trichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Vinyl chloride	39	U	39		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Xylenes, Total	150	U	150		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,1,1-Trichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,1,2-Trichloroethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Cyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,2-Dibromo-3-Chloropropane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,2-Dibromoethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Dichlorodifluoromethane	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
cis-1,2-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
trans-1,2-Dichloroethene	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Isopropylbenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Methyl acetate	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Methyl tert-butyl ether	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,2,4-Trichlorobenzene	240	U	240		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,2-Dichlorobenzene	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,3-Dichlorobenzene	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
1,4-Dichlorobenzene	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Trichlorofluoromethane	97	U	97		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Dibromochloromethane	49	U	49		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1
Methylcyclohexane	1200	U	1200		ug/Kg	☼	12/22/17 11:39	12/28/17 11:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		64 - 144	12/22/17 11:39	12/28/17 11:22	1
4-Bromofluorobenzene (Surr)	97		58 - 142	12/22/17 11:39	12/28/17 11:22	1
Toluene-d8 (Surr)	102		61 - 137	12/22/17 11:39	12/28/17 11:22	1
Dibromofluoromethane (Surr)	75		31 - 155	12/22/17 11:39	12/28/17 11:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	810	U	810		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Benzene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Bromodichloromethane	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Bromoform	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Bromomethane	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
2-Butanone (MEK)	810	U	810		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Carbon disulfide	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Carbon tetrachloride	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Chlorobenzene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Chloroethane	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Chloroform	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Chloromethane	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,1-Dichloroethane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,2-Dichloroethane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,1-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,2-Dichloropropane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
cis-1,3-Dichloropropene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
trans-1,3-Dichloropropene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Ethylbenzene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
2-Hexanone	2700	U	2700		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Methylene Chloride	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
4-Methyl-2-pentanone (MIBK)	2700	U	2700		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Styrene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,1,2,2-Tetrachloroethane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Tetrachloroethene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Toluene	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Trichloroethene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Vinyl chloride	43	U	43		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Xylenes, Total	160	U	160		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,1,1-Trichloroethane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,1,2-Trichloroethane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Cyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,2-Dibromo-3-Chloropropane	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,2-Dibromoethane	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Dichlorodifluoromethane	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
cis-1,2-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
trans-1,2-Dichloroethene	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Isopropylbenzene	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Methyl acetate	1300	U	1300		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Methyl tert-butyl ether	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,2,4-Trichlorobenzene	270	U	270		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,2-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,3-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
1,4-Dichlorobenzene	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Trichlorofluoromethane	110	U	110		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Dibromochloromethane	54	U	54		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1
Methylcyclohexane	1300	U	1300		ug/Kg	☼	12/22/17 12:01	12/28/17 11:45	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		64 - 144	12/22/17 12:01	12/28/17 11:45	1
4-Bromofluorobenzene (Surr)	92		58 - 142	12/22/17 12:01	12/28/17 11:45	1
Toluene-d8 (Surr)	97		61 - 137	12/22/17 12:01	12/28/17 11:45	1
Dibromofluoromethane (Surr)	99		31 - 155	12/22/17 12:01	12/28/17 11:45	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	700	U	700		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Benzene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Bromodichloromethane	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Bromoform	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Bromomethane	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
2-Butanone (MEK)	700	U *	700		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Carbon disulfide	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Carbon tetrachloride	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Chlorobenzene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Chloroethane	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Chloroform	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Chloromethane	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,1-Dichloroethane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,2-Dichloroethane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,1-Dichloroethene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,2-Dichloropropane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
cis-1,3-Dichloropropene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
trans-1,3-Dichloropropene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Ethylbenzene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
2-Hexanone	2300	U	2300		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Methylene Chloride	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
4-Methyl-2-pentanone (MIBK)	2300	U	2300		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Styrene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,1,2,2-Tetrachloroethane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Tetrachloroethene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Toluene	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Trichloroethene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Vinyl chloride	37	U	37		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Xylenes, Total	140	U	140		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,1,1-Trichloroethane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,1,2-Trichloroethane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Cyclohexane	1100	U	1100		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,2-Dibromo-3-Chloropropane	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,2-Dibromoethane	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Dichlorodifluoromethane	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
cis-1,2-Dichloroethene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
trans-1,2-Dichloroethene	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Isopropylbenzene	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Methyl acetate	1100	U	1100		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Methyl tert-butyl ether	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,2,4-Trichlorobenzene	230	U	230		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,2-Dichlorobenzene	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,3-Dichlorobenzene	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
1,4-Dichlorobenzene	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Trichlorofluoromethane	93	U	93		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Dibromochloromethane	47	U	47		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1
Methylcyclohexane	1100	U	1100		ug/Kg	☼	12/23/17 09:35	12/28/17 12:55	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		64 - 144	12/23/17 09:35	12/28/17 12:55	1
4-Bromofluorobenzene (Surr)	99		58 - 142	12/23/17 09:35	12/28/17 12:55	1
Toluene-d8 (Surr)	103		61 - 137	12/23/17 09:35	12/28/17 12:55	1
Dibromofluoromethane (Surr)	107		31 - 155	12/23/17 09:35	12/28/17 12:55	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
4-Nitrophenol	380	U	380		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Acenaphthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Acetophenone	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Anthracene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Atrazine	46	U	46		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Bis(2-chloroethyl)ether	91	U	91		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Caprolactam	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Carbazole	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Chrysene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Fluoranthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Hexachlorobutadiene	46	U	46		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Isophorone	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Naphthalene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Phenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Phenanthrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
Pyrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*91*		*32 - 120*	*12/28/17 09:41*	*01/02/18 18:58*	*1*
2-Fluorophenol (Surr)	*78*		*29 - 120*	*12/28/17 09:41*	*01/02/18 18:58*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*10 - 120*	*12/28/17 09:41*	*01/02/18 18:58*	*1*
Nitrobenzene-d5 (Surr)	*72*		*30 - 120*	*12/28/17 09:41*	*01/02/18 18:58*	*1*
Phenol-d5 (Surr)	*86*		*29 - 120*	*12/28/17 09:41*	*01/02/18 18:58*	*1*
Terphenyl-d14 (Surr)	*105*		*41 - 120*	*12/28/17 09:41*	*01/02/18 18:58*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,2'-oxybis[1-chloropropane]	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,4,5-Trichlorophenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,4,6-Trichlorophenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,4-Dichlorophenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,4-Dimethylphenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,4-Dinitrophenol	180	U	180		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,4-Dinitrotoluene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2,6-Dinitrotoluene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2-Chloronaphthalene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2-Chlorophenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2-Methylnaphthalene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2-Methylphenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2-Nitroaniline	240	U	240		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
2-Nitrophenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
3,3'-Dichlorobenzidine	1900	U	1900		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
3-Nitroaniline	240	U	240		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4,6-Dinitro-2-methylphenol	180	U	180		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4-Bromophenyl phenyl ether	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4-Chloro-3-methylphenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4-Chloroaniline	240	U	240		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4-Chlorophenyl phenyl ether	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4-Nitroaniline	240	U	240		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
4-Nitrophenol	400	U	400		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Acenaphthene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Acenaphthylene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Acetophenone	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Anthracene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Atrazine	48	U	48		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Benzaldehyde	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Benzo[a]anthracene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Benzo[a]pyrene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Benzo[b]fluoranthene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Benzo[g,h,i]perylene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Benzo[k]fluoranthene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Bis(2-chloroethoxy)methane	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Bis(2-chloroethyl)ether	96	U	96		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Bis(2-ethylhexyl) phthalate	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Butyl benzyl phthalate	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Caprolactam	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Carbazole	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Chrysene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Dibenz(a,h)anthracene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Dibenzofuran	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Diethyl phthalate	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Dimethyl phthalate	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Di-n-butyl phthalate	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Di-n-octyl phthalate	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Fluoranthene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Hexachlorobenzene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Hexachlorobutadiene	48	U	48		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Hexachlorocyclopentadiene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Hexachloroethane	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Indeno[1,2,3-cd]pyrene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Isophorone	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Naphthalene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Nitrobenzene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
N-Nitrosodi-n-propylamine	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
N-Nitrosodiphenylamine	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Pentachlorophenol	180	U	180		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Phenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Phenanthrene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
Pyrene	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1
3 & 4 Methylphenol	320	U	320		ug/Kg	☼	12/28/17 09:41	01/02/18 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*95*		*32 - 120*	*12/28/17 09:41*	*01/02/18 18:34*	*1*
2-Fluorophenol (Surr)	*76*		*29 - 120*	*12/28/17 09:41*	*01/02/18 18:34*	*1*
2,4,6-Tribromophenol (Surr)	*74*		*10 - 120*	*12/28/17 09:41*	*01/02/18 18:34*	*1*
Nitrobenzene-d5 (Surr)	*72*		*30 - 120*	*12/28/17 09:41*	*01/02/18 18:34*	*1*
Phenol-d5 (Surr)	*85*		*29 - 120*	*12/28/17 09:41*	*01/02/18 18:34*	*1*
Terphenyl-d14 (Surr)	*111*		*41 - 120*	*12/28/17 09:41*	*01/02/18 18:34*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,2'-oxybis[1-chloropropane]	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,4,5-Trichlorophenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,4,6-Trichlorophenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,4-Dichlorophenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,4-Dimethylphenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,4-Dinitrotoluene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2,6-Dinitrotoluene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2-Chloronaphthalene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2-Chlorophenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2-Methylnaphthalene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2-Methylphenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
2-Nitrophenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4-Bromophenyl phenyl ether	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4-Chloro-3-methylphenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4-Chlorophenyl phenyl ether	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Acenaphthene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Acenaphthylene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Acetophenone	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Anthracene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Atrazine	45	U	45		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Benzaldehyde	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Benzo[a]anthracene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Benzo[a]pyrene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Benzo[b]fluoranthene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Benzo[g,h,i]perylene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Benzo[k]fluoranthene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Bis(2-chloroethoxy)methane	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Bis(2-chloroethyl)ether	89	U	89		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Bis(2-ethylhexyl) phthalate	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Butyl benzyl phthalate	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Caprolactam	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Carbazole	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Chrysene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Dibenz(a,h)anthracene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Dibenzofuran	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Diethyl phthalate	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Dimethyl phthalate	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Di-n-butyl phthalate	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Di-n-octyl phthalate	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Fluoranthene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Hexachlorobenzene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Hexachlorocyclopentadiene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Hexachloroethane	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Indeno[1,2,3-cd]pyrene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Isophorone	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Naphthalene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Nitrobenzene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
N-Nitrosodi-n-propylamine	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
N-Nitrosodiphenylamine	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Phenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Phenanthrene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
Pyrene	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1
3 & 4 Methylphenol	290	U	290		ug/Kg	☼	12/28/17 09:41	01/02/18 18:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*87*		*32 - 120*	*12/28/17 09:41*	*01/02/18 18:10*	*1*
2-Fluorophenol (Surr)	*75*		*29 - 120*	*12/28/17 09:41*	*01/02/18 18:10*	*1*
2,4,6-Tribromophenol (Surr)	*51*		*10 - 120*	*12/28/17 09:41*	*01/02/18 18:10*	*1*
Nitrobenzene-d5 (Surr)	*70*		*30 - 120*	*12/28/17 09:41*	*01/02/18 18:10*	*1*
Phenol-d5 (Surr)	*79*		*29 - 120*	*12/28/17 09:41*	*01/02/18 18:10*	*1*
Terphenyl-d14 (Surr)	*99*		*41 - 120*	*12/28/17 09:41*	*01/02/18 18:10*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Acenaphthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Acetophenone	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Anthracene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Atrazine	45	U	45		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Bis(2-chloroethyl)ether	90	U	90		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Bis(2-ethylhexyl) phthalate	300	U F1	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Caprolactam	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Carbazole	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Chrysene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Fluoranthene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Hexachlorocyclopentadiene	300	U F2 F1	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Isophorone	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Naphthalene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Phenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Phenanthrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
Pyrene	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/28/17 09:41	01/02/18 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*84*		*32 - 120*	*12/28/17 09:41*	*01/02/18 16:59*	*1*
2-Fluorophenol (Surr)	*71*		*29 - 120*	*12/28/17 09:41*	*01/02/18 16:59*	*1*
2,4,6-Tribromophenol (Surr)	*52*		*10 - 120*	*12/28/17 09:41*	*01/02/18 16:59*	*1*
Nitrobenzene-d5 (Surr)	*67*		*30 - 120*	*12/28/17 09:41*	*01/02/18 16:59*	*1*
Phenol-d5 (Surr)	*80*		*29 - 120*	*12/28/17 09:41*	*01/02/18 16:59*	*1*
Terphenyl-d14 (Surr)	*98*		*41 - 120*	*12/28/17 09:41*	*01/02/18 16:59*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,2'-oxybis[1-chloropropane]	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,4,5-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,4,6-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,4-Dichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,4-Dimethylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,4-Dinitrophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,4-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2,6-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2-Chloronaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2-Chlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2-Methylnaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2-Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
2-Nitrophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4,6-Dinitro-2-methylphenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4-Bromophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4-Chloro-3-methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4-Chlorophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
4-Nitrophenol	360	U	360		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Acenaphthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Acenaphthylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Acetophenone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Atrazine	44	U *	44		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Benzaldehyde	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Benzo[a]anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Benzo[a]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Benzo[b]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Benzo[g,h,i]perylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Benzo[k]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Bis(2-chloroethoxy)methane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Bis(2-chloroethyl)ether	88	U	88		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Bis(2-ethylhexyl) phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Butyl benzyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Caprolactam	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Carbazole	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Chrysene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Dibenz(a,h)anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Dibenzofuran	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Diethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Dimethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Di-n-butyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Di-n-octyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Hexachlorobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Hexachlorobutadiene	44	U	44		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Hexachlorocyclopentadiene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Hexachloroethane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Indeno[1,2,3-cd]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Isophorone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Naphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Nitrobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
N-Nitrosodi-n-propylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
N-Nitrosodiphenylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Pentachlorophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Phenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Phenanthrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
Pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1
3 & 4 Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*82*		*32 - 120*	*12/29/17 10:29*	*01/04/18 14:51*	*1*
2-Fluorophenol (Surr)	*72*		*29 - 120*	*12/29/17 10:29*	*01/04/18 14:51*	*1*
2,4,6-Tribromophenol (Surr)	*75*		*10 - 120*	*12/29/17 10:29*	*01/04/18 14:51*	*1*
Nitrobenzene-d5 (Surr)	*66*		*30 - 120*	*12/29/17 10:29*	*01/04/18 14:51*	*1*
Phenol-d5 (Surr)	*73*		*29 - 120*	*12/29/17 10:29*	*01/04/18 14:51*	*1*
Terphenyl-d14 (Surr)	*98*		*41 - 120*	*12/29/17 10:29*	*01/04/18 14:51*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
4-Nitrophenol	380	U	380		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Atrazine	46	U *	46		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Bis(2-chloroethyl)ether	92	U	92		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Hexachlorobutadiene	46	U	46		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*82*		*32 - 120*	*12/29/17 10:29*	*01/04/18 15:38*	*1*
2-Fluorophenol (Surr)	*64*		*29 - 120*	*12/29/17 10:29*	*01/04/18 15:38*	*1*
2,4,6-Tribromophenol (Surr)	*80*		*10 - 120*	*12/29/17 10:29*	*01/04/18 15:38*	*1*
Nitrobenzene-d5 (Surr)	*58*		*30 - 120*	*12/29/17 10:29*	*01/04/18 15:38*	*1*
Phenol-d5 (Surr)	*70*		*29 - 120*	*12/29/17 10:29*	*01/04/18 15:38*	*1*
Terphenyl-d14 (Surr)	*101*		*41 - 120*	*12/29/17 10:29*	*01/04/18 15:38*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Bis(2-chloroethyl)ether	90	U	90		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*80*		*32 - 120*	*12/29/17 10:29*	*01/04/18 15:15*	*1*
2-Fluorophenol (Surr)	*68*		*29 - 120*	*12/29/17 10:29*	*01/04/18 15:15*	*1*
2,4,6-Tribromophenol (Surr)	*58*		*10 - 120*	*12/29/17 10:29*	*01/04/18 15:15*	*1*
Nitrobenzene-d5 (Surr)	*60*		*30 - 120*	*12/29/17 10:29*	*01/04/18 15:15*	*1*
Phenol-d5 (Surr)	*69*		*29 - 120*	*12/29/17 10:29*	*01/04/18 15:15*	*1*
Terphenyl-d14 (Surr)	*101*		*41 - 120*	*12/29/17 10:29*	*01/04/18 15:15*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,2'-oxybis[1-chloropropane]	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,4,5-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,4,6-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,4-Dichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,4-Dimethylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,4-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2,6-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2-Chloronaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2-Chlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2-Methylnaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2-Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
2-Nitrophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4-Bromophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4-Chloro-3-methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4-Chlorophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Acenaphthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Acenaphthylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Acetophenone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Benzaldehyde	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Benzo[a]anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Benzo[a]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Benzo[b]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Benzo[g,h,i]perylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Benzo[k]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Bis(2-chloroethoxy)methane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Bis(2-chloroethyl)ether	89	U	89		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Bis(2-ethylhexyl) phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Butyl benzyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Caprolactam	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Carbazole	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Chrysene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Dibenz(a,h)anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Dibenzofuran	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Diethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Dimethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Di-n-butyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Di-n-octyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Hexachlorobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Hexachlorocyclopentadiene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Hexachloroethane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Indeno[1,2,3-cd]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Isophorone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Naphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Nitrobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
N-Nitrosodi-n-propylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
N-Nitrosodiphenylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Phenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Phenanthrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
Pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1
3 & 4 Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 18:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*32 - 120*	*12/29/17 10:29*	*01/04/18 18:48*	*1*
2-Fluorophenol (Surr)	*67*		*29 - 120*	*12/29/17 10:29*	*01/04/18 18:48*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*10 - 120*	*12/29/17 10:29*	*01/04/18 18:48*	*1*
Nitrobenzene-d5 (Surr)	*59*		*30 - 120*	*12/29/17 10:29*	*01/04/18 18:48*	*1*
Phenol-d5 (Surr)	*69*		*29 - 120*	*12/29/17 10:29*	*01/04/18 18:48*	*1*
Terphenyl-d14 (Surr)	*94*		*41 - 120*	*12/29/17 10:29*	*01/04/18 18:48*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,2'-oxybis[1-chloropropane]	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,4,5-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,4,6-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,4-Dichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,4-Dimethylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,4-Dinitrophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,4-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2,6-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2-Chloronaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2-Chlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2-Methylnaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2-Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
2-Nitrophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4,6-Dinitro-2-methylphenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4-Bromophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4-Chloro-3-methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4-Chlorophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
4-Nitrophenol	360	U	360		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Acenaphthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Acenaphthylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Acetophenone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Atrazine	44	U *	44		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Benzaldehyde	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Benzo[a]anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Benzo[a]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Benzo[b]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Benzo[g,h,i]perylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Benzo[k]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Bis(2-chloroethoxy)methane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Bis(2-chloroethyl)ether	88	U	88		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Bis(2-ethylhexyl) phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Butyl benzyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Caprolactam	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Carbazole	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Chrysene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Dibenz(a,h)anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Dibenzofuran	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Diethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Dimethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Di-n-butyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Di-n-octyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Hexachlorobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Hexachlorobutadiene	44	U	44		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Hexachlorocyclopentadiene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Hexachloroethane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Indeno[1,2,3-cd]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Isophorone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Naphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Nitrobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
N-Nitrosodi-n-propylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
N-Nitrosodiphenylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Pentachlorophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Phenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Phenanthrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
Pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1
3 & 4 Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*79*		*32 - 120*	*12/29/17 10:29*	*01/04/18 16:02*	*1*
2-Fluorophenol (Surr)	*64*		*29 - 120*	*12/29/17 10:29*	*01/04/18 16:02*	*1*
2,4,6-Tribromophenol (Surr)	*54*		*10 - 120*	*12/29/17 10:29*	*01/04/18 16:02*	*1*
Nitrobenzene-d5 (Surr)	*58*		*30 - 120*	*12/29/17 10:29*	*01/04/18 16:02*	*1*
Phenol-d5 (Surr)	*67*		*29 - 120*	*12/29/17 10:29*	*01/04/18 16:02*	*1*
Terphenyl-d14 (Surr)	*99*		*41 - 120*	*12/29/17 10:29*	*01/04/18 16:02*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,2'-oxybis[1-chloropropane]	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,4,5-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,4,6-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,4-Dichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,4-Dimethylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,4-Dinitrophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,4-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2,6-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2-Chloronaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2-Chlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2-Methylnaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2-Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
2-Nitrophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
3,3'-Dichlorobenzidine	1700	U	1700		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4,6-Dinitro-2-methylphenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4-Bromophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4-Chloro-3-methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4-Chlorophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
4-Nitrophenol	360	U	360		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Acenaphthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Acenaphthylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Acetophenone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Atrazine	44	U *	44		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Benzaldehyde	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Benzo[a]anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Benzo[a]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Benzo[b]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Benzo[g,h,i]perylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Benzo[k]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Bis(2-chloroethoxy)methane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Bis(2-chloroethyl)ether	87	U	87		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Bis(2-ethylhexyl) phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Butyl benzyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Caprolactam	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Carbazole	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Chrysene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Dibenz(a,h)anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Dibenzofuran	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Diethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Dimethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Di-n-butyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Di-n-octyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Hexachlorobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Hexachlorobutadiene	44	U	44		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Hexachlorocyclopentadiene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Hexachloroethane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Indeno[1,2,3-cd]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Isophorone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Naphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Nitrobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
N-Nitrosodi-n-propylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
N-Nitrosodiphenylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Pentachlorophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Phenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Phenanthrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
Pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1
3 & 4 Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/04/18 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*32 - 120*	*12/29/17 10:29*	*01/04/18 16:26*	*1*
2-Fluorophenol (Surr)	*67*		*29 - 120*	*12/29/17 10:29*	*01/04/18 16:26*	*1*
2,4,6-Tribromophenol (Surr)	*51*		*10 - 120*	*12/29/17 10:29*	*01/04/18 16:26*	*1*
Nitrobenzene-d5 (Surr)	*62*		*30 - 120*	*12/29/17 10:29*	*01/04/18 16:26*	*1*
Phenol-d5 (Surr)	*69*		*29 - 120*	*12/29/17 10:29*	*01/04/18 16:26*	*1*
Terphenyl-d14 (Surr)	*91*		*41 - 120*	*12/29/17 10:29*	*01/04/18 16:26*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,2'-oxybis[1-chloropropane]	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,4,5-Trichlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,4,6-Trichlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,4-Dichlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,4-Dimethylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,4-Dinitrophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,4-Dinitrotoluene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2,6-Dinitrotoluene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2-Chloronaphthalene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2-Chlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2-Methylnaphthalene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2-Methylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
2-Nitrophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
3,3'-Dichlorobenzidine	1900	U	1900		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
3-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4,6-Dinitro-2-methylphenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4-Bromophenyl phenyl ether	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4-Chloro-3-methylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4-Chloroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4-Chlorophenyl phenyl ether	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
4-Nitrophenol	390	U	390		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Acenaphthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Acenaphthylene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Acetophenone	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Anthracene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Atrazine	47	U *	47		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Benzaldehyde	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Benzo[a]anthracene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Benzo[a]pyrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Benzo[b]fluoranthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Benzo[g,h,i]perylene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Benzo[k]fluoranthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Bis(2-chloroethoxy)methane	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Bis(2-chloroethyl)ether	94	U	94		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Bis(2-ethylhexyl) phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Butyl benzyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Caprolactam	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Carbazole	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Chrysene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Dibenz(a,h)anthracene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Dibenzofuran	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Diethyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Dimethyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Di-n-butyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Di-n-octyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Fluoranthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Hexachlorobenzene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Hexachlorobutadiene	47	U	47		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Hexachlorocyclopentadiene	310	U F1	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Hexachloroethane	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Indeno[1,2,3-cd]pyrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Isophorone	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Naphthalene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Nitrobenzene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
N-Nitrosodi-n-propylamine	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
N-Nitrosodiphenylamine	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Pentachlorophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Phenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Phenanthrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
Pyrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1
3 & 4 Methylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/04/18 16:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*71*		*32 - 120*	*12/29/17 10:29*	*01/04/18 16:49*	*1*
2-Fluorophenol (Surr)	*59*		*29 - 120*	*12/29/17 10:29*	*01/04/18 16:49*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*10 - 120*	*12/29/17 10:29*	*01/04/18 16:49*	*1*
Nitrobenzene-d5 (Surr)	*55*		*30 - 120*	*12/29/17 10:29*	*01/04/18 16:49*	*1*
Phenol-d5 (Surr)	*61*		*29 - 120*	*12/29/17 10:29*	*01/04/18 16:49*	*1*
Terphenyl-d14 (Surr)	*86*		*41 - 120*	*12/29/17 10:29*	*01/04/18 16:49*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Bis(2-chloroethyl)ether	91	U	91		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/02/18 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*85*		*32 - 120*	*12/29/17 10:29*	*01/02/18 14:55*	*1*
2-Fluorophenol (Surr)	*75*		*29 - 120*	*12/29/17 10:29*	*01/02/18 14:55*	*1*
2,4,6-Tribromophenol (Surr)	*66*		*10 - 120*	*12/29/17 10:29*	*01/02/18 14:55*	*1*
Nitrobenzene-d5 (Surr)	*71*		*30 - 120*	*12/29/17 10:29*	*01/02/18 14:55*	*1*
Phenol-d5 (Surr)	*76*		*29 - 120*	*12/29/17 10:29*	*01/02/18 14:55*	*1*
Terphenyl-d14 (Surr)	*104*		*41 - 120*	*12/29/17 10:29*	*01/02/18 14:55*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,2'-oxybis[1-chloropropane]	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,4,5-Trichlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,4,6-Trichlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,4-Dichlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,4-Dimethylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,4-Dinitrophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,4-Dinitrotoluene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2,6-Dinitrotoluene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2-Chloronaphthalene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2-Chlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2-Methylnaphthalene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2-Methylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
2-Nitrophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
3,3'-Dichlorobenzidine	1900	U	1900		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
3-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4,6-Dinitro-2-methylphenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4-Bromophenyl phenyl ether	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4-Chloro-3-methylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4-Chloroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4-Chlorophenyl phenyl ether	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
4-Nitrophenol	400	U	400		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Acenaphthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Acenaphthylene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Acetophenone	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Anthracene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Atrazine	48	U *	48		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Benzaldehyde	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Benzo[a]anthracene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Benzo[a]pyrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Benzo[b]fluoranthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Benzo[g,h,i]perylene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Benzo[k]fluoranthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Bis(2-chloroethoxy)methane	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Bis(2-chloroethyl)ether	97	U	97		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Bis(2-ethylhexyl) phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Butyl benzyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Caprolactam	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Carbazole	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Chrysene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Dibenz(a,h)anthracene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Dibenzofuran	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Diethyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Dimethyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Di-n-butyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Di-n-octyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Fluoranthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Hexachlorobenzene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Hexachlorobutadiene	48	U	48		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Hexachlorocyclopentadiene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Hexachloroethane	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Indeno[1,2,3-cd]pyrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Isophorone	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Naphthalene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Nitrobenzene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
N-Nitrosodi-n-propylamine	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
N-Nitrosodiphenylamine	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Pentachlorophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Phenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Phenanthrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
Pyrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1
3 & 4 Methylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/04/18 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*84*		*32 - 120*	*12/29/17 10:29*	*01/04/18 18:24*	*1*
2-Fluorophenol (Surr)	*69*		*29 - 120*	*12/29/17 10:29*	*01/04/18 18:24*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*10 - 120*	*12/29/17 10:29*	*01/04/18 18:24*	*1*
Nitrobenzene-d5 (Surr)	*61*		*30 - 120*	*12/29/17 10:29*	*01/04/18 18:24*	*1*
Phenol-d5 (Surr)	*72*		*29 - 120*	*12/29/17 10:29*	*01/04/18 18:24*	*1*
Terphenyl-d14 (Surr)	*96*		*41 - 120*	*12/29/17 10:29*	*01/04/18 18:24*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Bis(2-chloroethyl)ether	91	U	91		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 12:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*89*		*32 - 120*	*12/29/17 10:29*	*01/03/18 12:17*	*1*
2-Fluorophenol (Surr)	*80*		*29 - 120*	*12/29/17 10:29*	*01/03/18 12:17*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*10 - 120*	*12/29/17 10:29*	*01/03/18 12:17*	*1*
Nitrobenzene-d5 (Surr)	*72*		*30 - 120*	*12/29/17 10:29*	*01/03/18 12:17*	*1*
Phenol-d5 (Surr)	*82*		*29 - 120*	*12/29/17 10:29*	*01/03/18 12:17*	*1*
Terphenyl-d14 (Surr)	*110*		*41 - 120*	*12/29/17 10:29*	*01/03/18 12:17*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Bis(2-chloroethyl)ether	90	U	90		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*68*		*32 - 120*	*12/29/17 10:29*	*01/04/18 18:00*	*1*
2-Fluorophenol (Surr)	*55*		*29 - 120*	*12/29/17 10:29*	*01/04/18 18:00*	*1*
2,4,6-Tribromophenol (Surr)	*56*		*10 - 120*	*12/29/17 10:29*	*01/04/18 18:00*	*1*
Nitrobenzene-d5 (Surr)	*48*		*30 - 120*	*12/29/17 10:29*	*01/04/18 18:00*	*1*
Phenol-d5 (Surr)	*59*		*29 - 120*	*12/29/17 10:29*	*01/04/18 18:00*	*1*
Terphenyl-d14 (Surr)	*82*		*41 - 120*	*12/29/17 10:29*	*01/04/18 18:00*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,2'-oxybis[1-chloropropane]	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,4,5-Trichlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,4,6-Trichlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,4-Dichlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,4-Dimethylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,4-Dinitrophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,4-Dinitrotoluene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2,6-Dinitrotoluene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2-Chloronaphthalene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2-Chlorophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2-Methylnaphthalene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2-Methylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
2-Nitrophenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
3,3'-Dichlorobenzidine	1900	U	1900		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4,6-Dinitro-2-methylphenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4-Bromophenyl phenyl ether	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4-Chloro-3-methylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4-Chlorophenyl phenyl ether	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
4-Nitrophenol	390	U	390		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Acenaphthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Acenaphthylene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Acetophenone	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Anthracene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Atrazine	47	U *	47		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Benzaldehyde	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Benzo[a]anthracene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Benzo[a]pyrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Benzo[b]fluoranthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Benzo[g,h,i]perylene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Benzo[k]fluoranthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Bis(2-chloroethoxy)methane	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Bis(2-chloroethyl)ether	94	U	94		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Bis(2-ethylhexyl) phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Butyl benzyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Caprolactam	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Carbazole	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Chrysene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Dibenz(a,h)anthracene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Dibenzofuran	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Diethyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Dimethyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Di-n-butyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Di-n-octyl phthalate	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Fluoranthene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Hexachlorobenzene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Hexachlorobutadiene	47	U	47		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Hexachlorocyclopentadiene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Hexachloroethane	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Indeno[1,2,3-cd]pyrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Isophorone	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Naphthalene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Nitrobenzene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
N-Nitrosodi-n-propylamine	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
N-Nitrosodiphenylamine	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Pentachlorophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Phenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Phenanthrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
Pyrene	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1
3 & 4 Methylphenol	310	U	310		ug/Kg	☼	12/29/17 10:29	01/02/18 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*91*		*32 - 120*	*12/29/17 10:29*	*01/02/18 15:43*	*1*
2-Fluorophenol (Surr)	*78*		*29 - 120*	*12/29/17 10:29*	*01/02/18 15:43*	*1*
2,4,6-Tribromophenol (Surr)	*60*		*10 - 120*	*12/29/17 10:29*	*01/02/18 15:43*	*1*
Nitrobenzene-d5 (Surr)	*73*		*30 - 120*	*12/29/17 10:29*	*01/02/18 15:43*	*1*
Phenol-d5 (Surr)	*81*		*29 - 120*	*12/29/17 10:29*	*01/02/18 15:43*	*1*
Terphenyl-d14 (Surr)	*107*		*41 - 120*	*12/29/17 10:29*	*01/02/18 15:43*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,2'-oxybis[1-chloropropane]	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,4,5-Trichlorophenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,4,6-Trichlorophenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,4-Dichlorophenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,4-Dimethylphenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,4-Dinitrophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,4-Dinitrotoluene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2,6-Dinitrotoluene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2-Chloronaphthalene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2-Chlorophenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2-Methylnaphthalene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2-Methylphenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2-Nitroaniline	210	U	210		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
2-Nitrophenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
3,3'-Dichlorobenzidine	1700	U	1700		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
3-Nitroaniline	210	U	210		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4,6-Dinitro-2-methylphenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4-Bromophenyl phenyl ether	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4-Chloro-3-methylphenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4-Chloroaniline	210	U	210		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4-Chlorophenyl phenyl ether	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4-Nitroaniline	210	U	210		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
4-Nitrophenol	350	U	350		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Acenaphthene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Acenaphthylene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Acetophenone	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Anthracene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Atrazine	42	U *	42		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Benzaldehyde	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Benzo[a]anthracene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Benzo[a]pyrene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Benzo[b]fluoranthene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Benzo[g,h,i]perylene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Benzo[k]fluoranthene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Bis(2-chloroethoxy)methane	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Bis(2-chloroethyl)ether	84	U	84		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Bis(2-ethylhexyl) phthalate	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Butyl benzyl phthalate	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Caprolactam	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Carbazole	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Chrysene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Dibenz(a,h)anthracene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Dibenzofuran	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Diethyl phthalate	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Dimethyl phthalate	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Di-n-butyl phthalate	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Di-n-octyl phthalate	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Fluoranthene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Hexachlorobenzene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Hexachlorobutadiene	42	U	42		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Hexachlorocyclopentadiene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Hexachloroethane	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Indeno[1,2,3-cd]pyrene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Isophorone	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Naphthalene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Nitrobenzene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
N-Nitrosodi-n-propylamine	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
N-Nitrosodiphenylamine	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Pentachlorophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Phenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Phenanthrene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
Pyrene	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1
3 & 4 Methylphenol	280	U	280		ug/Kg	☼	12/29/17 10:29	01/02/18 15:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*86*		*32 - 120*	*12/29/17 10:29*	*01/02/18 15:19*	*1*
2-Fluorophenol (Surr)	*77*		*29 - 120*	*12/29/17 10:29*	*01/02/18 15:19*	*1*
2,4,6-Tribromophenol (Surr)	*63*		*10 - 120*	*12/29/17 10:29*	*01/02/18 15:19*	*1*
Nitrobenzene-d5 (Surr)	*72*		*30 - 120*	*12/29/17 10:29*	*01/02/18 15:19*	*1*
Phenol-d5 (Surr)	*78*		*29 - 120*	*12/29/17 10:29*	*01/02/18 15:19*	*1*
Terphenyl-d14 (Surr)	*109*		*41 - 120*	*12/29/17 10:29*	*01/02/18 15:19*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Bis(2-chloroethyl)ether	89	U	89		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/04/18 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*69*		*32 - 120*	*12/29/17 10:29*	*01/04/18 19:11*	*1*
2-Fluorophenol (Surr)	*57*		*29 - 120*	*12/29/17 10:29*	*01/04/18 19:11*	*1*
2,4,6-Tribromophenol (Surr)	*41*		*10 - 120*	*12/29/17 10:29*	*01/04/18 19:11*	*1*
Nitrobenzene-d5 (Surr)	*52*		*30 - 120*	*12/29/17 10:29*	*01/04/18 19:11*	*1*
Phenol-d5 (Surr)	*59*		*29 - 120*	*12/29/17 10:29*	*01/04/18 19:11*	*1*
Terphenyl-d14 (Surr)	*87*		*41 - 120*	*12/29/17 10:29*	*01/04/18 19:11*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,2'-oxybis[1-chloropropane]	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,4,5-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,4,6-Trichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,4-Dichlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,4-Dimethylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,4-Dinitrophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,4-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2,6-Dinitrotoluene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2-Chloronaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2-Chlorophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2-Methylnaphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2-Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
2-Nitrophenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
3,3'-Dichlorobenzidine	1700	U	1700		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
3-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4,6-Dinitro-2-methylphenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4-Bromophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4-Chloro-3-methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4-Chloroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4-Chlorophenyl phenyl ether	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4-Nitroaniline	220	U	220		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
4-Nitrophenol	360	U	360		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Acenaphthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Acenaphthylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Acetophenone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Atrazine	44	U *	44		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Benzaldehyde	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Benzo[a]anthracene	**320**		290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Benzo[a]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Benzo[b]fluoranthene	**430**		290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Benzo[g,h,i]perylene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Benzo[k]fluoranthene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Bis(2-chloroethoxy)methane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Bis(2-chloroethyl)ether	87	U	87		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Bis(2-ethylhexyl) phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Butyl benzyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Caprolactam	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Carbazole	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Chrysene	**310**		290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Dibenz(a,h)anthracene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Dibenzofuran	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Diethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Dimethyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Di-n-butyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Di-n-octyl phthalate	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Fluoranthene	**870**		290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Hexachlorobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Hexachlorobutadiene	44	U	44		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Hexachlorocyclopentadiene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Hexachloroethane	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Indeno[1,2,3-cd]pyrene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Isophorone	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Naphthalene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Nitrobenzene	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
N-Nitrosodi-n-propylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
N-Nitrosodiphenylamine	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Pentachlorophenol	160	U	160		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Phenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Phenanthrene	**550**		290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
Pyrene	**760**		290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1
3 & 4 Methylphenol	290	U	290		ug/Kg	☼	12/29/17 10:29	01/03/18 11:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*91*		*32 - 120*	*12/29/17 10:29*	*01/03/18 11:06*	*1*
2-Fluorophenol (Surr)	*79*		*29 - 120*	*12/29/17 10:29*	*01/03/18 11:06*	*1*
2,4,6-Tribromophenol (Surr)	*54*		*10 - 120*	*12/29/17 10:29*	*01/03/18 11:06*	*1*
Nitrobenzene-d5 (Surr)	*71*		*30 - 120*	*12/29/17 10:29*	*01/03/18 11:06*	*1*
Phenol-d5 (Surr)	*81*		*29 - 120*	*12/29/17 10:29*	*01/03/18 11:06*	*1*
Terphenyl-d14 (Surr)	*108*		*41 - 120*	*12/29/17 10:29*	*01/03/18 11:06*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,2'-oxybis[1-chloropropane]	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,4,5-Trichlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,4,6-Trichlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,4-Dichlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,4-Dimethylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,4-Dinitrophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,4-Dinitrotoluene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2,6-Dinitrotoluene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2-Chloronaphthalene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2-Chlorophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2-Methylnaphthalene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2-Methylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
2-Nitrophenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
3,3'-Dichlorobenzidine	1900	U	1900		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
3-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4,6-Dinitro-2-methylphenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4-Bromophenyl phenyl ether	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4-Chloro-3-methylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4-Chloroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4-Chlorophenyl phenyl ether	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4-Nitroaniline	240	U	240		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
4-Nitrophenol	390	U	390		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Acenaphthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Acenaphthylene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Acetophenone	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Anthracene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Atrazine	48	U *	48		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Benzaldehyde	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Benzo[a]anthracene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Benzo[a]pyrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Benzo[b]fluoranthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Benzo[g,h,i]perylene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Benzo[k]fluoranthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Bis(2-chloroethoxy)methane	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Bis(2-chloroethyl)ether	95	U	95		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Bis(2-ethylhexyl) phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Butyl benzyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Caprolactam	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Carbazole	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Chrysene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Dibenz(a,h)anthracene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Dibenzofuran	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Diethyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Dimethyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Di-n-butyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Di-n-octyl phthalate	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Fluoranthene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Hexachlorobenzene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Hexachlorobutadiene	48	U	48		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Hexachlorocyclopentadiene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Hexachloroethane	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Indeno[1,2,3-cd]pyrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Isophorone	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Naphthalene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Nitrobenzene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
N-Nitrosodi-n-propylamine	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
N-Nitrosodiphenylamine	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Pentachlorophenol	180	U	180		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Phenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Phenanthrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
Pyrene	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1
3 & 4 Methylphenol	320	U	320		ug/Kg	☼	12/29/17 10:29	01/03/18 10:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*95*		*32 - 120*	*12/29/17 10:29*	*01/03/18 10:43*	*1*
2-Fluorophenol (Surr)	*82*		*29 - 120*	*12/29/17 10:29*	*01/03/18 10:43*	*1*
2,4,6-Tribromophenol (Surr)	*82*		*10 - 120*	*12/29/17 10:29*	*01/03/18 10:43*	*1*
Nitrobenzene-d5 (Surr)	*74*		*30 - 120*	*12/29/17 10:29*	*01/03/18 10:43*	*1*
Phenol-d5 (Surr)	*86*		*29 - 120*	*12/29/17 10:29*	*01/03/18 10:43*	*1*
Terphenyl-d14 (Surr)	*111*		*41 - 120*	*12/29/17 10:29*	*01/03/18 10:43*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,2'-oxybis[1-chloropropane]	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,4,5-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,4,6-Trichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,4-Dichlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,4-Dimethylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,4-Dinitrophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,4-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2,6-Dinitrotoluene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2-Chloronaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2-Chlorophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2-Methylnaphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2-Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
2-Nitrophenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
3,3'-Dichlorobenzidine	1800	U	1800		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
3-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4,6-Dinitro-2-methylphenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4-Bromophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4-Chloro-3-methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4-Chloroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4-Chlorophenyl phenyl ether	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4-Nitroaniline	230	U	230		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
4-Nitrophenol	370	U	370		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Acenaphthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Acenaphthylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Acetophenone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Atrazine	45	U *	45		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Benzaldehyde	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Benzo[a]anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Benzo[a]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Benzo[b]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Benzo[g,h,i]perylene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Benzo[k]fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Bis(2-chloroethoxy)methane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Bis(2-chloroethyl)ether	90	U	90		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Bis(2-ethylhexyl) phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Butyl benzyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Caprolactam	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Carbazole	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Chrysene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Dibenz(a,h)anthracene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Dibenzofuran	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Diethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Dimethyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Di-n-butyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Di-n-octyl phthalate	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Fluoranthene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Hexachlorobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Hexachlorobutadiene	45	U	45		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Hexachlorocyclopentadiene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Hexachloroethane	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Indeno[1,2,3-cd]pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Isophorone	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Naphthalene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Nitrobenzene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
N-Nitrosodi-n-propylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
N-Nitrosodiphenylamine	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Pentachlorophenol	170	U	170		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Phenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Phenanthrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
Pyrene	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1
3 & 4 Methylphenol	300	U	300		ug/Kg	☼	12/29/17 10:29	01/03/18 10:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*98*		*32 - 120*	*12/29/17 10:29*	*01/03/18 10:19*	*1*
2-Fluorophenol (Surr)	*84*		*29 - 120*	*12/29/17 10:29*	*01/03/18 10:19*	*1*
2,4,6-Tribromophenol (Surr)	*96*		*10 - 120*	*12/29/17 10:29*	*01/03/18 10:19*	*1*
Nitrobenzene-d5 (Surr)	*79*		*30 - 120*	*12/29/17 10:29*	*01/03/18 10:19*	*1*
Phenol-d5 (Surr)	*88*		*29 - 120*	*12/29/17 10:29*	*01/03/18 10:19*	*1*
Terphenyl-d14 (Surr)	*119*		*41 - 120*	*12/29/17 10:29*	*01/03/18 10:19*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
4,4'-DDE	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
4,4'-DDT	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Aldrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
alpha-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
alpha-Chlordane	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
beta-BHC	5.9	U *	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
delta-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Dieldrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Endosulfan I	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Endosulfan II	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Endosulfan sulfate	5.9	U *	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Endrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Endrin aldehyde	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Endrin ketone	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
gamma-BHC (Lindane)	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
gamma-Chlordane	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Heptachlor	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Heptachlor epoxide	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1
Toxaphene	120	U	120		ug/Kg	☼	12/28/17 12:15	01/02/18 11:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*72*		*13 - 135*	*12/28/17 12:15*	*01/02/18 11:31*	*1*
Tetrachloro-m-xylene	*74*		*30 - 120*	*12/28/17 12:15*	*01/02/18 11:31*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
4,4'-DDE	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
4,4'-DDT	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Aldrin	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
alpha-BHC	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
alpha-Chlordane	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
beta-BHC	6.2	U *	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
delta-BHC	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Dieldrin	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Endosulfan I	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Endosulfan II	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Endosulfan sulfate	6.2	U *	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Endrin	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Endrin aldehyde	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Endrin ketone	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
gamma-BHC (Lindane)	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
gamma-Chlordane	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Heptachlor	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Heptachlor epoxide	6.2	U	6.2		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Methoxychlor	12	U	12		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1
Toxaphene	120	U	120		ug/Kg	☼	12/28/17 12:15	01/02/18 11:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*69*		*13 - 135*	*12/28/17 12:15*	*01/02/18 11:43*	*1*
Tetrachloro-m-xylene	*74*		*30 - 120*	*12/28/17 12:15*	*01/02/18 11:43*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
4,4'-DDE	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
4,4'-DDT	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Aldrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
alpha-BHC	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
alpha-Chlordane	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
beta-BHC	5.8	U *	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
delta-BHC	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Dieldrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Endosulfan I	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Endosulfan II	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Endosulfan sulfate	5.8	U *	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Endrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Endrin aldehyde	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Endrin ketone	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
gamma-BHC (Lindane)	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
gamma-Chlordane	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Heptachlor	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Heptachlor epoxide	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 11:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*13 - 135*	*12/28/17 12:15*	*01/02/18 11:56*	*1*
Tetrachloro-m-xylene	*75*		*30 - 120*	*12/28/17 12:15*	*01/02/18 11:56*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
4,4'-DDE	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
4,4'-DDT	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Aldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
alpha-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
alpha-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
beta-BHC	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
delta-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Dieldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Endosulfan I	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Endosulfan II	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Endosulfan sulfate	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Endrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Endrin aldehyde	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Endrin ketone	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
gamma-BHC (Lindane)	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
gamma-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Heptachlor	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Heptachlor epoxide	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*78*		*13 - 135*	*12/28/17 12:15*	*01/02/18 12:08*	*1*
Tetrachloro-m-xylene	*83*		*30 - 120*	*12/28/17 12:15*	*01/02/18 12:08*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
4,4'-DDE	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
4,4'-DDT	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Aldrin	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
alpha-BHC	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
alpha-Chlordane	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
beta-BHC	29	U *	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
delta-BHC	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Dieldrin	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Endosulfan I	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Endosulfan II	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Endosulfan sulfate	29	U *	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Endrin	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Endrin aldehyde	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Endrin ketone	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
gamma-BHC (Lindane)	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
gamma-Chlordane	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Heptachlor	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Heptachlor epoxide	29	U	29		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Methoxychlor	56	U	56		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5
Toxaphene	560	U	560		ug/Kg	☼	12/28/17 12:15	01/02/18 12:21	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*116*		*13 - 135*	*12/28/17 12:15*	*01/02/18 12:21*	*5*
Tetrachloro-m-xylene	*126*	*X*	*30 - 120*	*12/28/17 12:15*	*01/02/18 12:21*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
4,4'-DDE	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
4,4'-DDT	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Aldrin	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
alpha-BHC	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
alpha-Chlordane	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
beta-BHC	5.7	U *	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
delta-BHC	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Dieldrin	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Endosulfan I	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Endosulfan II	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Endosulfan sulfate	5.7	U *	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Endrin	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Endrin aldehyde	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Endrin ketone	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
gamma-BHC (Lindane)	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
gamma-Chlordane	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Heptachlor	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Heptachlor epoxide	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 12:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*73*		*13 - 135*	*12/28/17 12:15*	*01/02/18 12:33*	*1*
Tetrachloro-m-xylene	*73*		*30 - 120*	*12/28/17 12:15*	*01/02/18 12:33*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
4,4'-DDE	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
4,4'-DDT	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Aldrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
alpha-BHC	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
alpha-Chlordane	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
beta-BHC	5.8	U *	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
delta-BHC	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Dieldrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Endosulfan I	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Endosulfan II	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Endosulfan sulfate	5.8	U *	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Endrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Endrin aldehyde	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Endrin ketone	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
gamma-BHC (Lindane)	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
gamma-Chlordane	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Heptachlor	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Heptachlor epoxide	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 12:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*75*		*13 - 135*	*12/28/17 12:15*	*01/02/18 12:46*	*1*
Tetrachloro-m-xylene	*74*		*30 - 120*	*12/28/17 12:15*	*01/02/18 12:46*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
4,4'-DDE	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
4,4'-DDT	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Aldrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
alpha-BHC	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
alpha-Chlordane	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
beta-BHC	5.8	U *	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
delta-BHC	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Dieldrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Endosulfan I	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Endosulfan II	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Endosulfan sulfate	5.8	U *	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Endrin	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Endrin aldehyde	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Endrin ketone	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
gamma-BHC (Lindane)	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
gamma-Chlordane	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Heptachlor	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Heptachlor epoxide	5.8	U	5.8		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*71*		*13 - 135*	*12/28/17 12:15*	*01/02/18 12:58*	*1*
Tetrachloro-m-xylene	*70*		*30 - 120*	*12/28/17 12:15*	*01/02/18 12:58*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
4,4'-DDE	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
4,4'-DDT	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Aldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
alpha-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
alpha-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
beta-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
delta-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Dieldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Endosulfan I	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Endosulfan II	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Endosulfan sulfate	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Endrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Endrin aldehyde	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Endrin ketone	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
gamma-BHC (Lindane)	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
gamma-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Heptachlor	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Heptachlor epoxide	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*71*		*13 - 135*	*12/28/17 12:15*	*01/02/18 13:11*	*1*
Tetrachloro-m-xylene	*80*		*30 - 120*	*12/28/17 12:15*	*01/02/18 13:11*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
4,4'-DDE	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
4,4'-DDT	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Aldrin	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
alpha-BHC	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
alpha-Chlordane	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
beta-BHC	5.5	U *	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
delta-BHC	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Dieldrin	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Endosulfan I	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Endosulfan II	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Endosulfan sulfate	5.5	U *	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Endrin	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Endrin aldehyde	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Endrin ketone	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
gamma-BHC (Lindane)	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
gamma-Chlordane	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Heptachlor	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Heptachlor epoxide	5.5	U	5.5		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 13:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*13 - 135*	*12/28/17 12:15*	*01/02/18 13:23*	*1*
Tetrachloro-m-xylene	*73*		*30 - 120*	*12/28/17 12:15*	*01/02/18 13:23*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
4,4'-DDE	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
4,4'-DDT	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Aldrin	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
alpha-BHC	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
alpha-Chlordane	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
beta-BHC	30	U *	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
delta-BHC	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Dieldrin	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Endosulfan I	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Endosulfan II	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Endosulfan sulfate	30	U *	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Endrin	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Endrin aldehyde	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Endrin ketone	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
gamma-BHC (Lindane)	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
gamma-Chlordane	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Heptachlor	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Heptachlor epoxide	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Methoxychlor	58	U	58		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5
Toxaphene	580	U	580		ug/Kg	☼	12/28/17 12:15	01/02/18 13:36	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*76*		*13 - 135*	*12/28/17 12:15*	*01/02/18 13:36*	*5*
Tetrachloro-m-xylene	*79*		*30 - 120*	*12/28/17 12:15*	*01/02/18 13:36*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
4,4'-DDE	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
4,4'-DDT	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Aldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
alpha-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
alpha-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
beta-BHC	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
delta-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Dieldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Endosulfan I	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Endosulfan II	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Endosulfan sulfate	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Endrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Endrin aldehyde	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Endrin ketone	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
gamma-BHC (Lindane)	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
gamma-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Heptachlor	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Heptachlor epoxide	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 13:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*69*		*13 - 135*	*12/28/17 12:15*	*01/02/18 13:48*	*1*
Tetrachloro-m-xylene	*82*		*30 - 120*	*12/28/17 12:15*	*01/02/18 13:48*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
4,4'-DDE	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
4,4'-DDT	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Aldrin	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
alpha-BHC	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
alpha-Chlordane	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
beta-BHC	6.1	U *	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
delta-BHC	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Dieldrin	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Endosulfan I	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Endosulfan II	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Endosulfan sulfate	6.1	U *	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Endrin	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Endrin aldehyde	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Endrin ketone	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
gamma-BHC (Lindane)	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
gamma-Chlordane	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Heptachlor	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Heptachlor epoxide	6.1	U	6.1		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Methoxychlor	12	U	12		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1
Toxaphene	120	U	120		ug/Kg	☼	12/28/17 12:15	01/02/18 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*58*		*13 - 135*	*12/28/17 12:15*	*01/02/18 14:01*	*1*
Tetrachloro-m-xylene	*58*		*30 - 120*	*12/28/17 12:15*	*01/02/18 14:01*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
4,4'-DDE	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
4,4'-DDT	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Aldrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
alpha-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
alpha-Chlordane	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
beta-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
delta-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Dieldrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Endosulfan I	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Endosulfan II	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Endosulfan sulfate	5.9	U *	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Endrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Endrin aldehyde	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Endrin ketone	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
gamma-BHC (Lindane)	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
gamma-Chlordane	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Heptachlor	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Heptachlor epoxide	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*67*		*13 - 135*	*12/28/17 12:15*	*01/02/18 14:13*	*1*
Tetrachloro-m-xylene	*76*		*30 - 120*	*12/28/17 12:15*	*01/02/18 14:13*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
4,4'-DDE	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
4,4'-DDT	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Aldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
alpha-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
alpha-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
beta-BHC	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
delta-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Dieldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Endosulfan I	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Endosulfan II	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Endosulfan sulfate	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Endrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Endrin aldehyde	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Endrin ketone	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
gamma-BHC (Lindane)	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
gamma-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Heptachlor	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Heptachlor epoxide	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*13 - 135*	*12/28/17 12:15*	*01/02/18 14:26*	*1*
Tetrachloro-m-xylene	*69*		*30 - 120*	*12/28/17 12:15*	*01/02/18 14:26*	*1*

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
4,4'-DDE	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
4,4'-DDT	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Aldrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
alpha-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
alpha-Chlordane	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
beta-BHC	5.9	U *	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
delta-BHC	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Dieldrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Endosulfan I	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Endosulfan II	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Endosulfan sulfate	5.9	U *	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Endrin	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Endrin aldehyde	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Endrin ketone	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
gamma-BHC (Lindane)	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
gamma-Chlordane	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Heptachlor	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Heptachlor epoxide	5.9	U	5.9		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1
Toxaphene	120	U	120		ug/Kg	☼	12/28/17 12:15	01/02/18 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*75*		*13 - 135*	*12/28/17 12:15*	*01/02/18 14:38*	*1*
Tetrachloro-m-xylene	*79*		*30 - 120*	*12/28/17 12:15*	*01/02/18 14:38*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
4,4'-DDE	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
4,4'-DDT	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Aldrin	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
alpha-BHC	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
alpha-Chlordane	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
beta-BHC	5.3	U *	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
delta-BHC	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Dieldrin	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Endosulfan I	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Endosulfan II	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Endosulfan sulfate	5.3	U *	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Endrin	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Endrin aldehyde	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Endrin ketone	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
gamma-BHC (Lindane)	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
gamma-Chlordane	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Heptachlor	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Heptachlor epoxide	5.3	U	5.3		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Methoxychlor	10	U	10		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1
Toxaphene	100	U	100		ug/Kg	☼	12/28/17 12:15	01/02/18 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*70*		*13 - 135*	*12/28/17 12:15*	*01/02/18 14:51*	*1*
Tetrachloro-m-xylene	*76*		*30 - 120*	*12/28/17 12:15*	*01/02/18 14:51*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
4,4'-DDE	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
4,4'-DDT	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Aldrin	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
alpha-BHC	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
alpha-Chlordane	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
beta-BHC	5.7	U *	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
delta-BHC	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Dieldrin	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Endosulfan I	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Endosulfan II	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Endosulfan sulfate	5.7	U *	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Endrin	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Endrin aldehyde	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Endrin ketone	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
gamma-BHC (Lindane)	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
gamma-Chlordane	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Heptachlor	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Heptachlor epoxide	5.7	U	5.7		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 15:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*66*		*13 - 135*	*12/28/17 12:15*	*01/02/18 15:03*	*1*
Tetrachloro-m-xylene	*63*		*30 - 120*	*12/28/17 12:15*	*01/02/18 15:03*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
4,4'-DDE	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
4,4'-DDT	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Aldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
alpha-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
alpha-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
beta-BHC	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
delta-BHC	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Dieldrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Endosulfan I	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Endosulfan II	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Endosulfan sulfate	5.6	U *	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Endrin	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Endrin aldehyde	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Endrin ketone	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
gamma-BHC (Lindane)	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
gamma-Chlordane	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Heptachlor	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Heptachlor epoxide	5.6	U	5.6		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Methoxychlor	11	U	11		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1
Toxaphene	110	U	110		ug/Kg	☼	12/28/17 12:15	01/02/18 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*106*		*13 - 135*	*12/28/17 12:15*	*01/02/18 18:02*	*1*
Tetrachloro-m-xylene	*90*		*30 - 120*	*12/28/17 12:15*	*01/02/18 18:02*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
4,4'-DDE	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
4,4'-DDT	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Aldrin	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
alpha-BHC	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
alpha-Chlordane	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
beta-BHC	30	U *	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
delta-BHC	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Dieldrin	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Endosulfan I	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Endosulfan II	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Endosulfan sulfate	30	U *	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Endrin	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Endrin aldehyde	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Endrin ketone	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
gamma-BHC (Lindane)	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
gamma-Chlordane	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Heptachlor	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Heptachlor epoxide	30	U	30		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Methoxychlor	58	U	58		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5
Toxaphene	590	U	590		ug/Kg	☼	12/28/17 12:15	01/02/18 18:15	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*126*		*13 - 135*	*12/28/17 12:15*	*01/02/18 18:15*	*5*
Tetrachloro-m-xylene	*122*	*X*	*30 - 120*	*12/28/17 12:15*	*01/02/18 18:15*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8081A - Organochlorine Pesticides (GC)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
4,4'-DDE	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
4,4'-DDT	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Aldrin	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
alpha-BHC	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
alpha-Chlordane	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
beta-BHC	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
delta-BHC	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Dieldrin	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Endosulfan I	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Endosulfan II	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Endosulfan sulfate	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Endrin	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Endrin aldehyde	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Endrin ketone	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
gamma-BHC (Lindane)	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
gamma-Chlordane	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Heptachlor	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Heptachlor epoxide	28	U	28		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Methoxychlor	55	U	55		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5
Toxaphene	560	U	560		ug/Kg	☼	12/29/17 10:04	01/02/18 19:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*130*		*13 - 135*	*12/29/17 10:04*	*01/02/18 19:18*	*5*
Tetrachloro-m-xylene	*88*		*30 - 120*	*12/29/17 10:04*	*01/02/18 19:18*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1
Aroclor-1221	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1
Aroclor-1232	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1
Aroclor-1242	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1
Aroclor-1248	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1
Aroclor-1254	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1
Aroclor-1260	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 12:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*124*		*14 - 128*	*12/21/17 09:03*	*12/22/17 12:04*	*1*
DCB Decachlorobiphenyl	*143*	*X*	*10 - 132*	*12/21/17 09:03*	*12/22/17 12:04*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1
Aroclor-1221	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1
Aroclor-1232	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1
Aroclor-1242	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1
Aroclor-1248	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1
Aroclor-1254	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1
Aroclor-1260	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 12:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*97*		*14 - 128*	*12/21/17 09:03*	*12/22/17 12:24*	*1*
DCB Decachlorobiphenyl	*112*		*10 - 132*	*12/21/17 09:03*	*12/22/17 12:24*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1
Aroclor-1221	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1
Aroclor-1232	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1
Aroclor-1242	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1
Aroclor-1248	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1
Aroclor-1254	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1
Aroclor-1260	57	U	57		ug/Kg	☼	12/21/17 09:03	12/22/17 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*14 - 128*	*12/21/17 09:03*	*12/22/17 12:44*	*1*
DCB Decachlorobiphenyl	*113*		*10 - 132*	*12/21/17 09:03*	*12/22/17 12:44*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1
Aroclor-1221	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1
Aroclor-1232	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1
Aroclor-1242	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1
Aroclor-1248	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1
Aroclor-1254	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1
Aroclor-1260	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 13:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*14 - 128*	*12/21/17 09:03*	*12/22/17 13:04*	*1*
DCB Decachlorobiphenyl	*108*		*10 - 132*	*12/21/17 09:03*	*12/22/17 13:04*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1
Aroclor-1221	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1
Aroclor-1232	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1
Aroclor-1242	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1
Aroclor-1248	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1
Aroclor-1254	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1
Aroclor-1260	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*14 - 128*	*12/21/17 09:03*	*12/22/17 13:24*	*1*
DCB Decachlorobiphenyl	*95*		*10 - 132*	*12/21/17 09:03*	*12/22/17 13:24*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1
Aroclor-1221	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1
Aroclor-1232	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1
Aroclor-1242	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1
Aroclor-1248	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1
Aroclor-1254	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1
Aroclor-1260	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*80*		*14 - 128*	*12/21/17 09:03*	*12/22/17 13:43*	*1*
DCB Decachlorobiphenyl	*96*		*10 - 132*	*12/21/17 09:03*	*12/22/17 13:43*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1
Aroclor-1221	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1
Aroclor-1232	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1
Aroclor-1242	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1
Aroclor-1248	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1
Aroclor-1254	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1
Aroclor-1260	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*91*		*14 - 128*	*12/21/17 09:03*	*12/22/17 14:03*	*1*
DCB Decachlorobiphenyl	*93*		*10 - 132*	*12/21/17 09:03*	*12/22/17 14:03*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1
Aroclor-1221	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1
Aroclor-1232	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1
Aroclor-1242	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1
Aroclor-1248	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1
Aroclor-1254	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1
Aroclor-1260	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 14:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*106*		*14 - 128*	*12/21/17 09:03*	*12/22/17 14:23*	*1*
DCB Decachlorobiphenyl	*102*		*10 - 132*	*12/21/17 09:03*	*12/22/17 14:23*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1
Aroclor-1221	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1
Aroclor-1232	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1
Aroclor-1242	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1
Aroclor-1248	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1
Aroclor-1254	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1
Aroclor-1260	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*94*		*14 - 128*	*12/21/17 09:03*	*12/22/17 14:42*	*1*
DCB Decachlorobiphenyl	*97*		*10 - 132*	*12/21/17 09:03*	*12/22/17 14:42*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1
Aroclor-1221	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1
Aroclor-1232	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1
Aroclor-1242	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1
Aroclor-1248	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1
Aroclor-1254	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1
Aroclor-1260	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*109*		*14 - 128*	*12/21/17 09:03*	*12/22/17 15:02*	*1*
DCB Decachlorobiphenyl	*115*		*10 - 132*	*12/21/17 09:03*	*12/22/17 15:02*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1
Aroclor-1221	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1
Aroclor-1232	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1
Aroclor-1242	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1
Aroclor-1248	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1
Aroclor-1254	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1
Aroclor-1260	59	U	59		ug/Kg	☼	12/21/17 09:03	12/22/17 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*96*		*14 - 128*	*12/21/17 09:03*	*12/22/17 15:21*	*1*
DCB Decachlorobiphenyl	*104*		*10 - 132*	*12/21/17 09:03*	*12/22/17 15:21*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1
Aroclor-1221	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1
Aroclor-1232	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1
Aroclor-1242	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1
Aroclor-1248	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1
Aroclor-1254	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1
Aroclor-1260	54	U	54		ug/Kg	☼	12/21/17 09:03	12/22/17 16:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*77*		*14 - 128*	*12/21/17 09:03*	*12/22/17 16:20*	*1*
DCB Decachlorobiphenyl	*87*		*10 - 132*	*12/21/17 09:03*	*12/22/17 16:20*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1
Aroclor-1221	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1
Aroclor-1232	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1
Aroclor-1242	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1
Aroclor-1248	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1
Aroclor-1254	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1
Aroclor-1260	60	U	60		ug/Kg	☼	12/21/17 09:03	12/22/17 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*92*		*14 - 128*	*12/21/17 09:03*	*12/22/17 16:40*	*1*
DCB Decachlorobiphenyl	*100*		*10 - 132*	*12/21/17 09:03*	*12/22/17 16:40*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1
Aroclor-1221	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1
Aroclor-1232	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1
Aroclor-1242	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1
Aroclor-1248	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1
Aroclor-1254	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1
Aroclor-1260	55	U	55		ug/Kg	☼	12/21/17 09:03	12/22/17 17:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*90*		*14 - 128*	*12/21/17 09:03*	*12/22/17 17:00*	*1*
DCB Decachlorobiphenyl	*88*		*10 - 132*	*12/21/17 09:03*	*12/22/17 17:00*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1
Aroclor-1221	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1
Aroclor-1232	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1
Aroclor-1242	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1
Aroclor-1248	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1
Aroclor-1254	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1
Aroclor-1260	56	U	56		ug/Kg	☼	12/21/17 09:03	12/22/17 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*93*		*14 - 128*	*12/21/17 09:03*	*12/22/17 17:19*	*1*
DCB Decachlorobiphenyl	*96*		*10 - 132*	*12/21/17 09:03*	*12/22/17 17:19*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1
Aroclor-1221	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1
Aroclor-1232	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1
Aroclor-1242	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1
Aroclor-1248	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1
Aroclor-1254	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1
Aroclor-1260	58	U	58		ug/Kg	☼	12/28/17 12:57	12/30/17 17:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*14 - 128*	*12/28/17 12:57*	*12/30/17 17:13*	*1*
DCB Decachlorobiphenyl	*75*		*10 - 132*	*12/28/17 12:57*	*12/30/17 17:13*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1
Aroclor-1221	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1
Aroclor-1232	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1
Aroclor-1242	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1
Aroclor-1248	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1
Aroclor-1254	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1
Aroclor-1260	53	U	53		ug/Kg	☼	12/28/17 12:57	12/30/17 17:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*14 - 128*	*12/28/17 12:57*	*12/30/17 17:32*	*1*
DCB Decachlorobiphenyl	*82*		*10 - 132*	*12/28/17 12:57*	*12/30/17 17:32*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1
Aroclor-1221	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1
Aroclor-1232	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1
Aroclor-1242	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1
Aroclor-1248	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1
Aroclor-1254	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1
Aroclor-1260	55	U	55		ug/Kg	☼	12/28/17 12:57	12/30/17 17:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*88*		*14 - 128*	*12/28/17 12:57*	*12/30/17 17:51*	*1*
DCB Decachlorobiphenyl	*71*		*10 - 132*	*12/28/17 12:57*	*12/30/17 17:51*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1
Aroclor-1221	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1
Aroclor-1232	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1
Aroclor-1242	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1
Aroclor-1248	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1
Aroclor-1254	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1
Aroclor-1260	55	U	55		ug/Kg	☼	12/29/17 09:08	01/02/18 23:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*85*		*14 - 128*	*12/29/17 09:08*	*01/02/18 23:54*	*1*
DCB Decachlorobiphenyl	*91*		*10 - 132*	*12/29/17 09:08*	*01/02/18 23:54*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1
Aroclor-1221	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1
Aroclor-1232	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1
Aroclor-1242	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1
Aroclor-1248	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1
Aroclor-1254	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1
Aroclor-1260	59	U	59		ug/Kg	☼	12/29/17 09:08	01/03/18 00:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*85*		*14 - 128*	*12/29/17 09:08*	*01/03/18 00:16*	*1*
DCB Decachlorobiphenyl	*87*		*10 - 132*	*12/29/17 09:08*	*01/03/18 00:16*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1
Aroclor-1221	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1
Aroclor-1232	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1
Aroclor-1242	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1
Aroclor-1248	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1
Aroclor-1254	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1
Aroclor-1260	57	U	57		ug/Kg	☼	12/29/17 09:08	01/03/18 09:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*95*		*14 - 128*	*12/29/17 09:08*	*01/03/18 09:59*	*1*
DCB Decachlorobiphenyl	*113*		*10 - 132*	*12/29/17 09:08*	*01/03/18 09:59*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	7.7	U	7.7		ug/Kg	☼	12/29/17 12:54	01/02/18 23:13	1
2,4,5-T	7.7	U	7.7		ug/Kg	☼	12/29/17 12:54	01/02/18 23:13	1
Silvex (2,4,5-TP)	7.7	U	7.7		ug/Kg	☼	12/29/17 12:54	01/02/18 23:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*36*		*22 - 130*	*12/29/17 12:54*	*01/02/18 23:13*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	10	U	10		ug/Kg	☼	12/29/17 12:54	01/02/18 23:37	1
2,4,5-T	10	U	10		ug/Kg	☼	12/29/17 12:54	01/02/18 23:37	1
Silvex (2,4,5-TP)	10	U	10		ug/Kg	☼	12/29/17 12:54	01/02/18 23:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*32*		*22 - 130*	*12/29/17 12:54*	*01/02/18 23:37*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	7.5	U	7.5		ug/Kg	☼	12/29/17 12:54	01/03/18 00:01	1
2,4,5-T	7.5	U	7.5		ug/Kg	☼	12/29/17 12:54	01/03/18 00:01	1
Silvex (2,4,5-TP)	7.5	U	7.5		ug/Kg	☼	12/29/17 12:54	01/03/18 00:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*92*		*22 - 130*	*12/29/17 12:54*	*01/03/18 00:01*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 00:26	1
2,4,5-T	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 00:26	1
Silvex (2,4,5-TP)	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*93*		*22 - 130*	*12/29/17 12:54*	*01/03/18 00:26*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	9.6	U	9.6		ug/Kg	☼	12/29/17 12:54	01/03/18 00:50	1
2,4,5-T	9.6	U	9.6		ug/Kg	☼	12/29/17 12:54	01/03/18 00:50	1
Silvex (2,4,5-TP)	9.6	U	9.6		ug/Kg	☼	12/29/17 12:54	01/03/18 00:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*91*		*22 - 130*	*12/29/17 12:54*	*01/03/18 00:50*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 01:14	1
2,4,5-T	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 01:14	1
Silvex (2,4,5-TP)	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 01:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*37*		*22 - 130*	*12/29/17 12:54*	*01/03/18 01:14*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	17	U	17		ug/Kg	☼	12/29/17 12:54	01/03/18 01:39	1
2,4,5-T	17	U	17		ug/Kg	☼	12/29/17 12:54	01/03/18 01:39	1
Silvex (2,4,5-TP)	17	U	17		ug/Kg	☼	12/29/17 12:54	01/03/18 01:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*63*		*22 - 130*	*12/29/17 12:54*	*01/03/18 01:39*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	38	U	38		ug/Kg	☼	12/29/17 12:54	01/03/18 02:03	5
2,4,5-T	38	U	38		ug/Kg	☼	12/29/17 12:54	01/03/18 02:03	5
Silvex (2,4,5-TP)	38	U	38		ug/Kg	☼	12/29/17 12:54	01/03/18 02:03	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*22 - 130*	*12/29/17 12:54*	*01/03/18 02:03*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	7.3	U	7.3		ug/Kg	☼	12/29/17 12:54	01/03/18 02:27	1
2,4,5-T	7.3	U	7.3		ug/Kg	☼	12/29/17 12:54	01/03/18 02:27	1
Silvex (2,4,5-TP)	7.3	U	7.3		ug/Kg	☼	12/29/17 12:54	01/03/18 02:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*289*	*X*	*22 - 130*	*12/29/17 12:54*	*01/03/18 02:27*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	14	U	14		ug/Kg	☼	12/29/17 12:54	01/03/18 02:52	1
2,4,5-T	14	U	14		ug/Kg	☼	12/29/17 12:54	01/03/18 02:52	1
Silvex (2,4,5-TP)	14	U	14		ug/Kg	☼	12/29/17 12:54	01/03/18 02:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*112*		*22 - 130*	*12/29/17 12:54*	*01/03/18 02:52*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	7.8	U	7.8		ug/Kg	☼	12/29/17 12:54	01/03/18 03:40	1
2,4,5-T	7.8	U	7.8		ug/Kg	☼	12/29/17 12:54	01/03/18 03:40	1
Silvex (2,4,5-TP)	7.8	U	7.8		ug/Kg	☼	12/29/17 12:54	01/03/18 03:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*137*	*X*	*22 - 130*	*12/29/17 12:54*	*01/03/18 03:40*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 04:05	1
2,4,5-T	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 04:05	1
Silvex (2,4,5-TP)	13	U	13		ug/Kg	☼	12/29/17 12:54	01/03/18 04:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*305*	*X*	*22 - 130*	*12/29/17 12:54*	*01/03/18 04:05*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 04:29	5
2,4,5-T	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 04:29	5
Silvex (2,4,5-TP)	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 04:29	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*85*		*22 - 130*	*12/29/17 12:54*	*01/03/18 04:29*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	12	U	12		ug/Kg	☼	12/29/17 12:54	01/03/18 04:54	1
2,4,5-T	12	U	12		ug/Kg	☼	12/29/17 12:54	01/03/18 04:54	1
Silvex (2,4,5-TP)	12	U	12		ug/Kg	☼	12/29/17 12:54	01/03/18 04:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*92*		*22 - 130*	*12/29/17 12:54*	*01/03/18 04:54*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	61	U	61		ug/Kg	☼	12/29/17 12:54	01/03/18 05:18	5
2,4,5-T	61	U	61		ug/Kg	☼	12/29/17 12:54	01/03/18 05:18	5
Silvex (2,4,5-TP)	61	U	61		ug/Kg	☼	12/29/17 12:54	01/03/18 05:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*81*		*22 - 130*	*12/29/17 12:54*	*01/03/18 05:18*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	8.3	U	8.3		ug/Kg	☼	12/29/17 12:54	01/03/18 05:42	1
2,4,5-T	8.3	U	8.3		ug/Kg	☼	12/29/17 12:54	01/03/18 05:42	1
Silvex (2,4,5-TP)	8.3	U	8.3		ug/Kg	☼	12/29/17 12:54	01/03/18 05:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*109*		*22 - 130*	*12/29/17 12:54*	*01/03/18 05:42*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	8.3	U	8.3		ug/Kg	☼	12/29/17 12:54	01/03/18 06:07	1
2,4,5-T	8.3	U	8.3		ug/Kg	☼	12/29/17 12:54	01/03/18 06:07	1
Silvex (2,4,5-TP)	8.3	U	8.3		ug/Kg	☼	12/29/17 12:54	01/03/18 06:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*59*		*22 - 130*	*12/29/17 12:54*	*01/03/18 06:07*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 06:31	5
2,4,5-T	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 06:31	5
Silvex (2,4,5-TP)	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 06:31	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*86*		*22 - 130*	*12/29/17 12:54*	*01/03/18 06:31*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	61	U	61		ug/Kg	☼	12/29/17 12:54	01/03/18 06:55	1
2,4,5-T	61	U	61		ug/Kg	☼	12/29/17 12:54	01/03/18 06:55	1
Silvex (2,4,5-TP)	61	U	61		ug/Kg	☼	12/29/17 12:54	01/03/18 06:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*138*	*X*	*22 - 130*	*12/29/17 12:54*	*01/03/18 06:55*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 07:20	5
2,4,5-T	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 07:20	5
Silvex (2,4,5-TP)	39	U	39		ug/Kg	☼	12/29/17 12:54	01/03/18 07:20	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*147*	*X*	*22 - 130*	*12/29/17 12:54*	*01/03/18 07:20*	*5*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8151 - Herbicides

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	7.6	U	7.6		ug/Kg	☼	12/29/17 14:30	01/02/18 21:11	1
2,4,5-T	7.6	U	7.6		ug/Kg	☼	12/29/17 14:30	01/02/18 21:11	1
Silvex (2,4,5-TP)	7.6	U	7.6		ug/Kg	☼	12/29/17 14:30	01/02/18 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*105*		*22 - 130*	*12/29/17 14:30*	*01/02/18 21:11*	*1*

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	24		0.74		mg/Kg	☼	12/20/17 14:00	12/21/17 18:23	1
Cadmium	0.10		0.074		mg/Kg	☼	12/20/17 14:00	12/21/17 18:23	1
Chromium	8.5		0.74		mg/Kg	☼	12/20/17 14:00	12/21/17 18:23	1
Copper	6.9		0.74		mg/Kg	☼	12/20/17 14:00	12/21/17 18:23	1
Zinc	23		1.8		mg/Kg	☼	12/20/17 14:00	12/21/17 18:23	1
Lead	16		0.22		mg/Kg	☼	12/20/17 14:00	12/21/17 18:23	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	63		0.72		mg/Kg	☼	12/20/17 14:00	12/21/17 18:28	1
Cadmium	0.25		0.072		mg/Kg	☼	12/20/17 14:00	12/21/17 18:28	1
Chromium	22		0.72		mg/Kg	☼	12/20/17 14:00	12/21/17 18:28	1
Copper	20		0.72		mg/Kg	☼	12/20/17 14:00	12/21/17 18:28	1
Zinc	84		1.8		mg/Kg	☼	12/20/17 14:00	12/21/17 18:28	1
Lead	16		0.22		mg/Kg	☼	12/20/17 14:00	12/21/17 18:28	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	25		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 18:33	1
Cadmium	0.11		0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 18:33	1
Chromium	10		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 18:33	1
Copper	7.3		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 18:33	1
Zinc	45		1.6		mg/Kg	☼	12/20/17 14:00	12/21/17 18:33	1
Lead	4.3		0.20		mg/Kg	☼	12/20/17 14:00	12/21/17 18:33	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	25		0.73		mg/Kg	☼	12/20/17 14:00	12/21/17 18:37	1
Cadmium	0.12		0.073		mg/Kg	☼	12/20/17 14:00	12/21/17 18:37	1
Chromium	8.3		0.73		mg/Kg	☼	12/20/17 14:00	12/21/17 18:37	1
Copper	7.1		0.73		mg/Kg	☼	12/20/17 14:00	12/21/17 18:37	1
Zinc	21		1.8		mg/Kg	☼	12/20/17 14:00	12/21/17 18:37	1
Lead	3.6		0.22		mg/Kg	☼	12/20/17 14:00	12/21/17 18:37	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	37		0.80		mg/Kg	☼	12/20/17 14:00	12/21/17 18:42	1
Cadmium	0.13		0.080		mg/Kg	☼	12/20/17 14:00	12/21/17 18:42	1
Chromium	11		0.80		mg/Kg	☼	12/20/17 14:00	12/21/17 18:42	1
Copper	8.7		0.80		mg/Kg	☼	12/20/17 14:00	12/21/17 18:42	1
Zinc	24		2.0		mg/Kg	☼	12/20/17 14:00	12/21/17 18:42	1
Lead	5.3		0.24		mg/Kg	☼	12/20/17 14:00	12/21/17 18:42	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	45		0.75		mg/Kg	☼	12/20/17 14:00	12/21/17 18:47	1
Cadmium	0.18		0.075		mg/Kg	☼	12/20/17 14:00	12/21/17 18:47	1
Chromium	14		0.75		mg/Kg	☼	12/20/17 14:00	12/21/17 18:47	1
Copper	11		0.75		mg/Kg	☼	12/20/17 14:00	12/21/17 18:47	1
Zinc	35		1.9		mg/Kg	☼	12/20/17 14:00	12/21/17 18:47	1
Lead	11		0.22		mg/Kg	☼	12/20/17 14:00	12/21/17 18:47	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	21		0.76		mg/Kg	☼	12/20/17 14:00	12/21/17 19:00	1
Cadmium	0.092		0.076		mg/Kg	☼	12/20/17 14:00	12/21/17 19:00	1
Chromium	7.1		0.76		mg/Kg	☼	12/20/17 14:00	12/21/17 19:00	1
Copper	6.1		0.76		mg/Kg	☼	12/20/17 14:00	12/21/17 19:00	1
Zinc	31		1.9		mg/Kg	☼	12/20/17 14:00	12/21/17 19:00	1
Lead	9.4		0.23		mg/Kg	☼	12/20/17 14:00	12/21/17 19:00	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	**8.7**		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 19:05	1
Cadmium	0.065	U	0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 19:05	1
Chromium	**3.7**		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 19:05	1
Copper	**2.4**		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 19:05	1
Zinc	**11**		1.6		mg/Kg	☼	12/20/17 14:00	12/21/17 19:05	1
Lead	**13**		0.20		mg/Kg	☼	12/20/17 14:00	12/21/17 19:05	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	38		0.78		mg/Kg	☼	12/20/17 14:00	12/21/17 19:10	1
Cadmium	0.12		0.078		mg/Kg	☼	12/20/17 14:00	12/21/17 19:10	1
Chromium	12		0.78		mg/Kg	☼	12/20/17 14:00	12/21/17 19:10	1
Copper	8.0		0.78		mg/Kg	☼	12/20/17 14:00	12/21/17 19:10	1
Zinc	24		1.9		mg/Kg	☼	12/20/17 14:00	12/21/17 19:10	1
Lead	5.3		0.23		mg/Kg	☼	12/20/17 14:00	12/21/17 19:10	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	21		0.86		mg/Kg	☼	12/20/17 14:00	12/21/17 19:14	1
Cadmium	0.10		0.086		mg/Kg	☼	12/20/17 14:00	12/21/17 19:14	1
Chromium	7.1		0.86		mg/Kg	☼	12/20/17 14:00	12/21/17 19:14	1
Copper	5.0		0.86		mg/Kg	☼	12/20/17 14:00	12/21/17 19:14	1
Zinc	18		2.2		mg/Kg	☼	12/20/17 14:00	12/21/17 19:14	1
Lead	7.0		0.26		mg/Kg	☼	12/20/17 14:00	12/21/17 19:14	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	29		0.82		mg/Kg	☼	12/20/17 14:00	12/21/17 18:05	1
Cadmium	0.12		0.082		mg/Kg	☼	12/20/17 14:00	12/21/17 18:05	1
Chromium	8.5		0.82		mg/Kg	☼	12/20/17 14:00	12/21/17 18:05	1
Copper	6.8		0.82		mg/Kg	☼	12/20/17 14:00	12/21/17 18:05	1
Zinc	24		2.0		mg/Kg	☼	12/20/17 14:00	12/21/17 18:05	1
Lead	8.4		0.25		mg/Kg	☼	12/20/17 14:00	12/21/17 18:05	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	47		0.79		mg/Kg	☼	12/20/17 14:00	12/21/17 19:19	1
Cadmium	0.12		0.079		mg/Kg	☼	12/20/17 14:00	12/21/17 19:19	1
Chromium	14		0.79		mg/Kg	☼	12/20/17 14:00	12/21/17 19:19	1
Copper	9.9		0.79		mg/Kg	☼	12/20/17 14:00	12/21/17 19:19	1
Zinc	25		2.0		mg/Kg	☼	12/20/17 14:00	12/21/17 19:19	1
Lead	5.0		0.24		mg/Kg	☼	12/20/17 14:00	12/21/17 19:19	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	35		0.79		mg/Kg	☼	12/20/17 14:00	12/21/17 19:23	1
Cadmium	0.14		0.079		mg/Kg	☼	12/20/17 14:00	12/21/17 19:23	1
Chromium	11		0.79		mg/Kg	☼	12/20/17 14:00	12/21/17 19:23	1
Copper	9.6		1.6		mg/Kg	☼	12/20/17 14:00	12/22/17 18:59	2
Zinc	36		2.0		mg/Kg	☼	12/20/17 14:00	12/21/17 19:23	1
Lead	8.0		0.24		mg/Kg	☼	12/20/17 14:00	12/21/17 19:23	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	30		0.89		mg/Kg	☼	12/20/17 14:00	12/21/17 19:28	1
Cadmium	0.15		0.089		mg/Kg	☼	12/20/17 14:00	12/21/17 19:28	1
Chromium	9.2		0.89		mg/Kg	☼	12/20/17 14:00	12/21/17 19:28	1
Copper	7.6		0.89		mg/Kg	☼	12/20/17 14:00	12/21/17 19:28	1
Zinc	36		2.2		mg/Kg	☼	12/20/17 14:00	12/21/17 19:28	1
Lead	11		0.27		mg/Kg	☼	12/20/17 14:00	12/21/17 19:28	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	22		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 19:33	1
Cadmium	0.12		0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 19:33	1
Chromium	5.7		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 19:33	1
Copper	6.0		0.65		mg/Kg	☼	12/20/17 14:00	12/21/17 19:33	1
Zinc	26		1.6		mg/Kg	☼	12/20/17 14:00	12/21/17 19:33	1
Lead	11		0.19		mg/Kg	☼	12/20/17 14:00	12/21/17 19:33	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	23		0.72		mg/Kg	☼	12/20/17 14:00	12/21/17 19:37	1
Cadmium	0.097		0.072		mg/Kg	☼	12/20/17 14:00	12/21/17 19:37	1
Chromium	7.2		0.72		mg/Kg	☼	12/20/17 14:00	12/21/17 19:37	1
Copper	5.9		0.72		mg/Kg	☼	12/20/17 14:00	12/21/17 19:37	1
Zinc	17		1.8		mg/Kg	☼	12/20/17 14:00	12/21/17 19:37	1
Lead	6.7		0.22		mg/Kg	☼	12/20/17 14:00	12/21/17 19:37	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	**8.0**		0.58		mg/Kg	☼	12/20/17 14:00	12/21/17 19:42	1
Cadmium	0.058	U	0.058		mg/Kg	☼	12/20/17 14:00	12/21/17 19:42	1
Chromium	**3.1**		0.58		mg/Kg	☼	12/20/17 14:00	12/21/17 19:42	1
Copper	**2.7**		0.58		mg/Kg	☼	12/20/17 14:00	12/21/17 19:42	1
Zinc	**9.5**		1.4		mg/Kg	☼	12/20/17 14:00	12/21/17 19:42	1
Lead	**5.0**		0.17		mg/Kg	☼	12/20/17 14:00	12/21/17 19:42	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	27		0.66		mg/Kg	☼	12/20/17 14:00	12/21/17 19:56	1
Cadmium	0.13		0.066		mg/Kg	☼	12/20/17 14:00	12/21/17 19:56	1
Chromium	7.1		0.66		mg/Kg	☼	12/20/17 14:00	12/21/17 19:56	1
Copper	6.0		0.66		mg/Kg	☼	12/20/17 14:00	12/21/17 19:56	1
Zinc	27		1.7		mg/Kg	☼	12/20/17 14:00	12/21/17 19:56	1
Lead	13		0.20		mg/Kg	☼	12/20/17 14:00	12/21/17 19:56	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	21		0.80		mg/Kg	☼	12/20/17 14:00	12/21/17 20:01	1
Cadmium	0.11		0.080		mg/Kg	☼	12/20/17 14:00	12/21/17 20:01	1
Chromium	7.1		0.80		mg/Kg	☼	12/20/17 14:00	12/21/17 20:01	1
Copper	5.1		0.80		mg/Kg	☼	12/20/17 14:00	12/21/17 20:01	1
Zinc	25		2.0		mg/Kg	☼	12/20/17 14:00	12/21/17 20:01	1
Lead	7.0		0.24		mg/Kg	☼	12/20/17 14:00	12/21/17 20:01	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	28		0.89		mg/Kg	☼	12/20/17 14:00	12/21/17 20:05	1
Cadmium	0.24		0.089		mg/Kg	☼	12/20/17 14:00	12/21/17 20:05	1
Chromium	9.0		0.89		mg/Kg	☼	12/20/17 14:00	12/21/17 20:05	1
Copper	11		0.89		mg/Kg	☼	12/20/17 14:00	12/21/17 20:05	1
Zinc	47		2.2		mg/Kg	☼	12/20/17 14:00	12/21/17 20:05	1
Lead	39		0.27		mg/Kg	☼	12/20/17 14:00	12/21/17 20:05	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6010B - Metals (ICP)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	40		0.67		mg/Kg	☼	12/21/17 14:00	12/27/17 00:26	1
Cadmium	0.21		0.067		mg/Kg	☼	12/21/17 14:00	12/27/17 00:26	1
Chromium	11		0.67		mg/Kg	☼	12/21/17 14:00	12/27/17 00:26	1
Copper	14		0.67		mg/Kg	☼	12/21/17 14:00	12/27/17 00:26	1
Zinc	67		1.7		mg/Kg	☼	12/21/17 14:00	12/27/17 00:26	1
Lead	37		0.20		mg/Kg	☼	12/21/17 14:00	12/27/17 00:26	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.7**		0.074		mg/Kg	☼	12/20/17 14:00	12/21/17 13:23	2
Selenium	**0.32**		0.15		mg/Kg	☼	12/20/17 14:00	12/21/17 13:23	2
Silver	0.074	U	0.074		mg/Kg	☼	12/20/17 14:00	12/21/17 13:23	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.1**		0.072		mg/Kg	☼	12/20/17 14:00	12/21/17 13:28	2
Selenium	**0.72**		0.14		mg/Kg	☼	12/20/17 14:00	12/21/17 13:28	2
Silver	0.072	U	0.072		mg/Kg	☼	12/20/17 14:00	12/21/17 13:28	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**4.8**		0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 13:32	2
Selenium	**0.32**		0.13		mg/Kg	☼	12/20/17 14:00	12/21/17 13:32	2
Silver	0.065	U	0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 13:32	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.0**		0.073		mg/Kg	☼	12/20/17 14:00	12/21/17 13:37	2
Selenium	**0.39**		0.15		mg/Kg	☼	12/20/17 14:00	12/21/17 13:37	2
Silver	0.073	U	0.073		mg/Kg	☼	12/20/17 14:00	12/21/17 13:37	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.5**		0.080		mg/Kg	☼	12/20/17 14:00	12/21/17 13:41	2
Selenium	**0.37**		0.16		mg/Kg	☼	12/20/17 14:00	12/21/17 13:41	2
Silver	0.080	U	0.080		mg/Kg	☼	12/20/17 14:00	12/21/17 13:41	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.4**		0.075		mg/Kg	☼	12/20/17 14:00	12/21/17 13:46	2
Selenium	**0.48**		0.15		mg/Kg	☼	12/20/17 14:00	12/21/17 13:46	2
Silver	0.075	U	0.075		mg/Kg	☼	12/20/17 14:00	12/21/17 13:46	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.3**		0.076		mg/Kg	☼	12/20/17 14:00	12/21/17 13:59	2
Selenium	**0.27**		0.15		mg/Kg	☼	12/20/17 14:00	12/21/17 13:59	2
Silver	0.076	U	0.076		mg/Kg	☼	12/20/17 14:00	12/21/17 13:59	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.4**		0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 14:04	2
Selenium	**0.14**		0.13		mg/Kg	☼	12/20/17 14:00	12/21/17 14:04	2
Silver	0.065	U	0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 14:04	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.3**		0.078		mg/Kg	☼	12/20/17 14:00	12/21/17 14:08	2
Selenium	**0.36**		0.16		mg/Kg	☼	12/20/17 14:00	12/21/17 14:08	2
Silver	0.078	U	0.078		mg/Kg	☼	12/20/17 14:00	12/21/17 14:08	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.3**		0.086		mg/Kg	☼	12/20/17 14:00	12/21/17 14:13	2
Selenium	**0.20**		0.17		mg/Kg	☼	12/20/17 14:00	12/21/17 14:13	2
Silver	0.086	U	0.086		mg/Kg	☼	12/20/17 14:00	12/21/17 14:13	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.3**		0.082		mg/Kg	☼	12/20/17 14:00	12/21/17 12:52	2
Selenium	**0.38**		0.16		mg/Kg	☼	12/20/17 14:00	12/21/17 12:52	2
Silver	0.082	U	0.082		mg/Kg	☼	12/20/17 14:00	12/21/17 12:52	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.1**		0.079		mg/Kg	☼	12/20/17 14:00	12/21/17 14:17	2
Selenium	**0.45**		0.16		mg/Kg	☼	12/20/17 14:00	12/21/17 14:17	2
Silver	0.079	U	0.079		mg/Kg	☼	12/20/17 14:00	12/21/17 14:17	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.3**		0.079		mg/Kg	☼	12/20/17 14:00	12/21/17 14:21	2
Selenium	**0.40**		0.16		mg/Kg	☼	12/20/17 14:00	12/21/17 14:21	2
Silver	0.079	U	0.079		mg/Kg	☼	12/20/17 14:00	12/21/17 14:21	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.3**		0.089		mg/Kg	☼	12/20/17 14:00	12/21/17 14:26	2
Selenium	**0.31**		0.18		mg/Kg	☼	12/20/17 14:00	12/21/17 14:26	2
Silver	0.089	U	0.089		mg/Kg	☼	12/20/17 14:00	12/21/17 14:26	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.1**		0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 14:30	2
Selenium	**0.23**		0.13		mg/Kg	☼	12/20/17 14:00	12/21/17 14:30	2
Silver	0.065	U	0.065		mg/Kg	☼	12/20/17 14:00	12/21/17 14:30	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.4**		0.072		mg/Kg	☼	12/20/17 14:00	12/21/17 14:35	2
Selenium	**0.26**		0.14		mg/Kg	☼	12/20/17 14:00	12/21/17 14:35	2
Silver	0.072	U	0.072		mg/Kg	☼	12/20/17 14:00	12/21/17 14:35	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.7**		0.058		mg/Kg	☼	12/20/17 14:00	12/21/17 14:39	2
Selenium	**0.16**		0.12		mg/Kg	☼	12/20/17 14:00	12/21/17 14:39	2
Silver	0.058	U	0.058		mg/Kg	☼	12/20/17 14:00	12/21/17 14:39	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.8**		0.066		mg/Kg	☼	12/20/17 14:00	12/21/17 14:53	2
Selenium	**0.24**		0.13		mg/Kg	☼	12/20/17 14:00	12/21/17 14:53	2
Silver	0.066	U	0.066		mg/Kg	☼	12/20/17 14:00	12/21/17 14:53	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**2.4**		0.080		mg/Kg	☼	12/20/17 14:00	12/21/17 14:57	2
Selenium	**0.17**		0.16		mg/Kg	☼	12/20/17 14:00	12/21/17 14:57	2
Silver	0.080	U	0.080		mg/Kg	☼	12/20/17 14:00	12/21/17 14:57	2

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**3.7**		0.089		mg/Kg	☼	12/20/17 14:00	12/21/17 15:02	2
Selenium	**0.31**		0.18		mg/Kg	☼	12/20/17 14:00	12/21/17 15:02	2
Silver	0.089	U	0.089		mg/Kg	☼	12/20/17 14:00	12/21/17 15:02	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 6020 - Metals (ICP/MS)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.9**		0.033		mg/Kg	☼	12/21/17 14:00	12/26/17 21:06	1
Selenium	**0.16**		0.067		mg/Kg	☼	12/21/17 14:00	12/26/17 21:06	1
Silver	0.033	U	0.033		mg/Kg	☼	12/21/17 14:00	12/26/17 21:06	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.043	U	0.043		mg/Kg	☼	12/20/17 16:00	12/21/17 10:29	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.048	U	0.048		mg/Kg	☼	12/20/17 16:00	12/21/17 10:31	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.048	U	0.048		mg/Kg	☼	12/20/17 16:00	12/21/17 10:33	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.041	U	0.041		mg/Kg	☼	12/20/17 16:00	12/21/17 10:35	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.039	U	0.039		mg/Kg	☼	12/20/17 16:00	12/21/17 10:37	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.051	U	0.051		mg/Kg	☼	12/20/17 16:00	12/21/17 10:39	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.044	U	0.044		mg/Kg	☼	12/20/17 16:00	12/21/17 10:45	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.045	U	0.045		mg/Kg	☼	12/20/17 16:00	12/21/17 10:47	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.043	U	0.043		mg/Kg	☼	12/20/17 16:00	12/21/17 10:49	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.048	U	0.048		mg/Kg	☼	12/20/17 16:00	12/21/17 10:51	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.045	U	0.045		mg/Kg	☼	12/20/17 16:00	12/21/17 10:23	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.045	U	0.045		mg/Kg	☼	12/20/17 16:00	12/21/17 10:53	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050	U	0.050		mg/Kg	☼	12/20/17 16:00	12/21/17 10:55	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.051	U	0.051		mg/Kg	☼	12/20/17 16:00	12/21/17 10:57	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.051	U	0.051		mg/Kg	☼	12/20/17 16:00	12/21/17 10:59	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050	U	0.050		mg/Kg	☼	12/20/17 16:00	12/21/17 11:01	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.046	U	0.046		mg/Kg	☼	12/20/17 16:00	12/21/17 11:03	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.048	U	0.048		mg/Kg	☼	12/20/17 16:00	12/21/17 11:09	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.043		0.041		mg/Kg	☼	12/20/17 16:00	12/21/17 11:11	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050	U	0.050		mg/Kg	☼	12/20/17 16:00	12/21/17 11:13	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.042	U *	0.042		mg/Kg	☼	12/21/17 16:00	12/22/17 13:42	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1001
Date Collected: 12/18/17 09:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-1
Matrix: Solid
Percent Solids: 86.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.8		0.1		%			12/20/17 08:23	1
Percent Moisture	13.2		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3500		1100		mg/Kg	☼		12/20/17 09:25	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1002
Date Collected: 12/18/17 09:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-2
Matrix: Solid
Percent Solids: 82.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.2**		0.1		%			12/20/17 08:23	1
Percent Moisture	**17.8**		0.1		%			12/20/17 08:23	1
Total Organic Carbon	**13000**		1200		mg/Kg	☼		12/20/17 09:28	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1003
Date Collected: 12/18/17 09:55
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-3
Matrix: Solid
Percent Solids: 88.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.7		0.1		%			12/20/17 08:23	1
Percent Moisture	11.3		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3800		1100		mg/Kg	☼		12/20/17 09:30	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1004
Date Collected: 12/18/17 10:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-4
Matrix: Solid
Percent Solids: 89.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.3		0.1		%			12/20/17 08:23	1
Percent Moisture	10.7		0.1		%			12/20/17 08:23	1
Total Organic Carbon	4000		1100		mg/Kg	☼		12/20/17 09:33	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1005
Date Collected: 12/18/17 10:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-5
Matrix: Solid
Percent Solids: 89.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.6		0.1		%			12/20/17 08:23	1
Percent Moisture	10.4		0.1		%			12/20/17 08:23	1
Total Organic Carbon	4500		1100		mg/Kg	☼		12/20/17 09:36	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1006
Date Collected: 12/18/17 10:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-6
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.9		0.1		%			12/20/17 08:23	1
Percent Moisture	12.1		0.1		%			12/20/17 08:23	1
Total Organic Carbon	6000		1100		mg/Kg	☼		12/20/17 09:39	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1007
Date Collected: 12/18/17 10:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-7
Matrix: Solid
Percent Solids: 87.7

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.7		0.1		%			12/20/17 08:23	1
Percent Moisture	12.3		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3400		1100		mg/Kg	☼		12/20/17 09:42	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1008
Date Collected: 12/18/17 10:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-8
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.3		0.1		%			12/20/17 08:23	1
Percent Moisture	11.7		0.1		%			12/20/17 08:23	1
Total Organic Carbon	2900		1100		mg/Kg	☼		12/20/17 09:51	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1009
Date Collected: 12/18/17 11:05
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-9
Matrix: Solid
Percent Solids: 91.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.1		0.1		%			12/20/17 08:23	1
Percent Moisture	8.9		0.1		%			12/20/17 08:23	1
Total Organic Carbon	4100		1100		mg/Kg	☼		12/20/17 09:54	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1010
Date Collected: 12/18/17 11:20
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-10
Matrix: Solid
Percent Solids: 91.2

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.2		0.1		%			12/20/17 08:23	1
Percent Moisture	8.8		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3500		1100		mg/Kg	☼		12/20/17 09:57	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1011
Date Collected: 12/18/17 11:30
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-11
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.1		0.1		%			12/20/17 08:23	1
Percent Moisture	14.9		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3600		1200		mg/Kg	☼		12/20/17 09:16	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1012
Date Collected: 12/18/17 11:45
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-12
Matrix: Solid
Percent Solids: 89.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.1		0.1		%			12/20/17 08:23	1
Percent Moisture	10.9		0.1		%			12/20/17 08:23	1
Total Organic Carbon	4500		1100		mg/Kg	☼		12/20/17 09:48	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1013
Date Collected: 12/18/17 12:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-13
Matrix: Solid
Percent Solids: 82.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.9		0.1		%			12/20/17 08:23	1
Percent Moisture	17.1		0.1		%			12/20/17 08:23	1
Total Organic Carbon	7200		1200		mg/Kg	☼		12/20/17 10:00	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1014
Date Collected: 12/18/17 12:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-14
Matrix: Solid
Percent Solids: 87.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.9		0.1		%			12/20/17 08:23	1
Percent Moisture	12.1		0.1		%			12/20/17 08:23	1
Total Organic Carbon	5400		1100		mg/Kg	☼		12/20/17 10:02	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1015
Date Collected: 12/18/17 12:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-15
Matrix: Solid
Percent Solids: 88.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.9		0.1		%			12/20/17 08:23	1
Percent Moisture	11.1		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3800		1100		mg/Kg	☼		12/20/17 10:05	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1016
Date Collected: 12/18/17 12:50
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-16
Matrix: Solid
Percent Solids: 85.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.6		0.1		%			12/20/17 08:23	1
Percent Moisture	14.4		0.1		%			12/20/17 08:23	1
Total Organic Carbon	2700		1200		mg/Kg	☼		12/20/17 10:08	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1017
Date Collected: 12/18/17 13:00
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-17
Matrix: Solid
Percent Solids: 93.9

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.9		0.1		%			12/20/17 08:23	1
Percent Moisture	6.1		0.1		%			12/20/17 08:23	1
Total Organic Carbon	2200		1100		mg/Kg	☼		12/20/17 10:11	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1018
Date Collected: 12/18/17 13:15
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-18
Matrix: Solid
Percent Solids: 90.8

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.8		0.1		%			12/20/17 08:23	1
Percent Moisture	9.2		0.1		%			12/20/17 08:23	1
Total Organic Carbon	3100		1100		mg/Kg	☼		12/20/17 10:14	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1019
Date Collected: 12/18/17 13:25
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-19
Matrix: Solid
Percent Solids: 90.6

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.6		0.1		%			12/20/17 08:23	1
Percent Moisture	9.4		0.1		%			12/20/17 08:23	1
Total Organic Carbon	4100		1100		mg/Kg	☼		12/20/17 10:29	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1020
Date Collected: 12/18/17 13:40
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-20
Matrix: Solid
Percent Solids: 85.1

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.1		0.1		%			12/20/17 08:23	1
Percent Moisture	14.9		0.1		%			12/20/17 08:23	1
Total Organic Carbon	9600		1200		mg/Kg	☼		12/20/17 10:32	1

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

General Chemistry

Client Sample ID: S-58502-121817-SSH-1021
Date Collected: 12/18/17 13:41
Date Received: 12/19/17 10:30

Lab Sample ID: 240-89576-21
Matrix: Solid
Percent Solids: 88.0

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.0		0.1		%			12/20/17 08:23	1
Percent Moisture	12.0		0.1		%			12/20/17 08:23	1
Total Organic Carbon	8200		1100		mg/Kg	☼		12/20/17 10:26	1

GC/MS VOA

Prep Batch: 308903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	5035	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	5035	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	5035	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	5035	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	5035	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	5035	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	5035	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	5035	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	5035	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	5035	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	5035	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	5035	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	5035	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	5035	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	5035	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	5035	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	5035	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	5035	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	5035	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	5035	
MB 240-308903/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-308903/2-A	Lab Control Sample	Total/NA	Solid	5035	

Prep Batch: 308992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	5035	
MB 240-308992/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-308992/2-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 309086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	8260B	308903
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	8260B	308903
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	8260B	308903
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	8260B	308903
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	8260B	308903
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	8260B	308903
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	8260B	308903
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	8260B	308903
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	8260B	308903
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	8260B	308903
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	8260B	308903
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	8260B	308903
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	8260B	308903
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	8260B	308903
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	8260B	308903
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	8260B	308903
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	8260B	308903
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	8260B	308903
MB 240-308903/1-A	Method Blank	Total/NA	Solid	8260B	308903
LCS 240-308903/2-A	Lab Control Sample	Total/NA	Solid	8260B	308903

Analysis Batch: 309377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	8260B	308903
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	8260B	308903
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	8260B	308992
MB 240-308992/1-A	Method Blank	Total/NA	Solid	8260B	308992
LCS 240-308992/2-A	Lab Control Sample	Total/NA	Solid	8260B	308992

GC/MS Semi VOA

Prep Batch: 309410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	3540C	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	3540C	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	3540C	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	3540C	
MB 240-309410/22-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-309410/23-A	Lab Control Sample	Total/NA	Solid	3540C	
240-89576-4 MS	S-58502-121817-SSH-1004	Total/NA	Solid	3540C	
240-89576-4 MSD	S-58502-121817-SSH-1004	Total/NA	Solid	3540C	

Prep Batch: 309572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	3540C	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	3540C	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	3540C	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	3540C	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	3540C	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	3540C	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	3540C	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	3540C	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	3540C	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	3540C	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	3540C	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	3540C	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	3540C	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	3540C	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	3540C	
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	3540C	
MB 240-309572/22-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-309572/23-A	Lab Control Sample	Total/NA	Solid	3540C	
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	

Analysis Batch: 309732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	8270C	309572
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	8270C	309572
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	8270C	309572
MB 240-309572/22-A	Method Blank	Total/NA	Solid	8270C	309572
LCS 240-309572/23-A	Lab Control Sample	Total/NA	Solid	8270C	309572

GC/MS Semi VOA (Continued)

Analysis Batch: 309741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	8270C	309410
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	8270C	309410
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	8270C	309410
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	8270C	309410
MB 240-309410/22-A	Method Blank	Total/NA	Solid	8270C	309410
LCS 240-309410/23-A	Lab Control Sample	Total/NA	Solid	8270C	309410
240-89576-4 MS	S-58502-121817-SSH-1004	Total/NA	Solid	8270C	309410
240-89576-4 MSD	S-58502-121817-SSH-1004	Total/NA	Solid	8270C	309410

Analysis Batch: 309871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	8270C	309572
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	8270C	309572
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	8270C	309572
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	8270C	309572

Analysis Batch: 310043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	8270C	309572
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	8270C	309572
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	8270C	309572
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	8270C	309572
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	8270C	309572
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	8270C	309572
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	8270C	309572
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	8270C	309572
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	8270C	309572
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	8270C	309572
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	8270C	309572
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	8270C	309572

GC Semi VOA

Prep Batch: 228694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	8151A	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	8151A	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	8151A	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	8151A	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	8151A	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	8151A	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	8151A	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	8151A	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	8151A	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	8151A	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	8151A	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	8151A	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	8151A	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	8151A	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	8151A	

GC Semi VOA (Continued)

Prep Batch: 228694 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	8151A	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	8151A	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	8151A	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	8151A	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	8151A	
MB 600-228694/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 600-228694/2-A	Lab Control Sample	Total/NA	Solid	8151A	
LCSD 600-228694/3-A	Lab Control Sample Dup	Total/NA	Solid	8151A	

Prep Batch: 228696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	8151A	
MB 600-228696/1-A	Method Blank	Total/NA	Solid	8151A	
LCS 600-228696/2-A	Lab Control Sample	Total/NA	Solid	8151A	

Analysis Batch: 228778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	8151	228694
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	8151	228694
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	8151	228694
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	8151	228694
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	8151	228694
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	8151	228694
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	8151	228694
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	8151	228694
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	8151	228694
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	8151	228694
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	8151	228694
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	8151	228694
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	8151	228694
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	8151	228694
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	8151	228694
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	8151	228694
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	8151	228694
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	8151	228694
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	8151	228694
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	8151	228694
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	8151	228696
MB 600-228694/1-A	Method Blank	Total/NA	Solid	8151	228694
MB 600-228696/1-A	Method Blank	Total/NA	Solid	8151	228696
LCS 600-228694/2-A	Lab Control Sample	Total/NA	Solid	8151	228694
LCS 600-228696/2-A	Lab Control Sample	Total/NA	Solid	8151	228696
LCSD 600-228694/3-A	Lab Control Sample Dup	Total/NA	Solid	8151	228694

Prep Batch: 308659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	3540C	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	3540C	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	3540C	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	3540C	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	3540C	

GC Semi VOA (Continued)

Prep Batch: 308659 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	3540C	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	3540C	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	3540C	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	3540C	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	3540C	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	3540C	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	3540C	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	3540C	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	3540C	
MB 240-308659/22-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-308659/23-A	Lab Control Sample	Total/NA	Solid	3540C	
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	

Analysis Batch: 308794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	8082A	308659
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	8082A	308659
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	8082A	308659
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	8082A	308659
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	8082A	308659
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	8082A	308659
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	8082A	308659
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	8082A	308659
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	8082A	308659
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	8082A	308659
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	8082A	308659
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	8082A	308659
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	8082A	308659
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	8082A	308659
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	8082A	308659
MB 240-308659/22-A	Method Blank	Total/NA	Solid	8082A	308659
LCS 240-308659/23-A	Lab Control Sample	Total/NA	Solid	8082A	308659
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	8082A	308659
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	8082A	308659

Prep Batch: 309456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	3540C	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	3540C	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	3540C	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	3540C	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	3540C	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	3540C	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	3540C	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	3540C	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	3540C	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	3540C	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	3540C	

GC Semi VOA (Continued)

Prep Batch: 309456 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	3540C	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	3540C	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	3540C	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	3540C	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	3540C	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	3540C	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	3540C	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	3540C	
MB 240-309456/23-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-309456/24-A	Lab Control Sample	Total/NA	Solid	3540C	
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	3540C	

Prep Batch: 309467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	3540C	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	3540C	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	3540C	
MB 240-309467/23-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-309467/24-A	Lab Control Sample	Total/NA	Solid	3540C	

Prep Batch: 309549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	3540C	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	3540C	
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	3540C	
MB 240-309549/23-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-309549/24-A	Lab Control Sample	Total/NA	Solid	3540C	
LCSD 240-309549/25-A	Lab Control Sample Dup	Total/NA	Solid	3540C	

Prep Batch: 309571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	3540C	
MB 240-309571/6-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-309571/7-A	Lab Control Sample	Total/NA	Solid	3540C	

Analysis Batch: 309653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	8082A	309467
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	8082A	309467
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	8082A	309467
MB 240-309467/23-A	Method Blank	Total/NA	Solid	8082A	309467
LCS 240-309467/24-A	Lab Control Sample	Total/NA	Solid	8082A	309467

Analysis Batch: 309735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	8081A	309456
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	8081A	309456
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	8081A	309456
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	8081A	309456
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	8081A	309456

GC Semi VOA (Continued)

Analysis Batch: 309735 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	8081A	309456
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	8081A	309456
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	8081A	309456
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	8081A	309456
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	8081A	309456
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	8081A	309456
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	8081A	309456
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	8081A	309456
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	8081A	309456
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	8081A	309456
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	8081A	309456
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	8081A	309456
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	8081A	309456
MB 240-309456/23-A	Method Blank	Total/NA	Solid	8081A	309456
LCS 240-309456/24-A	Lab Control Sample	Total/NA	Solid	8081A	309456

Analysis Batch: 309793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	8082A	309549
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	8082A	309549
MB 240-309549/23-A	Method Blank	Total/NA	Solid	8082A	309549
LCS 240-309549/24-A	Lab Control Sample	Total/NA	Solid	8082A	309549
LCSD 240-309549/25-A	Lab Control Sample Dup	Total/NA	Solid	8082A	309549

Analysis Batch: 309842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	8081A	309456
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	8081A	309456
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	8081A	309571
MB 240-309571/6-A	Method Blank	Total/NA	Solid	8081A	309571
LCS 240-309571/7-A	Lab Control Sample	Total/NA	Solid	8081A	309571
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	8081A	309456
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	8081A	309456

Analysis Batch: 309863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	8082A	309549

Metals

Prep Batch: 308519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	3050B	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	3050B	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	3050B	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	3050B	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	3050B	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	3050B	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	3050B	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 308519 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	3050B	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	3050B	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	3050B	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	3050B	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	3050B	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	3050B	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	3050B	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	3050B	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	3050B	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	3050B	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	3050B	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	3050B	
MB 240-308519/1-A	Method Blank	Total/NA	Solid	3050B	
MB 240-308519/1-A ^2	Method Blank	Total/NA	Solid	3050B	
LCS 240-308519/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCS 240-308519/3-A ^2	Lab Control Sample	Total/NA	Solid	3050B	
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	3050B	
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	3050B	
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	3050B	
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	3050B	

Prep Batch: 308537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	7471A	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	7471A	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	7471A	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	7471A	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	7471A	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	7471A	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	7471A	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	7471A	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	7471A	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	7471A	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	7471A	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	7471A	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	7471A	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	7471A	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	7471A	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	7471A	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	7471A	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	7471A	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	7471A	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	7471A	
MB 240-308537/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 240-308537/2-A	Lab Control Sample	Total/NA	Solid	7471A	
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	7471A	
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	7471A	

Prep Batch: 308692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 308692 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-308692/1-A	Method Blank	Total/NA	Solid	3050B	
MB 240-308692/1-A ^2	Method Blank	Total/NA	Solid	3050B	
LCS 240-308692/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCS 240-308692/3-A ^2	Lab Control Sample	Total/NA	Solid	3050B	

Analysis Batch: 308705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	6010B	308519
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	6010B	308519
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	6010B	308519
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	6010B	308519
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	6010B	308519
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	6010B	308519
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	6010B	308519
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	6010B	308519
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	6010B	308519
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	6010B	308519
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	6010B	308519
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	6010B	308519
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	6010B	308519
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	6010B	308519
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	6010B	308519
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	6010B	308519
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	6010B	308519
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	6010B	308519
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	6010B	308519
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	6010B	308519
MB 240-308519/1-A	Method Blank	Total/NA	Solid	6010B	308519
LCS 240-308519/2-A	Lab Control Sample	Total/NA	Solid	6010B	308519
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	6010B	308519
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	6010B	308519

Prep Batch: 308713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	7471A	
MB 240-308713/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 240-308713/2-A	Lab Control Sample	Total/NA	Solid	7471A	

Analysis Batch: 308742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	7471A	308537
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	7471A	308537
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	7471A	308537
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	7471A	308537
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	7471A	308537
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	7471A	308537
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	7471A	308537
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	7471A	308537
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	7471A	308537
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	7471A	308537
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	7471A	308537

Metals (Continued)

Analysis Batch: 308742 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	7471A	308537
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	7471A	308537
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	7471A	308537
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	7471A	308537
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	7471A	308537
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	7471A	308537
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	7471A	308537
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	7471A	308537
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	7471A	308537
MB 240-308537/1-A	Method Blank	Total/NA	Solid	7471A	308537
LCS 240-308537/2-A	Lab Control Sample	Total/NA	Solid	7471A	308537
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	7471A	308537
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	7471A	308537

Analysis Batch: 308823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	6020	308519
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	6020	308519
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	6020	308519
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	6020	308519
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	6020	308519
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	6020	308519
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	6020	308519
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	6020	308519
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	6020	308519
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	6020	308519
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	6020	308519
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	6020	308519
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	6020	308519
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	6020	308519
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	6020	308519
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	6020	308519
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	6020	308519
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	6020	308519
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	6020	308519
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	6020	308519
MB 240-308519/1-A ^2	Method Blank	Total/NA	Solid	6020	308519
LCS 240-308519/3-A ^2	Lab Control Sample	Total/NA	Solid	6020	308519
240-89576-11 MS	S-58502-121817-SSH-1011	Total/NA	Solid	6020	308519
240-89576-11 MSD	S-58502-121817-SSH-1011	Total/NA	Solid	6020	308519

Analysis Batch: 308900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	6010B	308519
MB 240-308692/1-A	Method Blank	Total/NA	Solid	6010B	308692
LCS 240-308692/2-A	Lab Control Sample	Total/NA	Solid	6010B	308692

Analysis Batch: 308949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	7471A	308713
MB 240-308713/1-A	Method Blank	Total/NA	Solid	7471A	308713

Metals (Continued)

Analysis Batch: 308949 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-308713/2-A	Lab Control Sample	Total/NA	Solid	7471A	308713

Analysis Batch: 309038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-308692/1-A ^2	Method Blank	Total/NA	Solid	6020	308692
LCS 240-308692/3-A ^2	Lab Control Sample	Total/NA	Solid	6020	308692

Analysis Batch: 309207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	6020	308692

Analysis Batch: 309208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	6010B	308692

General Chemistry

Analysis Batch: 308463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	Moisture	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	Moisture	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	Moisture	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	Moisture	
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	Moisture	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	Moisture	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	Moisture	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	Moisture	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	Moisture	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	Moisture	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	Moisture	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	Moisture	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	Moisture	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	Moisture	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	Moisture	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	Moisture	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	Moisture	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	Moisture	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	Moisture	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	Moisture	
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	Moisture	
240-89576-1 DU	S-58502-121817-SSH-1001	Total/NA	Solid	Moisture	
240-89576-11 DU	S-58502-121817-SSH-1011	Total/NA	Solid	Moisture	
240-89576-20 DU	S-58502-121817-SSH-1020	Total/NA	Solid	Moisture	

Analysis Batch: 308469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-1	S-58502-121817-SSH-1001	Total/NA	Solid	Walkley Black	
240-89576-2	S-58502-121817-SSH-1002	Total/NA	Solid	Walkley Black	
240-89576-3	S-58502-121817-SSH-1003	Total/NA	Solid	Walkley Black	
240-89576-4	S-58502-121817-SSH-1004	Total/NA	Solid	Walkley Black	

General Chemistry (Continued)

Analysis Batch: 308469 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89576-5	S-58502-121817-SSH-1005	Total/NA	Solid	Walkley Black	
240-89576-6	S-58502-121817-SSH-1006	Total/NA	Solid	Walkley Black	
240-89576-7	S-58502-121817-SSH-1007	Total/NA	Solid	Walkley Black	
240-89576-8	S-58502-121817-SSH-1008	Total/NA	Solid	Walkley Black	
240-89576-9	S-58502-121817-SSH-1009	Total/NA	Solid	Walkley Black	
240-89576-10	S-58502-121817-SSH-1010	Total/NA	Solid	Walkley Black	
240-89576-11	S-58502-121817-SSH-1011	Total/NA	Solid	Walkley Black	
240-89576-12	S-58502-121817-SSH-1012	Total/NA	Solid	Walkley Black	
240-89576-13	S-58502-121817-SSH-1013	Total/NA	Solid	Walkley Black	
240-89576-14	S-58502-121817-SSH-1014	Total/NA	Solid	Walkley Black	
240-89576-15	S-58502-121817-SSH-1015	Total/NA	Solid	Walkley Black	
240-89576-16	S-58502-121817-SSH-1016	Total/NA	Solid	Walkley Black	
240-89576-17	S-58502-121817-SSH-1017	Total/NA	Solid	Walkley Black	
240-89576-18	S-58502-121817-SSH-1018	Total/NA	Solid	Walkley Black	
240-89576-19	S-58502-121817-SSH-1019	Total/NA	Solid	Walkley Black	
240-89576-20	S-58502-121817-SSH-1020	Total/NA	Solid	Walkley Black	
240-89576-21	S-58502-121817-SSH-1021	Total/NA	Solid	Walkley Black	
MB 240-308469/28	Method Blank	Total/NA	Solid	Walkley Black	
MB 240-308469/4	Method Blank	Total/NA	Solid	Walkley Black	
LCS 240-308469/29	Lab Control Sample	Total/NA	Solid	Walkley Black	
LCS 240-308469/5	Lab Control Sample	Total/NA	Solid	Walkley Black	
240-89576-11 DU	S-58502-121817-SSH-1011	Total/NA	Solid	Walkley Black	
240-89576-12 DU	S-58502-121817-SSH-1012	Total/NA	Solid	Walkley Black	
240-89576-21 DU	S-58502-121817-SSH-1021	Total/NA	Solid	Walkley Black	

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-308903/1-A
Matrix: Solid
Analysis Batch: 309086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308903

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acetone	600	U	600		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Benzene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Bromodichloromethane	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Bromoform	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Bromomethane	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
2-Butanone (MEK)	600	U	600		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Carbon disulfide	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Carbon tetrachloride	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Chlorobenzene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Chloroethane	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Chloroform	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Chloromethane	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,1-Dichloroethane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,2-Dichloroethane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,1-Dichloroethene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,2-Dichloropropane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
cis-1,3-Dichloropropene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
trans-1,3-Dichloropropene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Ethylbenzene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
2-Hexanone	2000	U	2000		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Methylene Chloride	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
4-Methyl-2-pentanone (MIBK)	2000	U	2000		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Styrene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,1,2,2-Tetrachloroethane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Tetrachloroethene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Toluene	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Trichloroethene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Vinyl chloride	32	U	32		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Xylenes, Total	120	U	120		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,1,1-Trichloroethane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,1,2-Trichloroethane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Cyclohexane	960	U	960		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,2-Dibromo-3-Chloropropane	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,2-Dibromoethane	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Dichlorodifluoromethane	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
cis-1,2-Dichloroethene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
trans-1,2-Dichloroethene	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Isopropylbenzene	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Methyl acetate	960	U	960		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Methyl tert-butyl ether	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,2,4-Trichlorobenzene	200	U	200		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,2-Dichlorobenzene	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,3-Dichlorobenzene	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
1,4-Dichlorobenzene	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Trichlorofluoromethane	80	U	80		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Dibromochloromethane	40	U	40		ug/Kg		12/22/17 11:39	12/26/17 14:44	1
Methylcyclohexane	960	U	960		ug/Kg		12/22/17 11:39	12/26/17 14:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		64 - 144	12/22/17 11:39	12/26/17 14:44	1
4-Bromofluorobenzene (Surr)	87		58 - 142	12/22/17 11:39	12/26/17 14:44	1
Toluene-d8 (Surr)	93		61 - 137	12/22/17 11:39	12/26/17 14:44	1
Dibromofluoromethane (Surr)	99		31 - 155	12/22/17 11:39	12/26/17 14:44	1

Lab Sample ID: LCS 240-308903/2-A
Matrix: Solid
Analysis Batch: 309086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	2000	1860		ug/Kg		93	24 - 125
Benzene	1000	992		ug/Kg		99	77 - 120
Bromodichloromethane	1000	953		ug/Kg		95	61 - 132
Bromoform	1000	720		ug/Kg		72	40 - 140
Bromomethane	1000	649		ug/Kg		65	10 - 153
2-Butanone (MEK)	2000	2290		ug/Kg		114	51 - 120
Carbon disulfide	1000	818		ug/Kg		82	17 - 163
Carbon tetrachloride	1000	844		ug/Kg		84	43 - 144
Chlorobenzene	1000	1100		ug/Kg		110	76 - 120
Chloroethane	1000	658		ug/Kg		66	10 - 166
Chloroform	1000	961		ug/Kg		96	74 - 120
Chloromethane	1000	748		ug/Kg		75	41 - 124
1,1-Dichloroethane	1000	1030		ug/Kg		103	72 - 120
1,2-Dichloroethane	1000	1020		ug/Kg		102	71 - 120
1,1-Dichloroethene	1000	937		ug/Kg		94	58 - 130
1,2-Dichloropropane	1000	1060		ug/Kg		106	78 - 122
cis-1,3-Dichloropropene	1000	892		ug/Kg		89	66 - 126
trans-1,3-Dichloropropene	1000	698		ug/Kg		70	55 - 121
Ethylbenzene	1000	944		ug/Kg		94	76 - 120
2-Hexanone	2000	2020		ug/Kg		101	52 - 129
Methylene Chloride	1000	1000		ug/Kg		100	64 - 126
4-Methyl-2-pentanone (MIBK)	2000	2040		ug/Kg		102	65 - 131
Styrene	1000	939		ug/Kg		94	80 - 120
1,1,2,2-Tetrachloroethane	1000	920		ug/Kg		92	78 - 120
Tetrachloroethene	1000	991		ug/Kg		99	68 - 122
Toluene	1000	986		ug/Kg		99	74 - 120
Trichloroethene	1000	949		ug/Kg		95	73 - 123
Vinyl chloride	1000	814		ug/Kg		81	49 - 131
Xylenes, Total	2000	1930		ug/Kg		96	78 - 120
1,1,1-Trichloroethane	1000	901		ug/Kg		90	60 - 136
1,1,2-Trichloroethane	1000	998		ug/Kg		100	80 - 120
Cyclohexane	1000	870	J	ug/Kg		87	66 - 129
1,2-Dibromo-3-Chloropropane	1000	779		ug/Kg		78	40 - 133
1,2-Dibromoethane	1000	902		ug/Kg		90	80 - 120
Dichlorodifluoromethane	1000	524		ug/Kg		52	15 - 127
cis-1,2-Dichloroethene	1000	967		ug/Kg		97	78 - 120
trans-1,2-Dichloroethene	1000	967		ug/Kg		97	74 - 124
Isopropylbenzene	1000	957		ug/Kg		96	76 - 124
Methyl acetate	2000	2170		ug/Kg		109	63 - 126
Methyl tert-butyl ether	1000	1050		ug/Kg		105	68 - 129
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	928		ug/Kg		93	64 - 125
1,2,4-Trichlorobenzene	1000	999		ug/Kg		100	60 - 124
1,2-Dichlorobenzene	1000	947		ug/Kg		95	75 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-308903/2-A
Matrix: Solid
Analysis Batch: 309086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	1000	934		ug/Kg		93	72 - 120
1,4-Dichlorobenzene	1000	909		ug/Kg		91	71 - 120
Trichlorofluoromethane	1000	830		ug/Kg		83	28 - 152
Dibromochloromethane	1000	914		ug/Kg		91	46 - 125
Methylcyclohexane	1000	848	J	ug/Kg		85	71 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*64 - 144*
4-Bromofluorobenzene (Surr)	*89*		*58 - 142*
Toluene-d8 (Surr)	*90*		*61 - 137*
Dibromofluoromethane (Surr)	*98*		*31 - 155*

Lab Sample ID: MB 240-308992/1-A
Matrix: Solid
Analysis Batch: 309377

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308992

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	600	U	600	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Benzene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Bromodichloromethane	80	U	80	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Bromoform	80	U	80	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Bromomethane	200	U	200	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
2-Butanone (MEK)	600	U	600	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Carbon disulfide	200	U	200	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Carbon tetrachloride	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Chlorobenzene	41.7		40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Chloroethane	200	U	200	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Chloroform	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Chloromethane	200	U	200	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,1-Dichloroethane	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,2-Dichloroethane	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,1-Dichloroethene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,2-Dichloropropane	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
cis-1,3-Dichloropropene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
trans-1,3-Dichloropropene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Ethylbenzene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
2-Hexanone	2000	U	2000	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Methylene Chloride	200	U	200	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
4-Methyl-2-pentanone (MIBK)	2000	U	2000	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Styrene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,1,2,2-Tetrachloroethane	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Tetrachloroethene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Toluene	80	U	80	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Trichloroethene	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Vinyl chloride	32	U	32	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Xylenes, Total	120	U	120	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,1,1-Trichloroethane	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,1,2-Trichloroethane	40	U	40	ug/Kg		12/23/17 09:35	12/28/17 12:09	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-308992/1-A
Matrix: Solid
Analysis Batch: 309377

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308992

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	960	U	960		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,2-Dibromo-3-Chloropropane	200	U	200		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,2-Dibromoethane	200	U	200		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Dichlorodifluoromethane	80	U	80		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
cis-1,2-Dichloroethene	40	U	40		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
trans-1,2-Dichloroethene	40	U	40		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Isopropylbenzene	200	U	200		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Methyl acetate	960	U	960		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Methyl tert-butyl ether	200	U	200		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	200	U	200		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,2,4-Trichlorobenzene	200	U	200		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,2-Dichlorobenzene	80	U	80		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,3-Dichlorobenzene	80	U	80		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
1,4-Dichlorobenzene	80	U	80		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Trichlorofluoromethane	80	U	80		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Dibromochloromethane	40	U	40		ug/Kg		12/23/17 09:35	12/28/17 12:09	1
Methylcyclohexane	960	U	960		ug/Kg		12/23/17 09:35	12/28/17 12:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*64 - 144*	*12/23/17 09:35*	*12/28/17 12:09*	*1*
4-Bromofluorobenzene (Surr)	*87*		*58 - 142*	*12/23/17 09:35*	*12/28/17 12:09*	*1*
Toluene-d8 (Surr)	*91*		*61 - 137*	*12/23/17 09:35*	*12/28/17 12:09*	*1*
Dibromofluoromethane (Surr)	*94*		*31 - 155*	*12/23/17 09:35*	*12/28/17 12:09*	*1*

Lab Sample ID: LCS 240-308992/2-A
Matrix: Solid
Analysis Batch: 309377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308992

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	2000	2450		ug/Kg		122	24 - 125
Benzene	1000	1030		ug/Kg		103	77 - 120
Bromodichloromethane	1000	774		ug/Kg		77	61 - 132
Bromoform	1000	471		ug/Kg		47	40 - 140
Bromomethane	1000	598		ug/Kg		60	10 - 153
2-Butanone (MEK)	2000	2840	*	ug/Kg		142	51 - 120
Carbon disulfide	1000	835		ug/Kg		83	17 - 163
Carbon tetrachloride	1000	629		ug/Kg		63	43 - 144
Chlorobenzene	1000	1120		ug/Kg		112	76 - 120
Chloroethane	1000	608		ug/Kg		61	10 - 166
Chloroform	1000	961		ug/Kg		96	74 - 120
Chloromethane	1000	785		ug/Kg		79	41 - 124
1,1-Dichloroethane	1000	1050		ug/Kg		105	72 - 120
1,2-Dichloroethane	1000	1020		ug/Kg		102	71 - 120
1,1-Dichloroethene	1000	943		ug/Kg		94	58 - 130
1,2-Dichloropropane	1000	1080		ug/Kg		108	78 - 122
cis-1,3-Dichloropropene	1000	738		ug/Kg		74	66 - 126
trans-1,3-Dichloropropene	1000	582		ug/Kg		58	55 - 121
Ethylbenzene	1000	964		ug/Kg		96	76 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-308992/2-A
Matrix: Solid
Analysis Batch: 309377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308992

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Hexanone	2000	2150		ug/Kg		108	52 - 129
Methylene Chloride	1000	1030		ug/Kg		103	64 - 126
4-Methyl-2-pentanone (MIBK)	2000	2170		ug/Kg		109	65 - 131
Styrene	1000	942		ug/Kg		94	80 - 120
1,1,2,2-Tetrachloroethane	1000	896		ug/Kg		90	78 - 120
Tetrachloroethene	1000	1020		ug/Kg		102	68 - 122
Toluene	1000	1040		ug/Kg		104	74 - 120
Trichloroethene	1000	959		ug/Kg		96	73 - 123
Vinyl chloride	1000	887		ug/Kg		89	49 - 131
Xylenes, Total	2000	1970		ug/Kg		99	78 - 120
1,1,1-Trichloroethane	1000	791		ug/Kg		79	60 - 136
1,1,2-Trichloroethane	1000	1020		ug/Kg		102	80 - 120
Cyclohexane	1000	1030		ug/Kg		103	66 - 129
1,2-Dibromo-3-Chloropropane	1000	547		ug/Kg		55	40 - 133
1,2-Dibromoethane	1000	817		ug/Kg		82	80 - 120
Dichlorodifluoromethane	1000	697		ug/Kg		70	15 - 127
cis-1,2-Dichloroethene	1000	995		ug/Kg		99	78 - 120
trans-1,2-Dichloroethene	1000	988		ug/Kg		99	74 - 124
Isopropylbenzene	1000	979		ug/Kg		98	76 - 124
Methyl acetate	2000	2440		ug/Kg		122	63 - 126
Methyl tert-butyl ether	1000	1100		ug/Kg		110	68 - 129
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	1070		ug/Kg		107	64 - 125
1,2,4-Trichlorobenzene	1000	983		ug/Kg		98	60 - 124
1,2-Dichlorobenzene	1000	942		ug/Kg		94	75 - 120
1,3-Dichlorobenzene	1000	936		ug/Kg		94	72 - 120
1,4-Dichlorobenzene	1000	930		ug/Kg		93	71 - 120
Trichlorofluoromethane	1000	921		ug/Kg		92	28 - 152
Dibromochloromethane	1000	634		ug/Kg		63	46 - 125
Methylcyclohexane	1000	1010		ug/Kg		101	71 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*64 - 144*
4-Bromofluorobenzene (Surr)	*86*		*58 - 142*
Toluene-d8 (Surr)	*89*		*61 - 137*
Dibromofluoromethane (Surr)	*93*		*31 - 155*

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-309410/22-A
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309410

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	260	U	260	ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,2'-oxybis[1-chloropropane]	260	U	260	ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,4,5-Trichlorophenol	260	U	260	ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,4,6-Trichlorophenol	260	U	260	ug/Kg		12/28/17 09:41	01/02/18 10:02	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-309410/22-A
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309410

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,4-Dimethylphenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,4-Dinitrophenol	150	U	150		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,4-Dinitrotoluene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2,6-Dinitrotoluene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2-Chloronaphthalene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2-Chlorophenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2-Methylnaphthalene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2-Methylphenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2-Nitroaniline	200	U	200		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
2-Nitrophenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
3,3'-Dichlorobenzidine	1600	U	1600		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
3-Nitroaniline	200	U	200		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4,6-Dinitro-2-methylphenol	150	U	150		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4-Bromophenyl phenyl ether	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4-Chloro-3-methylphenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4-Chloroaniline	200	U	200		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4-Chlorophenyl phenyl ether	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4-Nitroaniline	200	U	200		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
4-Nitrophenol	330	U	330		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Acenaphthene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Acenaphthylene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Acetophenone	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Anthracene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Atrazine	40	U	40		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Benzaldehyde	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Benzo[a]anthracene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Benzo[a]pyrene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Benzo[b]fluoranthene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Benzo[g,h,i]perylene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Benzo[k]fluoranthene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Bis(2-chloroethoxy)methane	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Bis(2-chloroethyl)ether	80	U	80		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Bis(2-ethylhexyl) phthalate	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Butyl benzyl phthalate	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Caprolactam	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Carbazole	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Chrysene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Dibenz(a,h)anthracene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Dibenzofuran	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Diethyl phthalate	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Dimethyl phthalate	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Di-n-butyl phthalate	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Di-n-octyl phthalate	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Fluoranthene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Fluorene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Hexachlorobenzene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Hexachlorobutadiene	40	U	40		ug/Kg		12/28/17 09:41	01/02/18 10:02	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-309410/22-A
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309410

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Hexachloroethane	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Indeno[1,2,3-cd]pyrene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Isophorone	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Naphthalene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Nitrobenzene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
N-Nitrosodi-n-propylamine	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
N-Nitrosodiphenylamine	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Pentachlorophenol	150	U	150		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Phenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Phenanthrene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
Pyrene	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1
3 & 4 Methylphenol	260	U	260		ug/Kg		12/28/17 09:41	01/02/18 10:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*97*		*32 - 120*	*12/28/17 09:41*	*01/02/18 10:02*	*1*
2-Fluorophenol (Surr)	*76*		*29 - 120*	*12/28/17 09:41*	*01/02/18 10:02*	*1*
2,4,6-Tribromophenol (Surr)	*55*		*10 - 120*	*12/28/17 09:41*	*01/02/18 10:02*	*1*
Nitrobenzene-d5 (Surr)	*79*		*30 - 120*	*12/28/17 09:41*	*01/02/18 10:02*	*1*
Phenol-d5 (Surr)	*86*		*29 - 120*	*12/28/17 09:41*	*01/02/18 10:02*	*1*
Terphenyl-d14 (Surr)	*109*		*41 - 120*	*12/28/17 09:41*	*01/02/18 10:02*	*1*

Lab Sample ID: LCS 240-309410/23-A
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	667	587		ug/Kg		88	48 - 120
2,2'-oxybis[1-chloropropane]	667	569		ug/Kg		85	37 - 120
2,4,5-Trichlorophenol	667	552		ug/Kg		83	34 - 120
2,4,6-Trichlorophenol	667	483		ug/Kg		72	19 - 120
2,4-Dichlorophenol	667	532		ug/Kg		80	48 - 120
2,4-Dimethylphenol	667	429		ug/Kg		64	37 - 120
2,4-Dinitrophenol	1330	550		ug/Kg		41	10 - 120
2,4-Dinitrotoluene	667	678		ug/Kg		102	53 - 120
2,6-Dinitrotoluene	667	641		ug/Kg		96	54 - 120
2-Chloronaphthalene	667	578		ug/Kg		87	49 - 120
2-Chlorophenol	667	518		ug/Kg		78	50 - 120
2-Methylnaphthalene	667	520		ug/Kg		78	49 - 120
2-Methylphenol	667	514		ug/Kg		77	49 - 120
2-Nitroaniline	667	683		ug/Kg		103	46 - 120
2-Nitrophenol	667	575		ug/Kg		86	46 - 120
3,3'-Dichlorobenzidine	1330	1200	J	ug/Kg		90	40 - 120
3-Nitroaniline	667	634		ug/Kg		95	48 - 120
4,6-Dinitro-2-methylphenol	1330	840		ug/Kg		63	18 - 120
4-Bromophenyl phenyl ether	667	541		ug/Kg		81	51 - 120
4-Chloro-3-methylphenol	667	579		ug/Kg		87	47 - 120
4-Chloroaniline	667	414		ug/Kg		62	37 - 120

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-309410/23-A
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorophenyl phenyl ether	667	577		ug/Kg		87	49 - 120
4-Nitroaniline	667	678		ug/Kg		102	49 - 120
4-Nitrophenol	1330	1220		ug/Kg		91	42 - 120
Acenaphthene	667	588		ug/Kg		88	48 - 120
Acenaphthylene	667	562		ug/Kg		84	46 - 120
Acetophenone	667	500		ug/Kg		75	46 - 120
Anthracene	667	586		ug/Kg		88	51 - 120
Atrazine	1330	1390		ug/Kg		104	57 - 120
Benzaldehyde	1330	1080		ug/Kg		81	48 - 120
Benzo[a]anthracene	667	623		ug/Kg		93	53 - 120
Benzo[a]pyrene	667	629		ug/Kg		94	50 - 120
Benzo[b]fluoranthene	667	657		ug/Kg		99	48 - 120
Benzo[g,h,i]perylene	667	629		ug/Kg		94	50 - 120
Benzo[k]fluoranthene	667	628		ug/Kg		94	51 - 120
Bis(2-chloroethoxy)methane	667	539		ug/Kg		81	50 - 120
Bis(2-chloroethyl)ether	667	525		ug/Kg		79	48 - 120
Bis(2-ethylhexyl) phthalate	667	769		ug/Kg		115	52 - 120
Butyl benzyl phthalate	667	730		ug/Kg		109	53 - 120
Caprolactam	1330	1160		ug/Kg		87	59 - 120
Carbazole	667	624		ug/Kg		94	56 - 120
Chrysene	667	604		ug/Kg		91	54 - 120
Dibenz(a,h)anthracene	667	586		ug/Kg		88	48 - 120
Dibenzofuran	667	573		ug/Kg		86	49 - 120
Diethyl phthalate	667	634		ug/Kg		95	52 - 120
Dimethyl phthalate	667	626		ug/Kg		94	53 - 120
Di-n-butyl phthalate	667	659		ug/Kg		99	56 - 120
Di-n-octyl phthalate	667	667		ug/Kg		100	42 - 120
Fluoranthene	667	598		ug/Kg		90	53 - 120
Fluorene	667	587		ug/Kg		88	50 - 120
Hexachlorobenzene	667	493		ug/Kg		74	46 - 120
Hexachlorobutadiene	667	465		ug/Kg		70	44 - 120
Hexachlorocyclopentadiene	667	405		ug/Kg		61	14 - 120
Hexachloroethane	667	458		ug/Kg		69	45 - 120
Indeno[1,2,3-cd]pyrene	667	631		ug/Kg		95	49 - 120
Isophorone	667	527		ug/Kg		79	47 - 120
Naphthalene	667	515		ug/Kg		77	48 - 120
Nitrobenzene	667	521		ug/Kg		78	48 - 120
N-Nitrosodi-n-propylamine	667	555		ug/Kg		83	49 - 120
N-Nitrosodiphenylamine	667	568		ug/Kg		85	53 - 120
Pentachlorophenol	1330	760		ug/Kg		57	14 - 120
Phenol	667	533		ug/Kg		80	49 - 120
Phenanthrene	667	555		ug/Kg		83	52 - 120
Pyrene	667	650		ug/Kg		98	55 - 120
3 & 4 Methylphenol	667	516		ug/Kg		77	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*94*		*32 - 120*
2-Fluorophenol (Surr)	*82*		*29 - 120*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-309410/23-A
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309410

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*60*		*10 - 120*
Nitrobenzene-d5 (Surr)	*79*		*30 - 120*
Phenol-d5 (Surr)	*87*		*29 - 120*
Terphenyl-d14 (Surr)	*105*		*41 - 120*

Lab Sample ID: 240-89576-4 MS
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: S-58502-121817-SSH-1004
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	300	U	745	636		ug/Kg	☼	85	33 - 120
2,2'-oxybis[1-chloropropane]	300	U	745	551		ug/Kg	☼	74	26 - 120
2,4,5-Trichlorophenol	300	U	745	706		ug/Kg	☼	95	20 - 120
2,4,6-Trichlorophenol	300	U	745	622		ug/Kg	☼	83	19 - 120
2,4-Dichlorophenol	300	U	745	579		ug/Kg	☼	78	32 - 120
2,4-Dimethylphenol	300	U	745	580		ug/Kg	☼	78	28 - 120
2,4-Dinitrophenol	170	U	1490	1090		ug/Kg	☼	73	10 - 120
2,4-Dinitrotoluene	300	U	745	765		ug/Kg	☼	103	38 - 120
2,6-Dinitrotoluene	300	U	745	732		ug/Kg	☼	98	43 - 120
2-Chloronaphthalene	300	U	745	630		ug/Kg	☼	85	35 - 120
2-Chlorophenol	300	U	745	510		ug/Kg	☼	68	30 - 120
2-Methylnaphthalene	300	U	745	526		ug/Kg	☼	71	31 - 120
2-Methylphenol	300	U	745	560		ug/Kg	☼	75	31 - 120
2-Nitroaniline	220	U	745	788		ug/Kg	☼	106	29 - 120
2-Nitrophenol	300	U	745	561		ug/Kg	☼	75	26 - 120
3,3'-Dichlorobenzidine	1800	U	1490	1800	U	ug/Kg	☼	93	10 - 120
3-Nitroaniline	220	U	745	652		ug/Kg	☼	87	21 - 120
4,6-Dinitro-2-methylphenol	170	U	1490	1110		ug/Kg	☼	75	10 - 120
4-Bromophenyl phenyl ether	300	U	745	662		ug/Kg	☼	89	44 - 120
4-Chloro-3-methylphenol	300	U	745	658		ug/Kg	☼	88	31 - 120
4-Chloroaniline	220	U	745	368		ug/Kg	☼	49	15 - 120
4-Chlorophenyl phenyl ether	300	U	745	669		ug/Kg	☼	90	41 - 120
4-Nitroaniline	220	U	745	684		ug/Kg	☼	92	23 - 120
4-Nitrophenol	370	U	1490	1440		ug/Kg	☼	97	32 - 120
Acenaphthene	300	U	745	646		ug/Kg	☼	87	36 - 120
Acenaphthylene	300	U	745	635		ug/Kg	☼	85	35 - 120
Acetophenone	300	U	745	480		ug/Kg	☼	64	31 - 120
Anthracene	300	U	745	687		ug/Kg	☼	92	42 - 120
Atrazine	45	U	1490	1660		ug/Kg	☼	111	41 - 120
Benzaldehyde	300	U	1490	1070		ug/Kg	☼	71	28 - 120
Benzo[a]anthracene	300	U	745	716		ug/Kg	☼	96	35 - 120
Benzo[a]pyrene	300	U	745	717		ug/Kg	☼	96	33 - 120
Benzo[b]fluoranthene	300	U	745	706		ug/Kg	☼	94	26 - 120
Benzo[g,h,i]perylene	300	U	745	744		ug/Kg	☼	99	16 - 120
Benzo[k]fluoranthene	300	U	745	672		ug/Kg	☼	90	33 - 120
Bis(2-chloroethoxy)methane	300	U	745	509		ug/Kg	☼	68	36 - 120
Bis(2-chloroethyl)ether	90	U	745	521		ug/Kg	☼	70	33 - 120
Bis(2-ethylhexyl) phthalate	300	U F1	745	942	F1	ug/Kg	☼	126	40 - 120

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-89576-4 MS
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: S-58502-121817-SSH-1004
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Butyl benzyl phthalate	300	U	745	851		ug/Kg	☼	114	46 - 120
Caprolactam	300	U	1490	1330		ug/Kg	☼	89	33 - 128
Carbazole	300	U	745	725		ug/Kg	☼	97	35 - 120
Chrysene	300	U	745	691		ug/Kg	☼	93	33 - 120
Dibenz(a,h)anthracene	300	U	745	687		ug/Kg	☼	92	30 - 120
Dibenzofuran	300	U	745	652		ug/Kg	☼	88	37 - 120
Diethyl phthalate	300	U	745	740		ug/Kg	☼	99	44 - 120
Dimethyl phthalate	300	U	745	717		ug/Kg	☼	96	42 - 120
Di-n-butyl phthalate	300	U	745	776		ug/Kg	☼	104	45 - 120
Di-n-octyl phthalate	300	U	745	750		ug/Kg	☼	101	35 - 120
Fluoranthene	300	U	745	699		ug/Kg	☼	93	26 - 121
Fluorene	300	U	745	669		ug/Kg	☼	90	36 - 120
Hexachlorobenzene	300	U	745	590		ug/Kg	☼	79	36 - 120
Hexachlorobutadiene	45	U	745	460		ug/Kg	☼	60	31 - 120
Hexachlorocyclopentadiene	300	U F2 F1	745	300	U F1	ug/Kg	☼	1	10 - 120
Hexachloroethane	300	U	745	451		ug/Kg	☼	61	15 - 120
Indeno[1,2,3-cd]pyrene	300	U	745	730		ug/Kg	☼	98	24 - 120
Isophorone	300	U	745	511		ug/Kg	☼	69	34 - 120
Naphthalene	300	U	745	497		ug/Kg	☼	67	29 - 120
Nitrobenzene	300	U	745	501		ug/Kg	☼	67	33 - 120
N-Nitrosodi-n-propylamine	300	U	745	540		ug/Kg	☼	72	32 - 120
N-Nitrosodiphenylamine	300	U	745	675		ug/Kg	☼	91	29 - 120
Pentachlorophenol	170	U	1490	723		ug/Kg	☼	48	10 - 120
Phenol	300	U	745	556		ug/Kg	☼	75	21 - 120
Phenanthrene	300	U	745	660		ug/Kg	☼	88	28 - 120
Pyrene	300	U	745	732		ug/Kg	☼	98	28 - 120
3 & 4 Methylphenol	300	U	745	558		ug/Kg	☼	75	33 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*92*		*32 - 120*
2-Fluorophenol (Surr)	*73*		*29 - 120*
2,4,6-Tribromophenol (Surr)	*75*		*10 - 120*
Nitrobenzene-d5 (Surr)	*68*		*30 - 120*
Phenol-d5 (Surr)	*80*		*29 - 120*
Terphenyl-d14 (Surr)	*108*		*41 - 120*

Lab Sample ID: 240-89576-4 MSD
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: S-58502-121817-SSH-1004
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl	300	U	752	711		ug/Kg	☼	95	33 - 120	11	33
2,2'-oxybis[1-chloropropane]	300	U	752	636		ug/Kg	☼	85	26 - 120	14	31
2,4,5-Trichlorophenol	300	U	752	695		ug/Kg	☼	92	20 - 120	2	38
2,4,6-Trichlorophenol	300	U	752	654		ug/Kg	☼	87	19 - 120	5	36
2,4-Dichlorophenol	300	U	752	637		ug/Kg	☼	85	32 - 120	10	32
2,4-Dimethylphenol	300	U	752	649		ug/Kg	☼	86	28 - 120	11	35
2,4-Dinitrophenol	170	U	1500	1160		ug/Kg	☼	77	10 - 120	7	40

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-89576-4 MSD
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: S-58502-121817-SSH-1004
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrotoluene	300	U	752	807		ug/Kg	☼	107	38 - 120	5	27
2,6-Dinitrotoluene	300	U	752	760		ug/Kg	☼	101	43 - 120	4	31
2-Chloronaphthalene	300	U	752	692		ug/Kg	☼	92	35 - 120	9	30
2-Chlorophenol	300	U	752	578		ug/Kg	☼	77	30 - 120	13	37
2-Methylnaphthalene	300	U	752	593		ug/Kg	☼	79	31 - 120	12	33
2-Methylphenol	300	U	752	604		ug/Kg	☼	80	31 - 120	8	36
2-Nitroaniline	220	U	752	838		ug/Kg	☼	111	29 - 120	6	31
2-Nitrophenol	300	U	752	654		ug/Kg	☼	87	26 - 120	15	38
3,3'-Dichlorobenzidine	1800	U	1500	1800	U	ug/Kg	☼	96	10 - 120	4	40
3-Nitroaniline	220	U	752	693		ug/Kg	☼	92	21 - 120	6	40
4,6-Dinitro-2-methylphenol	170	U	1500	1170		ug/Kg	☼	78	10 - 120	5	40
4-Bromophenyl phenyl ether	300	U	752	681		ug/Kg	☼	91	44 - 120	3	40
4-Chloro-3-methylphenol	300	U	752	698		ug/Kg	☼	93	31 - 120	6	25
4-Chloroaniline	220	U	752	447		ug/Kg	☼	59	15 - 120	19	36
4-Chlorophenyl phenyl ether	300	U	752	688		ug/Kg	☼	91	41 - 120	3	40
4-Nitroaniline	220	U	752	701		ug/Kg	☼	93	23 - 120	3	40
4-Nitrophenol	370	U	1500	1520		ug/Kg	☼	101	32 - 120	5	31
Acenaphthene	300	U	752	687		ug/Kg	☼	91	36 - 120	6	28
Acenaphthylene	300	U	752	666		ug/Kg	☼	89	35 - 120	5	26
Acetophenone	300	U	752	557		ug/Kg	☼	74	31 - 120	15	40
Anthracene	300	U	752	708		ug/Kg	☼	94	42 - 120	3	32
Atrazine	45	U	1500	1680		ug/Kg	☼	111	41 - 120	1	26
Benzaldehyde	300	U	1500	1220		ug/Kg	☼	81	28 - 120	14	40
Benzo[a]anthracene	300	U	752	749		ug/Kg	☼	100	35 - 120	5	40
Benzo[a]pyrene	300	U	752	737		ug/Kg	☼	97	33 - 120	3	40
Benzo[b]fluoranthene	300	U	752	732		ug/Kg	☼	97	26 - 120	4	40
Benzo[g,h,i]perylene	300	U	752	776		ug/Kg	☼	102	16 - 120	4	40
Benzo[k]fluoranthene	300	U	752	698		ug/Kg	☼	93	33 - 120	4	40
Bis(2-chloroethoxy)methane	300	U	752	602		ug/Kg	☼	80	36 - 120	17	33
Bis(2-chloroethyl)ether	90	U	752	582		ug/Kg	☼	77	33 - 120	11	36
Bis(2-ethylhexyl) phthalate	300	U F1	752	961	F1	ug/Kg	☼	128	40 - 120	2	28
Butyl benzyl phthalate	300	U	752	904		ug/Kg	☼	120	46 - 120	6	39
Caprolactam	300	U	1500	1440		ug/Kg	☼	95	33 - 128	8	40
Carbazole	300	U	752	739		ug/Kg	☼	98	35 - 120	2	34
Chrysene	300	U	752	724		ug/Kg	☼	96	33 - 120	5	40
Dibenz(a,h)anthracene	300	U	752	733		ug/Kg	☼	97	30 - 120	7	40
Dibenzofuran	300	U	752	687		ug/Kg	☼	91	37 - 120	5	28
Diethyl phthalate	300	U	752	751		ug/Kg	☼	100	44 - 120	2	26
Dimethyl phthalate	300	U	752	756		ug/Kg	☼	100	42 - 120	5	35
Di-n-butyl phthalate	300	U	752	798		ug/Kg	☼	106	45 - 120	3	28
Di-n-octyl phthalate	300	U	752	763		ug/Kg	☼	101	35 - 120	2	33
Fluoranthene	300	U	752	723		ug/Kg	☼	96	26 - 121	3	40
Fluorene	300	U	752	701		ug/Kg	☼	93	36 - 120	5	28
Hexachlorobenzene	300	U	752	608		ug/Kg	☼	81	36 - 120	3	25
Hexachlorobutadiene	45	U	752	547		ug/Kg	☼	71	31 - 120	17	35
Hexachlorocyclopentadiene	300	U F2 F1	752	300	U F1 F2	ug/Kg	☼	2	10 - 120	46	40
Hexachloroethane	300	U	752	518		ug/Kg	☼	69	15 - 120	14	40
Indeno[1,2,3-cd]pyrene	300	U	752	786		ug/Kg	☼	105	24 - 120	7	40

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-89576-4 MSD
Matrix: Solid
Analysis Batch: 309741

Client Sample ID: S-58502-121817-SSH-1004
Prep Type: Total/NA
Prep Batch: 309410

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isophorone	300	U	752	596		ug/Kg	☼	79	34 - 120	15	32
Naphthalene	300	U	752	573		ug/Kg	☼	76	29 - 120	14	34
Nitrobenzene	300	U	752	596		ug/Kg	☼	79	33 - 120	17	40
N-Nitrosodi-n-propylamine	300	U	752	623		ug/Kg	☼	83	32 - 120	14	32
N-Nitrosodiphenylamine	300	U	752	690		ug/Kg	☼	92	29 - 120	2	30
Pentachlorophenol	170	U	1500	612		ug/Kg	☼	41	10 - 120	17	40
Phenol	300	U	752	625		ug/Kg	☼	83	21 - 120	12	40
Phenanthrene	300	U	752	668		ug/Kg	☼	88	28 - 120	1	40
Pyrene	300	U	752	789		ug/Kg	☼	104	28 - 120	7	40
3 & 4 Methylphenol	300	U	752	601		ug/Kg	☼	80	33 - 120	7	29

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*100*		*32 - 120*
2-Fluorophenol (Surr)	*82*		*29 - 120*
2,4,6-Tribromophenol (Surr)	*77*		*10 - 120*
Nitrobenzene-d5 (Surr)	*79*		*30 - 120*
Phenol-d5 (Surr)	*88*		*29 - 120*
Terphenyl-d14 (Surr)	*115*		*41 - 120*

Lab Sample ID: MB 240-309572/22-A
Matrix: Solid
Analysis Batch: 309732

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309572

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,2'-oxybis[1-chloropropane]	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,4,5-Trichlorophenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,4,6-Trichlorophenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,4-Dichlorophenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,4-Dimethylphenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,4-Dinitrophenol	150	U	150		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,4-Dinitrotoluene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2,6-Dinitrotoluene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2-Chloronaphthalene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2-Chlorophenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2-Methylnaphthalene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2-Methylphenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2-Nitroaniline	200	U	200		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
2-Nitrophenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
3,3'-Dichlorobenzidine	1600	U	1600		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
3-Nitroaniline	200	U	200		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4,6-Dinitro-2-methylphenol	150	U	150		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4-Bromophenyl phenyl ether	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4-Chloro-3-methylphenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4-Chloroaniline	200	U	200		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4-Chlorophenyl phenyl ether	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4-Nitroaniline	200	U	200		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
4-Nitrophenol	330	U	330		ug/Kg		12/29/17 10:29	01/02/18 13:21	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-309572/22-A
Matrix: Solid
Analysis Batch: 309732

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309572

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Acenaphthylene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Acetophenone	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Anthracene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Atrazine	40	U	40		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Benzaldehyde	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Benzo[a]anthracene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Benzo[a]pyrene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Benzo[b]fluoranthene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Benzo[g,h,i]perylene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Benzo[k]fluoranthene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Bis(2-chloroethoxy)methane	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Bis(2-chloroethyl)ether	80	U	80		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Bis(2-ethylhexyl) phthalate	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Butyl benzyl phthalate	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Caprolactam	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Carbazole	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Chrysene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Dibenz(a,h)anthracene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Dibenzofuran	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Diethyl phthalate	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Dimethyl phthalate	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Di-n-butyl phthalate	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Di-n-octyl phthalate	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Fluoranthene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Fluorene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Hexachlorobenzene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Hexachlorobutadiene	40	U	40		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Hexachlorocyclopentadiene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Hexachloroethane	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Indeno[1,2,3-cd]pyrene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Isophorone	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Naphthalene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Nitrobenzene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
N-Nitrosodi-n-propylamine	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
N-Nitrosodiphenylamine	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Pentachlorophenol	150	U	150		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Phenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Phenanthrene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
Pyrene	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1
3 & 4 Methylphenol	260	U	260		ug/Kg		12/29/17 10:29	01/02/18 13:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*83*		*32 - 120*	*12/29/17 10:29*	*01/02/18 13:21*	*1*
2-Fluorophenol (Surr)	*58*		*29 - 120*	*12/29/17 10:29*	*01/02/18 13:21*	*1*
2,4,6-Tribromophenol (Surr)	*33*		*10 - 120*	*12/29/17 10:29*	*01/02/18 13:21*	*1*
Nitrobenzene-d5 (Surr)	*67*		*30 - 120*	*12/29/17 10:29*	*01/02/18 13:21*	*1*
Phenol-d5 (Surr)	*66*		*29 - 120*	*12/29/17 10:29*	*01/02/18 13:21*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-309572/22-A
Matrix: Solid
Analysis Batch: 309732

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309572

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14 (Surr)	100		41 - 120	12/29/17 10:29	01/02/18 13:21	1

Lab Sample ID: LCS 240-309572/23-A
Matrix: Solid
Analysis Batch: 309732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	667	583		ug/Kg		87	48 - 120
2,2'-oxybis[1-chloropropane]	667	502		ug/Kg		75	37 - 120
2,4,5-Trichlorophenol	667	551		ug/Kg		83	34 - 120
2,4,6-Trichlorophenol	667	433		ug/Kg		65	19 - 120
2,4-Dichlorophenol	667	510		ug/Kg		77	48 - 120
2,4-Dimethylphenol	667	389		ug/Kg		58	37 - 120
2,4-Dinitrophenol	1330	488		ug/Kg		37	10 - 120
2,4-Dinitrotoluene	667	645		ug/Kg		97	53 - 120
2,6-Dinitrotoluene	667	650		ug/Kg		97	54 - 120
2-Chloronaphthalene	667	573		ug/Kg		86	49 - 120
2-Chlorophenol	667	506		ug/Kg		76	50 - 120
2-Methylnaphthalene	667	517		ug/Kg		78	49 - 120
2-Methylphenol	667	499		ug/Kg		75	49 - 120
2-Nitroaniline	667	675		ug/Kg		101	46 - 120
2-Nitrophenol	667	509		ug/Kg		76	46 - 120
3,3'-Dichlorobenzidine	1330	988	J	ug/Kg		74	40 - 120
3-Nitroaniline	667	566		ug/Kg		85	48 - 120
4,6-Dinitro-2-methylphenol	1330	719		ug/Kg		54	18 - 120
4-Bromophenyl phenyl ether	667	660		ug/Kg		99	51 - 120
4-Chloro-3-methylphenol	667	550		ug/Kg		82	47 - 120
4-Chloroaniline	667	377		ug/Kg		56	37 - 120
4-Chlorophenyl phenyl ether	667	618		ug/Kg		93	49 - 120
4-Nitroaniline	667	657		ug/Kg		99	49 - 120
4-Nitrophenol	1330	1180		ug/Kg		88	42 - 120
Acenaphthene	667	593		ug/Kg		89	48 - 120
Acenaphthylene	667	543		ug/Kg		81	46 - 120
Acetophenone	667	479		ug/Kg		72	46 - 120
Anthracene	667	613		ug/Kg		92	51 - 120
Atrazine	1330	1650	*	ug/Kg		124	57 - 120
Benzaldehyde	1330	1080		ug/Kg		81	48 - 120
Benzo[a]anthracene	667	631		ug/Kg		95	53 - 120
Benzo[a]pyrene	667	620		ug/Kg		93	50 - 120
Benzo[b]fluoranthene	667	648		ug/Kg		97	48 - 120
Benzo[g,h,i]perylene	667	617		ug/Kg		93	50 - 120
Benzo[k]fluoranthene	667	625		ug/Kg		94	51 - 120
Bis(2-chloroethoxy)methane	667	514		ug/Kg		77	50 - 120
Bis(2-chloroethyl)ether	667	471		ug/Kg		71	48 - 120
Bis(2-ethylhexyl) phthalate	667	661		ug/Kg		99	52 - 120
Butyl benzyl phthalate	667	676		ug/Kg		101	53 - 120
Caprolactam	1330	1160		ug/Kg		87	59 - 120
Carbazole	667	676		ug/Kg		101	56 - 120

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-309572/23-A
Matrix: Solid
Analysis Batch: 309732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chrysene	667	638		ug/Kg		96	54 - 120
Dibenz(a,h)anthracene	667	619		ug/Kg		93	48 - 120
Dibenzofuran	667	593		ug/Kg		89	49 - 120
Diethyl phthalate	667	643		ug/Kg		96	52 - 120
Dimethyl phthalate	667	635		ug/Kg		95	53 - 120
Di-n-butyl phthalate	667	734		ug/Kg		110	56 - 120
Di-n-octyl phthalate	667	547		ug/Kg		82	42 - 120
Fluoranthene	667	714		ug/Kg		107	53 - 120
Fluorene	667	626		ug/Kg		94	50 - 120
Hexachlorobenzene	667	685		ug/Kg		103	46 - 120
Hexachlorobutadiene	667	478		ug/Kg		72	44 - 120
Hexachlorocyclopentadiene	667	424		ug/Kg		64	14 - 120
Hexachloroethane	667	465		ug/Kg		70	45 - 120
Indeno[1,2,3-cd]pyrene	667	624		ug/Kg		94	49 - 120
Isophorone	667	512		ug/Kg		77	47 - 120
Naphthalene	667	494		ug/Kg		74	48 - 120
Nitrobenzene	667	509		ug/Kg		76	48 - 120
N-Nitrosodi-n-propylamine	667	520		ug/Kg		78	49 - 120
N-Nitrosodiphenylamine	667	648		ug/Kg		97	53 - 120
Pentachlorophenol	1330	752		ug/Kg		56	14 - 120
Phenol	667	512		ug/Kg		77	49 - 120
Phenanthrene	667	589		ug/Kg		88	52 - 120
Pyrene	667	656		ug/Kg		98	55 - 120
3 & 4 Methylphenol	667	514		ug/Kg		77	50 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*95*		*32 - 120*
2-Fluorophenol (Surr)	*84*		*29 - 120*
2,4,6-Tribromophenol (Surr)	*62*		*10 - 120*
Nitrobenzene-d5 (Surr)	*84*		*30 - 120*
Phenol-d5 (Surr)	*84*		*29 - 120*
Terphenyl-d14 (Surr)	*112*		*41 - 120*

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 310043

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	310	U	782	563		ug/Kg	☼	72	33 - 120
2,2'-oxybis[1-chloropropane]	310	U	782	403		ug/Kg	☼	51	26 - 120
2,4,5-Trichlorophenol	310	U	782	582		ug/Kg	☼	74	20 - 120
2,4,6-Trichlorophenol	310	U	782	520		ug/Kg	☼	67	19 - 120
2,4-Dichlorophenol	310	U	782	543		ug/Kg	☼	69	32 - 120
2,4-Dimethylphenol	310	U	782	506		ug/Kg	☼	65	28 - 120
2,4-Dinitrophenol	180	U	1560	403		ug/Kg	☼	26	10 - 120
2,4-Dinitrotoluene	310	U	782	652		ug/Kg	☼	83	38 - 120
2,6-Dinitrotoluene	310	U	782	654		ug/Kg	☼	84	43 - 120
2-Chloronaphthalene	310	U	782	567		ug/Kg	☼	72	35 - 120

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 310043

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chlorophenol	310	U	782	450		ug/Kg	☼	58	30 - 120
2-Methylnaphthalene	310	U	782	496		ug/Kg	☼	63	31 - 120
2-Methylphenol	310	U	782	462		ug/Kg	☼	59	31 - 120
2-Nitroaniline	240	U	782	628		ug/Kg	☼	80	29 - 120
2-Nitrophenol	310	U	782	462		ug/Kg	☼	59	26 - 120
3,3'-Dichlorobenzidine	1900	U	1560	1900	U	ug/Kg	☼	62	10 - 120
3-Nitroaniline	240	U	782	488		ug/Kg	☼	62	21 - 120
4,6-Dinitro-2-methylphenol	180	U	1560	445		ug/Kg	☼	28	10 - 120
4-Bromophenyl phenyl ether	310	U	782	608		ug/Kg	☼	78	44 - 120
4-Chloro-3-methylphenol	310	U	782	586		ug/Kg	☼	75	31 - 120
4-Chloroaniline	240	U	782	324		ug/Kg	☼	41	15 - 120
4-Chlorophenyl phenyl ether	310	U	782	621		ug/Kg	☼	79	41 - 120
4-Nitroaniline	240	U	782	570		ug/Kg	☼	73	23 - 120
4-Nitrophenol	390	U	1560	1090		ug/Kg	☼	70	32 - 120
Acenaphthene	310	U	782	586		ug/Kg	☼	75	36 - 120
Acenaphthylene	310	U	782	556		ug/Kg	☼	71	35 - 120
Acetophenone	310	U	782	422		ug/Kg	☼	54	31 - 120
Anthracene	310	U	782	608		ug/Kg	☼	78	42 - 120
Atrazine	47	U *	1560	1450		ug/Kg	☼	93	41 - 120
Benzaldehyde	310	U	1560	927		ug/Kg	☼	59	28 - 120
Benzo[a]anthracene	310	U	782	624		ug/Kg	☼	79	35 - 120
Benzo[a]pyrene	310	U	782	618		ug/Kg	☼	78	33 - 120
Benzo[b]fluoranthene	310	U	782	654		ug/Kg	☼	82	26 - 120
Benzo[g,h,i]perylene	310	U	782	408		ug/Kg	☼	51	16 - 120
Benzo[k]fluoranthene	310	U	782	632		ug/Kg	☼	80	33 - 120
Bis(2-chloroethoxy)methane	310	U	782	466		ug/Kg	☼	60	36 - 120
Bis(2-chloroethyl)ether	94	U	782	403		ug/Kg	☼	52	33 - 120
Bis(2-ethylhexyl) phthalate	310	U	782	706		ug/Kg	☼	90	40 - 120
Butyl benzyl phthalate	310	U	782	675		ug/Kg	☼	86	46 - 120
Caprolactam	310	U	1560	1180		ug/Kg	☼	75	33 - 128
Carbazole	310	U	782	608		ug/Kg	☼	78	35 - 120
Chrysene	310	U	782	623		ug/Kg	☼	78	33 - 120
Dibenz(a,h)anthracene	310	U	782	471		ug/Kg	☼	60	30 - 120
Dibenzofuran	310	U	782	596		ug/Kg	☼	76	37 - 120
Diethyl phthalate	310	U	782	640		ug/Kg	☼	79	44 - 120
Dimethyl phthalate	310	U	782	625		ug/Kg	☼	80	42 - 120
Di-n-butyl phthalate	310	U	782	702		ug/Kg	☼	90	45 - 120
Di-n-octyl phthalate	310	U	782	653		ug/Kg	☼	84	35 - 120
Fluoranthene	310	U	782	685		ug/Kg	☼	85	26 - 121
Fluorene	310	U	782	623		ug/Kg	☼	80	36 - 120
Hexachlorobenzene	310	U	782	617		ug/Kg	☼	79	36 - 120
Hexachlorobutadiene	47	U	782	451		ug/Kg	☼	58	31 - 120
Hexachlorocyclopentadiene	310	U F1	782	310	U F1	ug/Kg	☼	0	10 - 120
Hexachloroethane	310	U	782	320		ug/Kg	☼	41	15 - 120
Indeno[1,2,3-cd]pyrene	310	U	782	464		ug/Kg	☼	59	24 - 120
Isophorone	310	U	782	461		ug/Kg	☼	59	34 - 120
Naphthalene	310	U	782	446		ug/Kg	☼	57	29 - 120
Nitrobenzene	310	U	782	452		ug/Kg	☼	58	33 - 120

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 310043

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodi-n-propylamine	310	U	782	440		ug/Kg	☼	56	32 - 120
N-Nitrosodiphenylamine	310	U	782	591		ug/Kg	☼	76	29 - 120
Pentachlorophenol	180	U	1560	528		ug/Kg	☼	34	10 - 120
Phenol	310	U	782	448		ug/Kg	☼	57	21 - 120
Phenanthrene	310	U	782	588		ug/Kg	☼	74	28 - 120
Pyrene	310	U	782	653		ug/Kg	☼	81	28 - 120
3 & 4 Methylphenol	310	U	782	475		ug/Kg	☼	61	33 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*77*		*32 - 120*
2-Fluorophenol (Surr)	*61*		*29 - 120*
2,4,6-Tribromophenol (Surr)	*67*		*10 - 120*
Nitrobenzene-d5 (Surr)	*62*		*30 - 120*
Phenol-d5 (Surr)	*64*		*29 - 120*
Terphenyl-d14 (Surr)	*91*		*41 - 120*

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 310043

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl	310	U	773	577		ug/Kg	☼	75	33 - 120	3	33
2,2'-oxybis[1-chloropropane]	310	U	773	454		ug/Kg	☼	59	26 - 120	12	31
2,4,5-Trichlorophenol	310	U	773	564		ug/Kg	☼	73	20 - 120	3	38
2,4,6-Trichlorophenol	310	U	773	531		ug/Kg	☼	69	19 - 120	2	36
2,4-Dichlorophenol	310	U	773	548		ug/Kg	☼	71	32 - 120	1	32
2,4-Dimethylphenol	310	U	773	518		ug/Kg	☼	67	28 - 120	2	35
2,4-Dinitrophenol	180	U	1550	368		ug/Kg	☼	24	10 - 120	9	40
2,4-Dinitrotoluene	310	U	773	644		ug/Kg	☼	83	38 - 120	1	27
2,6-Dinitrotoluene	310	U	773	628		ug/Kg	☼	81	43 - 120	4	31
2-Chloronaphthalene	310	U	773	574		ug/Kg	☼	74	35 - 120	1	30
2-Chlorophenol	310	U	773	506		ug/Kg	☼	66	30 - 120	12	37
2-Methylnaphthalene	310	U	773	531		ug/Kg	☼	69	31 - 120	7	33
2-Methylphenol	310	U	773	503		ug/Kg	☼	65	31 - 120	9	36
2-Nitroaniline	240	U	773	619		ug/Kg	☼	80	29 - 120	1	31
2-Nitrophenol	310	U	773	501		ug/Kg	☼	65	26 - 120	8	38
3,3'-Dichlorobenzidine	1900	U	1550	1900	U	ug/Kg	☼	62	10 - 120	1	40
3-Nitroaniline	240	U	773	478		ug/Kg	☼	62	21 - 120	2	40
4,6-Dinitro-2-methylphenol	180	U	1550	414		ug/Kg	☼	27	10 - 120	7	40
4-Bromophenyl phenyl ether	310	U	773	612		ug/Kg	☼	79	44 - 120	1	40
4-Chloro-3-methylphenol	310	U	773	574		ug/Kg	☼	74	31 - 120	2	25
4-Chloroaniline	240	U	773	320		ug/Kg	☼	41	15 - 120	1	36
4-Chlorophenyl phenyl ether	310	U	773	627		ug/Kg	☼	81	41 - 120	1	40
4-Nitroaniline	240	U	773	552		ug/Kg	☼	71	23 - 120	3	40
4-Nitrophenol	390	U	1550	1110		ug/Kg	☼	72	32 - 120	2	31
Acenaphthene	310	U	773	585		ug/Kg	☼	76	36 - 120	0	28
Acenaphthylene	310	U	773	551		ug/Kg	☼	71	35 - 120	1	26
Acetophenone	310	U	773	477		ug/Kg	☼	62	31 - 120	12	40

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 310043

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309572

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Anthracene	310	U	773	597		ug/Kg	☼	77	42 - 120	2	32
Atrazine	47	U *	1550	1390		ug/Kg	☼	90	41 - 120	4	26
Benzaldehyde	310	U	1550	1030		ug/Kg	☼	67	28 - 120	10	40
Benzo[a]anthracene	310	U	773	621		ug/Kg	☼	79	35 - 120	1	40
Benzo[a]pyrene	310	U	773	616		ug/Kg	☼	79	33 - 120	0	40
Benzo[b]fluoranthene	310	U	773	658		ug/Kg	☼	83	26 - 120	1	40
Benzo[g,h,i]perylene	310	U	773	390		ug/Kg	☼	50	16 - 120	5	40
Benzo[k]fluoranthene	310	U	773	629		ug/Kg	☼	81	33 - 120	0	40
Bis(2-chloroethoxy)methane	310	U	773	509		ug/Kg	☼	66	36 - 120	9	33
Bis(2-chloroethyl)ether	94	U	773	453		ug/Kg	☼	59	33 - 120	12	36
Bis(2-ethylhexyl) phthalate	310	U	773	684		ug/Kg	☼	89	40 - 120	3	28
Butyl benzyl phthalate	310	U	773	678		ug/Kg	☼	88	46 - 120	0	39
Caprolactam	310	U	1550	1150		ug/Kg	☼	74	33 - 128	2	40
Carbazole	310	U	773	597		ug/Kg	☼	77	35 - 120	2	34
Chrysene	310	U	773	607		ug/Kg	☼	77	33 - 120	3	40
Dibenz(a,h)anthracene	310	U	773	461		ug/Kg	☼	60	30 - 120	2	40
Dibenzofuran	310	U	773	593		ug/Kg	☼	77	37 - 120	1	28
Diethyl phthalate	310	U	773	636		ug/Kg	☼	79	44 - 120	1	26
Dimethyl phthalate	310	U	773	612		ug/Kg	☼	79	42 - 120	2	35
Di-n-butyl phthalate	310	U	773	690		ug/Kg	☼	89	45 - 120	2	28
Di-n-octyl phthalate	310	U	773	662		ug/Kg	☼	86	35 - 120	1	33
Fluoranthene	310	U	773	681		ug/Kg	☼	85	26 - 121	1	40
Fluorene	310	U	773	618		ug/Kg	☼	80	36 - 120	1	28
Hexachlorobenzene	310	U	773	608		ug/Kg	☼	79	36 - 120	1	25
Hexachlorobutadiene	47	U	773	498		ug/Kg	☼	64	31 - 120	10	35
Hexachlorocyclopentadiene	310	U F1	773	310	U F1	ug/Kg	☼	0	10 - 120	NC	40
Hexachloroethane	310	U	773	351		ug/Kg	☼	45	15 - 120	9	40
Indeno[1,2,3-cd]pyrene	310	U	773	446		ug/Kg	☼	57	24 - 120	4	40
Isophorone	310	U	773	497		ug/Kg	☼	64	34 - 120	7	32
Naphthalene	310	U	773	486		ug/Kg	☼	63	29 - 120	9	34
Nitrobenzene	310	U	773	490		ug/Kg	☼	63	33 - 120	8	40
N-Nitrosodi-n-propylamine	310	U	773	506		ug/Kg	☼	66	32 - 120	14	32
N-Nitrosodiphenylamine	310	U	773	581		ug/Kg	☼	75	29 - 120	2	30
Pentachlorophenol	180	U	1550	571		ug/Kg	☼	37	10 - 120	8	40
Phenol	310	U	773	498		ug/Kg	☼	65	21 - 120	11	40
Phenanthrene	310	U	773	585		ug/Kg	☼	75	28 - 120	0	40
Pyrene	310	U	773	648		ug/Kg	☼	81	28 - 120	1	40
3 & 4 Methylphenol	310	U	773	533		ug/Kg	☼	69	33 - 120	11	29

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*80*		*32 - 120*
2-Fluorophenol (Surr)	*70*		*29 - 120*
2,4,6-Tribromophenol (Surr)	*70*		*10 - 120*
Nitrobenzene-d5 (Surr)	*69*		*30 - 120*
Phenol-d5 (Surr)	*72*		*29 - 120*
Terphenyl-d14 (Surr)	*89*		*41 - 120*

Method: 8081A - Organochlorine Pesticides (GC)

Lab Sample ID: MB 240-309456/23-A
Matrix: Solid
Analysis Batch: 309735

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309456

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
4,4'-DDE	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
4,4'-DDT	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Aldrin	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
alpha-BHC	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
alpha-Chlordane	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
beta-BHC	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
delta-BHC	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Dieldrin	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Endosulfan I	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Endosulfan II	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Endosulfan sulfate	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Endrin	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Endrin aldehyde	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Endrin ketone	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
gamma-BHC (Lindane)	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
gamma-Chlordane	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Heptachlor	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Heptachlor epoxide	5.1	U	5.1		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Methoxychlor	9.9	U	9.9		ug/Kg		12/28/17 12:15	01/02/18 11:06	1
Toxaphene	100	U	100		ug/Kg		12/28/17 12:15	01/02/18 11:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*97*		*13 - 135*	*12/28/17 12:15*	*01/02/18 11:06*	*1*
Tetrachloro-m-xylene	*90*		*30 - 120*	*12/28/17 12:15*	*01/02/18 11:06*	*1*

Lab Sample ID: LCS 240-309456/24-A
Matrix: Solid
Analysis Batch: 309735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309456

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD			100	109		ug/Kg		109	48 - 120		
4,4'-DDE			100	108		ug/Kg		108	46 - 120		
4,4'-DDT			100	110		ug/Kg		110	48 - 120		
Aldrin			100	104		ug/Kg		104	36 - 120		
alpha-BHC			100	109		ug/Kg		109	48 - 120		
alpha-Chlordane			100	99.7		ug/Kg		100	44 - 120		
beta-BHC			100	131	*	ug/Kg		131	45 - 120		
delta-BHC			100	112		ug/Kg		112	33 - 120		
Dieldrin			100	101		ug/Kg		101	47 - 120		
Endosulfan I			100	81.9		ug/Kg		82	28 - 120		
Endosulfan II			100	91.7		ug/Kg		92	39 - 120		
Endosulfan sulfate			100	129	*	ug/Kg		129	46 - 120		
Endrin			100	113		ug/Kg		113	28 - 136		
Endrin aldehyde			100	118		ug/Kg		118	38 - 120		
Endrin ketone			100	103		ug/Kg		103	44 - 120		
gamma-BHC (Lindane)			100	95.3		ug/Kg		95	39 - 120		
gamma-Chlordane			100	93.0		ug/Kg		93	46 - 120		

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 240-309456/24-A
Matrix: Solid
Analysis Batch: 309735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309456

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Heptachlor			100	97.5		ug/Kg		98	48 - 120		
Heptachlor epoxide			100	101		ug/Kg		101	51 - 120		
Methoxychlor			100	105		ug/Kg		105	38 - 122		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*114*		*13 - 135*
Tetrachloro-m-xylene	*100*		*30 - 120*

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 309842

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309456

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
4,4'-DDD	30	U	115	92.4		ug/Kg	☼	80	27 - 120		
4,4'-DDE	30	U	115	93.3		ug/Kg	☼	81	25 - 120		
4,4'-DDT	30	U	115	85.5		ug/Kg	☼	74	19 - 125		
Aldrin	30	U	115	96.6		ug/Kg	☼	84	15 - 120		
alpha-BHC	30	U	115	108		ug/Kg	☼	93	30 - 120		
alpha-Chlordane	30	U	115	87.2		ug/Kg	☼	76	28 - 120		
beta-BHC	30	U *	115	137		ug/Kg	☼	118	20 - 120		
delta-BHC	30	U	115	112		ug/Kg	☼	97	20 - 120		
Dieldrin	30	U	115	91.5		ug/Kg	☼	79	29 - 120		
Endosulfan I	30	U	115	73.0		ug/Kg	☼	63	10 - 120		
Endosulfan II	30	U	115	75.9		ug/Kg	☼	66	21 - 120		
Endosulfan sulfate	30	U *	115	106		ug/Kg	☼	92	27 - 120		
Endrin	30	U	115	103		ug/Kg	☼	89	26 - 129		
Endrin aldehyde	30	U	115	88.1		ug/Kg	☼	76	18 - 120		
Endrin ketone	30	U	115	83.6		ug/Kg	☼	72	28 - 120		
gamma-BHC (Lindane)	30	U	115	94.6		ug/Kg	☼	82	27 - 120		
gamma-Chlordane	30	U	115	82.0	p	ug/Kg	☼	71	29 - 120		
Heptachlor	30	U	115	111		ug/Kg	☼	96	35 - 120		
Heptachlor epoxide	30	U	115	95.1		ug/Kg	☼	82	32 - 120		
Methoxychlor	58	U	115	94.8	p	ug/Kg	☼	82	26 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*83*		*13 - 135*
Tetrachloro-m-xylene	*110*		*30 - 120*

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 309842

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309456

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4,4'-DDD	30	U	116	129		ug/Kg	☼	112	27 - 120	33	40
4,4'-DDE	30	U	116	124		ug/Kg	☼	107	25 - 120	28	40
4,4'-DDT	30	U	116	121		ug/Kg	☼	104	19 - 125	34	40
Aldrin	30	U	116	122		ug/Kg	☼	105	15 - 120	23	40
alpha-BHC	30	U	116	137		ug/Kg	☼	118	30 - 120	24	40

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 309842

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 309456

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
alpha-Chlordane	30	U	116	116		ug/Kg	☼	100	28 - 120	28	40
beta-BHC	30	U *	116	161	F1	ug/Kg	☼	139	20 - 120	17	40
delta-BHC	30	U	116	138		ug/Kg	☼	119	20 - 120	21	40
Dieldrin	30	U	116	123		ug/Kg	☼	106	29 - 120	29	40
Endosulfan I	30	U	116	97.2		ug/Kg	☼	84	10 - 120	28	40
Endosulfan II	30	U	116	106		ug/Kg	☼	91	21 - 120	33	40
Endosulfan sulfate	30	U *	116	148	F1	ug/Kg	☼	128	27 - 120	33	40
Endrin	30	U	116	142		ug/Kg	☼	122	26 - 129	32	40
Endrin aldehyde	30	U	116	135	F2	ug/Kg	☼	116	18 - 120	42	40
Endrin ketone	30	U	116	121		ug/Kg	☼	104	28 - 120	36	40
gamma-BHC (Lindane)	30	U	116	119		ug/Kg	☼	102	27 - 120	23	40
gamma-Chlordane	30	U	116	106	p	ug/Kg	☼	91	29 - 120	25	40
Heptachlor	30	U	116	148	F1	ug/Kg	☼	127	35 - 120	28	40
Heptachlor epoxide	30	U	116	123		ug/Kg	☼	106	32 - 120	26	40
Methoxychlor	58	U	116	129	p	ug/Kg	☼	111	26 - 120	30	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl	*113*		*13 - 135*
Tetrachloro-m-xylene	*116*		*30 - 120*

Lab Sample ID: MB 240-309571/6-A
Matrix: Solid
Analysis Batch: 309842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309571

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
4,4'-DDE	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
4,4'-DDT	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Aldrin	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
alpha-BHC	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
alpha-Chlordane	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
beta-BHC	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
delta-BHC	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Dieldrin	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Endosulfan I	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Endosulfan II	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Endosulfan sulfate	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Endrin	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Endrin aldehyde	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Endrin ketone	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
gamma-BHC (Lindane)	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
gamma-Chlordane	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Heptachlor	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Heptachlor epoxide	5.1	U	5.1		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Methoxychlor	9.9	U	9.9		ug/Kg		12/29/17 10:04	01/02/18 18:52	1
Toxaphene	100	U	100		ug/Kg		12/29/17 10:04	01/02/18 18:52	1

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: MB 240-309571/6-A
Matrix: Solid
Analysis Batch: 309842

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309571

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	85		13 - 135	12/29/17 10:04	01/02/18 18:52	1
Tetrachloro-m-xylene	81		30 - 120	12/29/17 10:04	01/02/18 18:52	1

Lab Sample ID: LCS 240-309571/7-A
Matrix: Solid
Analysis Batch: 309842

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309571

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,4'-DDD	100	96.1		ug/Kg		96	48 - 120
4,4'-DDE	100	92.3		ug/Kg		92	46 - 120
4,4'-DDT	100	95.4		ug/Kg		95	48 - 120
Aldrin	100	88.9		ug/Kg		89	36 - 120
alpha-BHC	100	96.7		ug/Kg		97	48 - 120
alpha-Chlordane	100	85.8		ug/Kg		86	44 - 120
beta-BHC	100	99.9		ug/Kg		100	45 - 120
delta-BHC	100	98.8		ug/Kg		99	33 - 120
Dieldrin	100	89.5		ug/Kg		90	47 - 120
Endosulfan I	100	70.4		ug/Kg		70	28 - 120
Endosulfan II	100	78.5		ug/Kg		79	39 - 120
Endosulfan sulfate	100	114		ug/Kg		114	46 - 120
Endrin	100	104		ug/Kg		104	28 - 136
Endrin aldehyde	100	94.4		ug/Kg		94	38 - 120
Endrin ketone	100	92.2		ug/Kg		92	44 - 120
gamma-BHC (Lindane)	100	88.5		ug/Kg		89	39 - 120
gamma-Chlordane	100	77.4		ug/Kg		77	46 - 120
Heptachlor	100	92.7		ug/Kg		93	48 - 120
Heptachlor epoxide	100	89.5		ug/Kg		90	51 - 120
Methoxychlor	100	96.0		ug/Kg		96	38 - 122

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	96		13 - 135
Tetrachloro-m-xylene	90		30 - 120

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-308659/22-A
Matrix: Solid
Analysis Batch: 308794

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308659

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1
Aroclor-1221	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1
Aroclor-1232	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1
Aroclor-1242	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1
Aroclor-1248	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1
Aroclor-1254	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1
Aroclor-1260	50	U	50	ug/Kg		12/21/17 09:03	12/22/17 17:39	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 240-308659/22-A
Matrix: Solid
Analysis Batch: 308794

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308659

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		14 - 128	12/21/17 09:03	12/22/17 17:39	1
DCB Decachlorobiphenyl	93		10 - 132	12/21/17 09:03	12/22/17 17:39	1

Lab Sample ID: LCS 240-308659/23-A
Matrix: Solid
Analysis Batch: 308794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308659

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			1000	741		ug/Kg		74	47 - 120		
Aroclor-1260			1000	973		ug/Kg		97	46 - 120		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	80		14 - 128
DCB Decachlorobiphenyl	97		10 - 132

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 308794

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016	59	U	1160	922		ug/Kg	☼	80	31 - 120		
Aroclor-1260	59	U	1160	1050		ug/Kg	☼	91	21 - 122		

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	92		14 - 128
DCB Decachlorobiphenyl	106		10 - 132

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 308794

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308659

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016	59	U	1180	986		ug/Kg	☼	83	31 - 120	7	30
Aroclor-1260	59	U	1180	1210		ug/Kg	☼	102	21 - 122	14	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	100		14 - 128
DCB Decachlorobiphenyl	92		10 - 132

Lab Sample ID: MB 240-309467/23-A
Matrix: Solid
Analysis Batch: 309653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309467

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1
Aroclor-1221	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1
Aroclor-1232	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 240-309467/23-A
Matrix: Solid
Analysis Batch: 309653

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309467

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1242	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1
Aroclor-1248	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1
Aroclor-1254	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1
Aroclor-1260	50	U	50		ug/Kg		12/28/17 12:57	12/30/17 15:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*81*		*14 - 128*	*12/28/17 12:57*	*12/30/17 15:56*	*1*
DCB Decachlorobiphenyl	*72*		*10 - 132*	*12/28/17 12:57*	*12/30/17 15:56*	*1*

Lab Sample ID: LCS 240-309467/24-A
Matrix: Solid
Analysis Batch: 309653

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309467

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			1000	732		ug/Kg		73	47 - 120		
Aroclor-1260			1000	816		ug/Kg		82	46 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*88*		*14 - 128*
DCB Decachlorobiphenyl	*82*		*10 - 132*

Lab Sample ID: MB 240-309549/23-A
Matrix: Solid
Analysis Batch: 309793

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309549

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1
Aroclor-1221	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1
Aroclor-1232	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1
Aroclor-1242	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1
Aroclor-1248	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1
Aroclor-1254	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1
Aroclor-1260	50	U	50		ug/Kg		12/29/17 09:08	01/02/18 22:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*89*		*14 - 128*	*12/29/17 09:08*	*01/02/18 22:06*	*1*
DCB Decachlorobiphenyl	*104*		*10 - 132*	*12/29/17 09:08*	*01/02/18 22:06*	*1*

Lab Sample ID: LCS 240-309549/24-A
Matrix: Solid
Analysis Batch: 309793

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309549

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			1000	752		ug/Kg		75	47 - 120		
Aroclor-1260			1000	816		ug/Kg		82	46 - 120		

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 240-309549/24-A
Matrix: Solid
Analysis Batch: 309793

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309549

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*77*		*14 - 128*
DCB Decachlorobiphenyl	*80*		*10 - 132*

Lab Sample ID: LCSD 240-309549/25-A
Matrix: Solid
Analysis Batch: 309793

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309549

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016			1000	813		ug/Kg		81	47 - 120	8	30
Aroclor-1260			1000	916		ug/Kg		92	46 - 120	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*86*		*14 - 128*
DCB Decachlorobiphenyl	*94*		*10 - 132*

Method: 8151 - Herbicides

Lab Sample ID: MB 600-228694/1-A
Matrix: Solid
Analysis Batch: 228778

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228694

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	6.7	U	6.7		ug/Kg		12/29/17 12:54	01/02/18 21:35	1
2,4,5-T	6.7	U	6.7		ug/Kg		12/29/17 12:54	01/02/18 21:35	1
Silvex (2,4,5-TP)	6.7	U	6.7		ug/Kg		12/29/17 12:54	01/02/18 21:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*106*		*22 - 130*	*12/29/17 12:54*	*01/02/18 21:35*	*1*

Lab Sample ID: LCS 600-228694/2-A
Matrix: Solid
Analysis Batch: 228778

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-D			13.3	11.8		ug/Kg		88	33 - 159
2,4,5-T			13.3	16.1		ug/Kg		121	24 - 165
Silvex (2,4,5-TP)			13.3	12.4		ug/Kg		93	32 - 160

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*95*		*22 - 130*

Lab Sample ID: LCSD 600-228694/3-A
Matrix: Solid
Analysis Batch: 228778

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 228694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-D			13.3	9.62		ug/Kg		72	33 - 159	20	40

Method: 8151 - Herbicides (Continued)

Lab Sample ID: LCSD 600-228694/3-A
Matrix: Solid
Analysis Batch: 228778

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 228694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-T			13.3	12.4		ug/Kg		93	24 - 165	26	40
Silvex (2,4,5-TP)			13.3	12.0		ug/Kg		90	32 - 160	4	40

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*96*		*22 - 130*

Lab Sample ID: MB 600-228696/1-A
Matrix: Solid
Analysis Batch: 228778

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 228696

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
2,4-D	6.7	U	6.7		ug/Kg		12/29/17 13:02	01/02/18 11:20	1
2,4,5-T	6.7	U	6.7		ug/Kg		12/29/17 13:02	01/02/18 11:20	1
Silvex (2,4,5-TP)	6.7	U	6.7		ug/Kg		12/29/17 13:02	01/02/18 11:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4-Dichlorophenylacetic acid	*40*		*22 - 130*	*12/29/17 13:02*	*01/02/18 11:20*	*1*

Lab Sample ID: LCS 600-228696/2-A
Matrix: Solid
Analysis Batch: 228778

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 228696

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
2,4-D			13.3	5.42	J	ug/Kg		41	33 - 159		
2,4,5-T			13.3	4.21	J	ug/Kg		32	24 - 165		
Silvex (2,4,5-TP)			13.3	6.98		ug/Kg		52	32 - 160		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4-Dichlorophenylacetic acid	*24*		*22 - 130*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-308519/1-A
Matrix: Solid
Analysis Batch: 308705

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308519

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.80	U	0.80		mg/Kg		12/20/17 14:00	12/21/17 17:47	1
Cadmium	0.080	U	0.080		mg/Kg		12/20/17 14:00	12/21/17 17:47	1
Chromium	0.80	U	0.80		mg/Kg		12/20/17 14:00	12/21/17 17:47	1
Copper	0.80	U	0.80		mg/Kg		12/20/17 14:00	12/21/17 17:47	1
Zinc	2.0	U	2.0		mg/Kg		12/20/17 14:00	12/21/17 17:47	1
Lead	0.24	U	0.24		mg/Kg		12/20/17 14:00	12/21/17 17:47	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-308519/2-A
Matrix: Solid
Analysis Batch: 308705

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	184		mg/Kg		92	80 - 120
Cadmium	5.00	4.64		mg/Kg		93	80 - 120
Chromium	20.0	18.3		mg/Kg		92	80 - 120
Copper	25.0	22.4		mg/Kg		90	80 - 120
Zinc	50.0	46.8		mg/Kg		94	80 - 120
Lead	50.0	46.1		mg/Kg		92	80 - 120

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 308705

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	29		208	213		mg/Kg	☼	89	75 - 125
Cadmium	0.12		5.20	4.65		mg/Kg	☼	87	75 - 125
Chromium	8.5		20.8	28.5		mg/Kg	☼	96	75 - 125
Copper	6.8		26.0	29.8		mg/Kg	☼	88	75 - 125
Zinc	24		52.0	72.0		mg/Kg	☼	91	75 - 125
Lead	8.4		52.0	48.9		mg/Kg	☼	78	75 - 125

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 308705

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	29		208	217		mg/Kg	☼	91	75 - 125	2	20
Cadmium	0.12		5.20	4.74		mg/Kg	☼	89	75 - 125	2	20
Chromium	8.5		20.8	28.3		mg/Kg	☼	95	75 - 125	1	20
Copper	6.8		26.0	29.8		mg/Kg	☼	88	75 - 125	0	20
Zinc	24		52.0	72.9		mg/Kg	☼	93	75 - 125	1	20
Lead	8.4		52.0	49.6		mg/Kg	☼	79	75 - 125	1	20

Lab Sample ID: MB 240-308692/1-A
Matrix: Solid
Analysis Batch: 308900

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308692

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.80	U	0.80	mg/Kg		12/21/17 14:00	12/22/17 13:38	1
Cadmium	0.080	U	0.080	mg/Kg		12/21/17 14:00	12/22/17 13:38	1
Chromium	0.80	U	0.80	mg/Kg		12/21/17 14:00	12/22/17 13:38	1
Copper	0.80	U	0.80	mg/Kg		12/21/17 14:00	12/22/17 13:38	1
Zinc	2.0	U	2.0	mg/Kg		12/21/17 14:00	12/22/17 13:38	1
Lead	0.24	U	0.24	mg/Kg		12/21/17 14:00	12/22/17 13:38	1

Lab Sample ID: LCS 240-308692/2-A
Matrix: Solid
Analysis Batch: 308900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	200	194		mg/Kg		97	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 240-308692/2-A
Matrix: Solid
Analysis Batch: 308900

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	5.00	4.83		mg/Kg		97	80 - 120
Chromium	20.0	19.0		mg/Kg		95	80 - 120
Copper	25.0	23.9		mg/Kg		95	80 - 120
Zinc	50.0	47.0		mg/Kg		94	80 - 120
Lead	50.0	45.6		mg/Kg		91	80 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-308519/1-A ^2
Matrix: Solid
Analysis Batch: 308823

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308519

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.080	U	0.080	mg/Kg		12/20/17 14:00	12/21/17 12:43	2
Selenium	0.16	U	0.16	mg/Kg		12/20/17 14:00	12/21/17 12:43	2
Silver	0.080	U	0.080	mg/Kg		12/20/17 14:00	12/21/17 12:43	2

Lab Sample ID: LCS 240-308519/3-A ^2
Matrix: Solid
Analysis Batch: 308823

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308519

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	95.3		mg/Kg		95	80 - 120
Selenium	100	88.5		mg/Kg		88	80 - 120
Silver	10.0	9.90		mg/Kg		99	80 - 120

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 308823

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308519

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.3		108	103		mg/Kg	☼	94	75 - 125
Selenium	0.38		108	92.7		mg/Kg	☼	86	75 - 125
Silver	0.082	U	10.8	10.2		mg/Kg	☼	95	75 - 125

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 308823

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308519

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	2.3		108	105		mg/Kg	☼	95	75 - 125	1	20
Selenium	0.38		108	92.2		mg/Kg	☼	85	75 - 125	1	20
Silver	0.082	U	10.8	10.3		mg/Kg	☼	95	75 - 125	0	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-308692/1-A ^2
Matrix: Solid
Analysis Batch: 309038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308692

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.080	U	0.080		mg/Kg		12/21/17 14:00	12/22/17 18:03	2
Selenium	0.16	U	0.16		mg/Kg		12/21/17 14:00	12/22/17 18:03	2
Silver	0.080	U	0.080		mg/Kg		12/21/17 14:00	12/22/17 18:03	2

Lab Sample ID: LCS 240-308692/3-A ^2
Matrix: Solid
Analysis Batch: 309038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308692

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			100	101		mg/Kg		101	80 - 120		
Selenium			100	83.6		mg/Kg		84	80 - 120		
Silver			10.0	10.0		mg/Kg		100	80 - 120		

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 240-308537/1-A
Matrix: Solid
Analysis Batch: 308742

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308537

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.040	U	0.040		mg/Kg		12/20/17 16:00	12/21/17 10:15	1

Lab Sample ID: LCS 240-308537/2-A
Matrix: Solid
Analysis Batch: 308742

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308537

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.833	0.812		mg/Kg		97	80 - 120		

Lab Sample ID: 240-89576-11 MS
Matrix: Solid
Analysis Batch: 308742

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308537

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.045	U	0.218	0.219		mg/Kg	☼	101	80 - 120		

Lab Sample ID: 240-89576-11 MSD
Matrix: Solid
Analysis Batch: 308742

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA
Prep Batch: 308537

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.045	U	0.218	0.216		mg/Kg	☼	99	80 - 120	1	20

Lab Sample ID: MB 240-308713/1-A
Matrix: Solid
Analysis Batch: 308949

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 308713

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.040	U	0.040		mg/Kg		12/21/17 16:00	12/22/17 13:17	1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-308713/2-A
Matrix: Solid
Analysis Batch: 308949

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 308713

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.833	1.08	*	mg/Kg		130	80 - 120

Method: Moisture - Percent Moisture

Lab Sample ID: 240-89576-1 DU
Matrix: Solid
Analysis Batch: 308463

Client Sample ID: S-58502-121817-SSH-1001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	86.8		87.1		%		0.4	20
Percent Moisture	13.2		12.9		%		2	20

Lab Sample ID: 240-89576-11 DU
Matrix: Solid
Analysis Batch: 308463

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	85.1		90.2		%		6	20
Percent Moisture	14.9		9.8	F3	%		42	20

Lab Sample ID: 240-89576-20 DU
Matrix: Solid
Analysis Batch: 308463

Client Sample ID: S-58502-121817-SSH-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	85.1		86.1		%		1	20
Percent Moisture	14.9		13.9		%		7	20

Method: Walkley Black - Organic Carbon, Total (TOC)

Lab Sample ID: MB 240-308469/28
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1000	U	1000	mg/Kg			12/20/17 10:17	1

Lab Sample ID: MB 240-308469/4
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	990	U	990	mg/Kg			12/20/17 09:07	1

Method: Walkley Black - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 240-308469/29
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1920	1890		mg/Kg		99	51 - 126

Lab Sample ID: LCS 240-308469/5
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1920	1690		mg/Kg		88	51 - 126

Lab Sample ID: 240-89576-11 DU
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: S-58502-121817-SSH-1011
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	3600		3490		mg/Kg	☼	2	20

Lab Sample ID: 240-89576-12 DU
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: S-58502-121817-SSH-1012
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	4500		4510		mg/Kg	☼	1	20

Lab Sample ID: 240-89576-21 DU
Matrix: Solid
Analysis Batch: 308469

Client Sample ID: S-58502-121817-SSH-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	8200		8400		mg/Kg	☼	3	20

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(64-144)	(58-142)	(61-137)	(31-155)
240-89576-1	S-58502-121817-SSH-1001	99	93	96	105
240-89576-2	S-58502-121817-SSH-1002	109	104	109	115
240-89576-3	S-58502-121817-SSH-1003	101	97	103	107
240-89576-4	S-58502-121817-SSH-1004	101	101	106	107
240-89576-5	S-58502-121817-SSH-1005	97	95	101	104
240-89576-6	S-58502-121817-SSH-1006	105	101	108	109
240-89576-7	S-58502-121817-SSH-1007	108	98	103	106
240-89576-8	S-58502-121817-SSH-1008	99	97	100	99
240-89576-9	S-58502-121817-SSH-1009	105	95	102	104
240-89576-10	S-58502-121817-SSH-1010	96	94	97	96
240-89576-11	S-58502-121817-SSH-1011	105	105	109	106
240-89576-12	S-58502-121817-SSH-1012	95	92	99	100
240-89576-13	S-58502-121817-SSH-1013	106	100	107	89
240-89576-14	S-58502-121817-SSH-1014	97	94	99	89
240-89576-15	S-58502-121817-SSH-1015	100	95	102	98
240-89576-16	S-58502-121817-SSH-1016	95	91	96	94
240-89576-17	S-58502-121817-SSH-1017	102	97	102	100
240-89576-18	S-58502-121817-SSH-1018	96	94	98	92
240-89576-19	S-58502-121817-SSH-1019	99	97	102	75
240-89576-20	S-58502-121817-SSH-1020	92	92	97	99
240-89576-21	S-58502-121817-SSH-1021	105	99	103	107
LCS 240-308903/2-A	Lab Control Sample	93	89	90	98
LCS 240-308992/2-A	Lab Control Sample	94	86	89	93
MB 240-308903/1-A	Method Blank	92	87	93	99
MB 240-308992/1-A	Method Blank	90	87	91	94

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(32-120)	(29-120)	(10-120)	(30-120)	(29-120)	(41-120)
240-89576-1	S-58502-121817-SSH-1001	91	78	60	72	86	105
240-89576-2	S-58502-121817-SSH-1002	95	76	74	72	85	111
240-89576-3	S-58502-121817-SSH-1003	87	75	51	70	79	99
240-89576-4	S-58502-121817-SSH-1004	84	71	52	67	80	98
240-89576-4 MS	S-58502-121817-SSH-1004	92	73	75	68	80	108
240-89576-4 MSD	S-58502-121817-SSH-1004	100	82	77	79	88	115
240-89576-5	S-58502-121817-SSH-1005	82	72	75	66	73	98
240-89576-6	S-58502-121817-SSH-1006	82	64	80	58	70	101
240-89576-7	S-58502-121817-SSH-1007	80	68	58	60	69	101
240-89576-8	S-58502-121817-SSH-1008	78	67	56	59	69	94
240-89576-9	S-58502-121817-SSH-1009	79	64	54	58	67	99

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	TBP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(32-120)	(29-120)	(10-120)	(30-120)	(29-120)	(41-120)
240-89576-10	S-58502-121817-SSH-1010	78	67	51	62	69	91
240-89576-11	S-58502-121817-SSH-1011	71	59	63	55	61	86
240-89576-11 MS	S-58502-121817-SSH-1011	77	61	67	62	64	91
240-89576-11 MSD	S-58502-121817-SSH-1011	80	70	70	69	72	89
240-89576-12	S-58502-121817-SSH-1012	85	75	66	71	76	104
240-89576-13	S-58502-121817-SSH-1013	84	69	56	61	72	96
240-89576-14	S-58502-121817-SSH-1014	89	80	56	72	82	110
240-89576-15	S-58502-121817-SSH-1015	68	55	56	48	59	82
240-89576-16	S-58502-121817-SSH-1016	91	78	60	73	81	107
240-89576-17	S-58502-121817-SSH-1017	86	77	63	72	78	109
240-89576-18	S-58502-121817-SSH-1018	69	57	41	52	59	87
240-89576-19	S-58502-121817-SSH-1019	91	79	54	71	81	108
240-89576-20	S-58502-121817-SSH-1020	95	82	82	74	86	111
240-89576-21	S-58502-121817-SSH-1021	98	84	96	79	88	119
LCS 240-309410/23-A	Lab Control Sample	94	82	60	79	87	105
LCS 240-309572/23-A	Lab Control Sample	95	84	62	84	84	112
MB 240-309410/22-A	Method Blank	97	76	55	79	86	109
MB 240-309572/22-A	Method Blank	83	58	33	67	66	100

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCBP1	DCBP2	TCX1	TCX2
Lab Sample ID	Client Sample ID	(13-135)	(13-135)	(30-120)	(30-120)
240-89576-1	S-58502-121817-SSH-1001	72	82	74	72
240-89576-2	S-58502-121817-SSH-1002	69	81	74	69
240-89576-3	S-58502-121817-SSH-1003	73	81	75	71
240-89576-4	S-58502-121817-SSH-1004	78	85	83	74
240-89576-5	S-58502-121817-SSH-1005	116	139 X	126 X	120
240-89576-6	S-58502-121817-SSH-1006	73	85	73	69
240-89576-7	S-58502-121817-SSH-1007	75	85	74	72
240-89576-8	S-58502-121817-SSH-1008	71	79	70	69
240-89576-9	S-58502-121817-SSH-1009	71	80	80	72
240-89576-10	S-58502-121817-SSH-1010	76	81	73	70
240-89576-11	S-58502-121817-SSH-1011	76	95	79	79
240-89576-11 MS	S-58502-121817-SSH-1011	83	97	110	86
240-89576-11 MSD	S-58502-121817-SSH-1011	113	125	116	115
240-89576-12	S-58502-121817-SSH-1012	69	79	82	70
240-89576-13	S-58502-121817-SSH-1013	58	78	58	59
240-89576-14	S-58502-121817-SSH-1014	67	73	76	70

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCBP1 (13-135)	DCBP2 (13-135)	TCX1 (30-120)	TCX2 (30-120)
240-89576-15	S-58502-121817-SSH-1015	66	70	69	66
240-89576-16	S-58502-121817-SSH-1016	75	76	79	70
240-89576-17	S-58502-121817-SSH-1017	70	78	76	69
240-89576-18	S-58502-121817-SSH-1018	66	75	63	67
240-89576-19	S-58502-121817-SSH-1019	106	81	90	67
240-89576-20	S-58502-121817-SSH-1020	126	136 X	122 X	112
240-89576-21	S-58502-121817-SSH-1021	130	99	88	84
LCS 240-309456/24-A	Lab Control Sample	114	100	100	81
LCS 240-309571/7-A	Lab Control Sample	96	91	90	71
MB 240-309456/23-A	Method Blank	97	96	90	77
MB 240-309571/6-A	Method Blank	85	84	81	70

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TCX1 (14-128)	DCBP1 (10-132)
240-89576-1	S-58502-121817-SSH-1001	124	143 X
240-89576-2	S-58502-121817-SSH-1002	97	112
240-89576-3	S-58502-121817-SSH-1003	93	113
240-89576-4	S-58502-121817-SSH-1004	83	108
240-89576-5	S-58502-121817-SSH-1005	90	95
240-89576-6	S-58502-121817-SSH-1006	80	96
240-89576-7	S-58502-121817-SSH-1007	91	93
240-89576-8	S-58502-121817-SSH-1008	106	102
240-89576-9	S-58502-121817-SSH-1009	94	97
240-89576-10	S-58502-121817-SSH-1010	109	115
240-89576-11	S-58502-121817-SSH-1011	96	104
240-89576-11 MS	S-58502-121817-SSH-1011	92	106
240-89576-11 MSD	S-58502-121817-SSH-1011	100	92
240-89576-12	S-58502-121817-SSH-1012	77	87
240-89576-13	S-58502-121817-SSH-1013	92	100
240-89576-14	S-58502-121817-SSH-1014	90	88
240-89576-15	S-58502-121817-SSH-1015	93	96
240-89576-16	S-58502-121817-SSH-1016	83	75
240-89576-17	S-58502-121817-SSH-1017	84	82
240-89576-18	S-58502-121817-SSH-1018	88	71
LCS 240-308659/23-A	Lab Control Sample	80	97
LCS 240-309467/24-A	Lab Control Sample	88	82
MB 240-308659/22-A	Method Blank	66	93
MB 240-309467/23-A	Method Blank	81	72

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	TCX2 (14-128)	DCBP2 (10-132)
240-89576-19	S-58502-121817-SSH-1019	85	91
240-89576-20	S-58502-121817-SSH-1020	85	87
240-89576-21	S-58502-121817-SSH-1021	95	113
LCS 240-309549/24-A	Lab Control Sample	77	80
LCSD 240-309549/25-A	Lab Control Sample Dup	86	94
MB 240-309549/23-A	Method Blank	89	104

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Method: 8151 - Herbicides

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	DCPAA1 (22-130)
240-89576-1	S-58502-121817-SSH-1001	36
240-89576-2	S-58502-121817-SSH-1002	32
240-89576-3	S-58502-121817-SSH-1003	92
240-89576-4	S-58502-121817-SSH-1004	93
240-89576-5	S-58502-121817-SSH-1005	91
240-89576-6	S-58502-121817-SSH-1006	37
240-89576-7	S-58502-121817-SSH-1007	63
240-89576-8	S-58502-121817-SSH-1008	86
240-89576-9	S-58502-121817-SSH-1009	289 X
240-89576-10	S-58502-121817-SSH-1010	112
240-89576-11	S-58502-121817-SSH-1011	137 X
240-89576-12	S-58502-121817-SSH-1012	305 X
240-89576-13	S-58502-121817-SSH-1013	85
240-89576-14	S-58502-121817-SSH-1014	92
240-89576-15	S-58502-121817-SSH-1015	81
240-89576-16	S-58502-121817-SSH-1016	109
240-89576-17	S-58502-121817-SSH-1017	59
240-89576-18	S-58502-121817-SSH-1018	86
240-89576-19	S-58502-121817-SSH-1019	138 X
240-89576-20	S-58502-121817-SSH-1020	147 X
240-89576-21	S-58502-121817-SSH-1021	105
LCS 600-228694/2-A	Lab Control Sample	95
LCS 600-228696/2-A	Lab Control Sample	24
LCSD 600-228694/3-A	Lab Control Sample Dup	96
MB 600-228694/1-A	Method Blank	106
MB 600-228696/1-A	Method Blank	40

Surrogate Legend

DCPAA = 2,4-Dichlorophenylacetic acid

Client Sample ID: S-58502-121817-SSH-1001
Lab Sample ID: 240-89576-1
Date Collected: 12/18/17 09:30
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1001
Lab Sample ID: 240-89576-1
Date Collected: 12/18/17 09:30
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 15:33	HMB	TAL CAN
Total/NA	Prep	3540C			309410	12/28/17 09:41	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309741	01/02/18 18:58	JMG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 11:31	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 12:04	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/02/18 23:13	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:23	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:23	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:29	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:25	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1002
Lab Sample ID: 240-89576-2
Date Collected: 12/18/17 09:40
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1002
Lab Sample ID: 240-89576-2
Date Collected: 12/18/17 09:40
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 82.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 15:56	HMB	TAL CAN
Total/NA	Prep	3540C			309410	12/28/17 09:41	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309741	01/02/18 18:34	JMG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 11:43	OCR	TAL CAN

Lab Chronicle

Client: GHD Services Inc. TestAmerica Job ID: 240-89576-1
Project/Site: 58502-019, RACER Nodular Iron

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 12:24	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/02/18 23:37	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:28	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:28	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:31	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:28	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1003
Lab Sample ID: 240-89576-3
Date Collected: 12/18/17 09:55
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1003
Lab Sample ID: 240-89576-3
Date Collected: 12/18/17 09:55
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 16:19	HMB	TAL CAN
Total/NA	Prep	3540C			309410	12/28/17 09:41	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309741	01/02/18 18:10	JMG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 11:56	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 12:44	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 00:01	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:33	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:32	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:33	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:30	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1004
Lab Sample ID: 240-89576-4
Date Collected: 12/18/17 10:05
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1004
Lab Sample ID: 240-89576-4
Date Collected: 12/18/17 10:05
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 16:41	HMB	TAL CAN
Total/NA	Prep	3540C			309410	12/28/17 09:41	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309741	01/02/18 16:59	JMG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 12:08	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 13:04	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 00:26	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:37	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:37	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:35	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:33	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1005
Lab Sample ID: 240-89576-5
Date Collected: 12/18/17 10:15
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1005
Lab Sample ID: 240-89576-5
Date Collected: 12/18/17 10:15
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 17:03	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 14:51	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		5	309735	01/02/18 12:21	OCR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1005

Lab Sample ID: 240-89576-5
Date Collected: 12/18/17 10:15
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 13:24	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 00:50	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:42	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:41	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:37	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:36	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1006

Lab Sample ID: 240-89576-6
Date Collected: 12/18/17 10:30
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1006

Lab Sample ID: 240-89576-6
Date Collected: 12/18/17 10:30
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 17:26	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 15:38	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 12:33	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 13:43	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 01:14	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:47	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:46	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:39	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:39	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1007
Lab Sample ID: 240-89576-7
Date Collected: 12/18/17 10:40
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1007
Lab Sample ID: 240-89576-7
Date Collected: 12/18/17 10:40
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 17:49	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 15:15	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 12:46	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 14:03	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 01:39	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:00	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 13:59	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:45	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:42	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1008
Lab Sample ID: 240-89576-8
Date Collected: 12/18/17 10:50
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1008
Lab Sample ID: 240-89576-8
Date Collected: 12/18/17 10:50
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 18:11	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 18:48	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 12:58	OCR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1008

Lab Sample ID: 240-89576-8
Date Collected: 12/18/17 10:50
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 14:23	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		5	228778	01/03/18 02:03	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:05	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:04	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:47	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:51	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1009

Lab Sample ID: 240-89576-9
Date Collected: 12/18/17 11:05
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1009

Lab Sample ID: 240-89576-9
Date Collected: 12/18/17 11:05
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 18:33	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 16:02	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 13:11	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 14:42	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 02:27	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:10	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:08	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:49	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:54	TPH	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Client Sample ID: S-58502-121817-SSH-1010
Lab Sample ID: 240-89576-10
Date Collected: 12/18/17 11:20
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1010
Lab Sample ID: 240-89576-10
Date Collected: 12/18/17 11:20
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 91.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 18:56	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 16:26	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 13:23	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 15:02	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 02:52	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:14	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:13	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:51	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:57	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1011
Lab Sample ID: 240-89576-11
Date Collected: 12/18/17 11:30
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1011
Lab Sample ID: 240-89576-11
Date Collected: 12/18/17 11:30
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 19:19	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 16:49	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		5	309735	01/02/18 13:36	OCR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1011

Lab Sample ID: 240-89576-11
Date Collected: 12/18/17 11:30
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 15:21	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 03:40	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 18:05	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 12:52	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:23	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:16	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1012

Lab Sample ID: 240-89576-12
Date Collected: 12/18/17 11:45
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1012

Lab Sample ID: 240-89576-12
Date Collected: 12/18/17 11:45
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 19:42	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309732	01/02/18 14:55	TMH	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 13:48	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 16:20	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 04:05	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:19	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:17	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:53	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 09:48	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1013
Lab Sample ID: 240-89576-13
Date Collected: 12/18/17 12:15
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1013
Lab Sample ID: 240-89576-13
Date Collected: 12/18/17 12:15
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 82.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 20:04	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 18:24	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 14:01	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 16:40	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		5	228778	01/03/18 04:29	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:23	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		2	308900	12/22/17 18:59	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:21	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:55	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:00	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1014
Lab Sample ID: 240-89576-14
Date Collected: 12/18/17 12:25
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1014
Lab Sample ID: 240-89576-14
Date Collected: 12/18/17 12:25
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 20:25	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309871	01/03/18 12:17	TMH	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Client Sample ID: S-58502-121817-SSH-1014

Lab Sample ID: 240-89576-14
Date Collected: 12/18/17 12:25
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 14:13	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 17:00	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 04:54	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:28	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:26	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:57	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:02	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1015

Lab Sample ID: 240-89576-15
Date Collected: 12/18/17 12:40
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1015

Lab Sample ID: 240-89576-15
Date Collected: 12/18/17 12:40
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 20:48	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 18:00	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 14:26	OCR	TAL CAN
Total/NA	Prep	3540C			308659	12/21/17 09:03	JMT	TAL CAN
Total/NA	Analysis	8082A		1	308794	12/22/17 17:19	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		5	228778	01/03/18 05:18	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:33	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:30	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 10:59	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:05	TPH	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Client Sample ID: S-58502-121817-SSH-1016
Lab Sample ID: 240-89576-16
Date Collected: 12/18/17 12:50
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1016
Lab Sample ID: 240-89576-16
Date Collected: 12/18/17 12:50
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 21:18	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309732	01/02/18 15:43	TMH	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 14:38	OCR	TAL CAN
Total/NA	Prep	3540C			309467	12/28/17 12:57	DVT	TAL CAN
Total/NA	Analysis	8082A		1	309653	12/30/17 17:13	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 05:42	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:37	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:35	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 11:01	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:08	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1017
Lab Sample ID: 240-89576-17
Date Collected: 12/18/17 13:00
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1017
Lab Sample ID: 240-89576-17
Date Collected: 12/18/17 13:00
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 21:41	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309732	01/02/18 15:19	TMH	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 14:51	OCR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1017

Lab Sample ID: 240-89576-17
Date Collected: 12/18/17 13:00
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			309467	12/28/17 12:57	DVT	TAL CAN
Total/NA	Analysis	8082A		1	309653	12/30/17 17:32	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 06:07	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:42	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:39	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 11:03	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:11	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1018

Lab Sample ID: 240-89576-18
Date Collected: 12/18/17 13:15
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1018

Lab Sample ID: 240-89576-18
Date Collected: 12/18/17 13:15
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 90.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309086	12/26/17 22:03	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	310043	01/04/18 19:11	KHG	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309735	01/02/18 15:03	OCR	TAL CAN
Total/NA	Prep	3540C			309467	12/28/17 12:57	DVT	TAL CAN
Total/NA	Analysis	8082A		1	309653	12/30/17 17:51	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		5	228778	01/03/18 06:31	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 19:56	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:53	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 11:09	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:14	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1019

Lab Sample ID: 240-89576-19
Date Collected: 12/18/17 13:25
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1019

Lab Sample ID: 240-89576-19
Date Collected: 12/18/17 13:25
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 11:39	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309377	12/28/17 11:22	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309871	01/03/18 11:06	TMH	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		1	309842	01/02/18 18:02	OCR	TAL CAN
Total/NA	Prep	3540C			309549	12/29/17 09:08	JMT	TAL CAN
Total/NA	Analysis	8082A		1	309793	01/02/18 23:54	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		1	228778	01/03/18 06:55	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 20:01	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 14:57	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 11:11	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:29	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1020

Lab Sample ID: 240-89576-20
Date Collected: 12/18/17 13:40
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1020

Lab Sample ID: 240-89576-20
Date Collected: 12/18/17 13:40
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308903	12/22/17 12:01	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309377	12/28/17 11:45	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309871	01/03/18 10:43	TMH	TAL CAN
Total/NA	Prep	3540C			309456	12/28/17 12:15	DVT	TAL CAN
Total/NA	Analysis	8081A		5	309842	01/02/18 18:15	OCR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1020

Lab Sample ID: 240-89576-20
Date Collected: 12/18/17 13:40
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 85.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			309549	12/29/17 09:08	JMT	TAL CAN
Total/NA	Analysis	8082A		1	309793	01/03/18 00:16	LSH	TAL CAN
Total/NA	Prep	8151A			228694	12/29/17 12:54	RLK	TAL HOU
Total/NA	Analysis	8151		5	228778	01/03/18 07:20	JAL	TAL HOU
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	308705	12/21/17 20:05	KLC	TAL CAN
Total/NA	Prep	3050B			308519	12/20/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		2	308823	12/21/17 15:02	AS1	TAL CAN
Total/NA	Prep	7471A			308537	12/20/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308742	12/21/17 11:13	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:32	TPH	TAL CAN

Client Sample ID: S-58502-121817-SSH-1021

Lab Sample ID: 240-89576-21
Date Collected: 12/18/17 13:41
Matrix: Solid
Date Received: 12/19/17 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	308463	12/20/17 08:23	MBR	TAL CAN

Client Sample ID: S-58502-121817-SSH-1021

Lab Sample ID: 240-89576-21
Date Collected: 12/18/17 13:41
Matrix: Solid
Date Received: 12/19/17 10:30
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			308992	12/23/17 09:35	LAM	TAL CAN
Total/NA	Analysis	8260B		1	309377	12/28/17 12:55	HMB	TAL CAN
Total/NA	Prep	3540C			309572	12/29/17 10:29	JMT	TAL CAN
Total/NA	Analysis	8270C		1	309871	01/03/18 10:19	TMH	TAL CAN
Total/NA	Prep	3540C			309571	12/29/17 10:04	DVT	TAL CAN
Total/NA	Analysis	8081A		5	309842	01/02/18 19:18	OCR	TAL CAN
Total/NA	Prep	3540C			309549	12/29/17 09:08	JMT	TAL CAN
Total/NA	Analysis	8082A		1	309863	01/03/18 09:59	LSH	TAL CAN
Total/NA	Prep	8151A			228696	12/29/17 14:30	SMB	TAL HOU
Total/NA	Analysis	8151		1	228778	01/02/18 21:11	JAL	TAL HOU
Total/NA	Prep	3050B			308692	12/21/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6010B		1	309208	12/27/17 00:26	KLC	TAL CAN
Total/NA	Prep	3050B			308692	12/21/17 14:00	DEE	TAL CAN
Total/NA	Analysis	6020		1	309207	12/26/17 21:06	AS1	TAL CAN
Total/NA	Prep	7471A			308713	12/21/17 16:00	DEE	TAL CAN
Total/NA	Analysis	7471A		1	308949	12/22/17 13:42	DSH	TAL CAN
Total/NA	Analysis	Walkley Black		1	308469	12/20/17 10:26	TPH	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 58502-019, RACER Nodular Iron

TestAmerica Job ID: 240-89576-1

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Accreditation/Certification Summary

Client: GHD Services Inc. TestAmerica Job ID: 240-89576-1
Project/Site: 58502-019, RACER Nodular Iron

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

Laboratory: TestAmerica Houston

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Arkansas DEQ	State Program	6	17-051-0	08-04-18
Louisiana	NELAP	6	01967	06-30-18
Oklahoma	State Program	6	2017-138	08-31-18
Texas	NELAP	6	T104704223-17-22	10-31-18
USDA	Federal		P330-17-00132	04-20-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

MICHIGAN 190

Chain of Custody Record

238753

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: M. Tomka	Site Contact: JE Pardys	Date: 12/18/17	COC No: 238753 238754
Company Name: GHD	Tel/Fax: 519 884 0510	Lab Contact: D. Heckler	Carrier: FedEx	1 of 2 COCs
Address: 26850 Haggerty Rd	Analysis Turnaround Time			Sampler: S. Hoevemeyer
City/State/Zip: Farmington Hills MI	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 248 893 3400	TAT if different from Below			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: Racetrust Nodular	☐ 1 week			
Site: SSOW 58502-T11-002	☐ 2 days			Job / SDG No.:
PO# Lab # 24006032	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOCs	SVOCs	PCBs	metals (MI 10)	TPC	Herbs	Pest	Sample Specific Notes:
S-58502-121817-SSH-1001	12/18/17	0930	G	S	2	N	N	X	X	X	X	X	X	X	
-1002		0940	G	S	2	N	N	X	X	X	X	X	X	X	
-1003		0955	G	S	2	N	N	X	X	X	X	X	X	X	
-1004		1005	G	S	2	N	N	X	X	X	X	X	X	X	
-1005		1015	G	S	2	N	N	X	X	X	X	X	X	X	
-1006		1030	G	S	2	N	N	X	X	X	X	X	X	X	
-1007		1040	G	S	2	N	N	X	X	X	X	X	X	X	
-1008		1050	G	S	2	N	N	X	X	X	X	X	X	X	
-1009		1105	G	S	2	N	N	X	X	X	X	X	X	X	
-1010		1120	G	S	2	N	N	X	X	X	X	X	X	X	
-1011		1130	G	S	4	N	Y	X	X	X	X	X	X	X	ms/msd
S-58502-121817-SSH-1012		1145	G	S	2	N	N	X	X	X	X	X	X	X	

240-89576 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1, 6

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 845347 845346 | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GHD	12/18/17 1600	[signature]	TAL	12-19-17 1030
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

MICHIGAN
190

Chain of Custody Record

3.8135

238754
5.8/5.15

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: M. Tomka	Site Contact: JE Pardys	Date: 12/18/17	COC No: 238753 238754
Company Name: GHD	Tel/Fax: 519 884 0510	Lab Contact: D. Hecklik	Carrier: FedEx	2 of 2 COCs
Address:	Analysis Turnaround Time			Sampler: S Hoewisch
City/State/Zip:	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below			Walk-in Client:
Fax:	X 2 weeks			Lab Sampling:
Project Name: RailTrust Nodular	☐ 1 week			
Site: SSOW 58502-TII-002	☐ 2 days			Job / SDG No.:
PO# Lab # 24006032	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOCs	SVOCs	PCBs	metals (MDL 10)	TOC	Herbs	Pests	Sample Specific Notes:
S-58502-121817-SSH-1013	12/18/17	1215	G	S	2	N	N	X	X	X	X	X	X	X	
-1014		1225	G	S	2	N	N	X	X	X	X	X	X	X	
-1015		1240	G	S	2	N	N	X	X	X	X	X	X	X	
-1016		1250	G	S	2	N	N	X	X	X	X	X	X	X	
-1017		1300	G	S	2	N	N	X	X	X	X	X	X	X	
-1018		1315	G	S	2	N	N	X	X	X	X	X	X	X	
-1019		1325	G	S	2	N	N	X	X	X	X	X	X	X	
-1020		1340	G	S	2	N	N	X	X	X	X	X	X	X	
S-58502-121817-SSH-1021		1341	G	S	2	N	N	X	X	X	X	X	X	X	
SSH															

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1 6

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GHD	12/18/17 1600	[signature]	TAL	12-19-17 1030
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 895716**
Canton Facility

Client GHD Site Name —

Cooler unpacked by: BP

Cooler Received on 12-19-17 Opened on 12-19-17

FedEx: 1st Grd ~~Exp~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam ~~Plastic Bag~~ None Other

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
   IR GUN# IR-8 (CF **-0.3** °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #36 (CF **+0.3**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   ~~IR GUN # 627 (CF **-1.3**°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C~~

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Are these work share samples?	Yes	No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC730269**
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
16. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica Multiple Cooler Receipt Form/Narrative
Canton Facility

Login # : 895760

Cooler #	IR Gun #	Observed Temp °C	Corrected Temp °C	Coolant
CLIENT	8	3.8	3.5	ICE
	1	5.8	5.5	1

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-81189.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-89576-1
Address: 6310 Rothway Street, ,	Due Date Requested: 1/2/2018			
City: Houston	TAT Requested (days):			
State, Zip: TX, 77040				
Phone: 713-690-4444(Tel) 713-690-5646(Fax)	PO #:			
Email:	WO #:			
Project Name: 58502-019, RACER Nodular Iron	Project #: 24006032			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_SP (MOD) Herbicides	240-89576 Chain of Custody	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
S-58502-121817-SSH-1001 (240-89576-1)	12/18/17	09:30 Eastern		Solid			X		1	
S-58502-121817-SSH-1002 (240-89576-2)	12/18/17	09:40 Eastern		Solid			X		1	
S-58502-121817-SSH-1003 (240-89576-3)	12/18/17	09:55 Eastern		Solid			X		1	
S-58502-121817-SSH-1004 (240-89576-4)	12/18/17	10:05 Eastern		Solid			X		1	
S-58502-121817-SSH-1005 (240-89576-5)	12/18/17	10:15 Eastern		Solid			X		1	
S-58502-121817-SSH-1006 (240-89576-6)	12/18/17	10:30 Eastern		Solid			X		1	
S-58502-121817-SSH-1007 (240-89576-7)	12/18/17	10:40 Eastern		Solid			X		1	
S-58502-121817-SSH-1008 (240-89576-8)	12/18/17	10:50 Eastern		Solid			X		1	
S-58502-121817-SSH-1009 (240-89576-9)	12/18/17	11:05 Eastern		Solid			X		1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12-21-17 1730	240		12/21/17 1109	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-81189.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-89576-1
Address: 6310 Rothway Street, ,	Due Date Requested: 1/2/2018			
City: Houston	TAT Requested (days):			
State, Zip: TX, 77040				
Phone: 713-690-4444(Tel) 713-690-5646(Fax)	PO #:			
Email:	WO #:			
Project Name: 58502-019, RACER Nodular Iron	Project #: 24006032			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_SP (MOD) Herbicides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
S-58502-121817-SSH-1010 (240-89576-10)	12/18/17	11:20 Eastern		Solid			X	1	
S-58502-121817-SSH-1011 (240-89576-11)	12/18/17	11:30 Eastern		Solid			X	1	
S-58502-121817-SSH-1011 (240-89576-11MS)	12/18/17	11:30 Eastern	MS	Solid			X	1	
S-58502-121817-SSH-1011 (240-89576-11MSD)	12/18/17	11:30 Eastern	MSD	Solid			X	1	
S-58502-121817-SSH-1012 (240-89576-12)	12/18/17	11:45 Eastern		Solid			X	1	
S-58502-121817-SSH-1013 (240-89576-13)	12/18/17	12:15 Eastern		Solid			X	1	
S-58502-121817-SSH-1014 (240-89576-14)	12/18/17	12:25 Eastern		Solid			X	1	
S-58502-121817-SSH-1015 (240-89576-15)	12/18/17	12:40 Eastern		Solid			X	1	
S-58502-121817-SSH-1016 (240-89576-16)	12/18/17	12:50 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/20/17 1109	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-81189.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-89576-1
Address: 6310 Rothway Street,	Due Date Requested: 1/2/2018			
City: Houston	TAT Requested (days):			
State, Zip: TX, 77040				
Phone: 713-690-4444(Tel) 713-690-5646(Fax)	PO #:			
Email:	WO #:			
Project Name: 58502-019, RACER Nodular Iron	Project #: 24006032			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8151A/8151A_SP (MOD) Herbicides	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
S-58502-121817-SSH-1017 (240-89576-17)	12/18/17	13:00 Eastern		Solid			X	1	
S-58502-121817-SSH-1018 (240-89576-18)	12/18/17	13:15 Eastern		Solid			X	1	
S-58502-121817-SSH-1019 (240-89576-19)	12/18/17	13:25 Eastern		Solid			X	1	
S-58502-121817-SSH-1020 (240-89576-20)	12/18/17	13:40 Eastern		Solid			X	1	
S-58502-121817-SSH-1021 (240-89576-21)	12/18/17	13:41 Eastern		Solid			X	1	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 12/20/17 1109	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 09/20/2016

TestAmerica Houston

Loc: 240
89576

Sample Rec list

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

'17DEC22 11:09

Date/Time Received:

JOB NUMBER:

CLIENT: TA Canton

UNPACKED BY:

CARRIER/DRIVER: FB

Custody Seal Present: ☐ YES ☐ NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
2D	Y / N	Y / N	3.8	627	-.3	3.5
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N	22271			
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO

Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-89576-1

Login Number: 89576
List Number: 2
Creator: Crafton, Tommie S

List Source: TestAmerica Houston
List Creation: 12/22/17 01:21 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: GHD Services Inc.

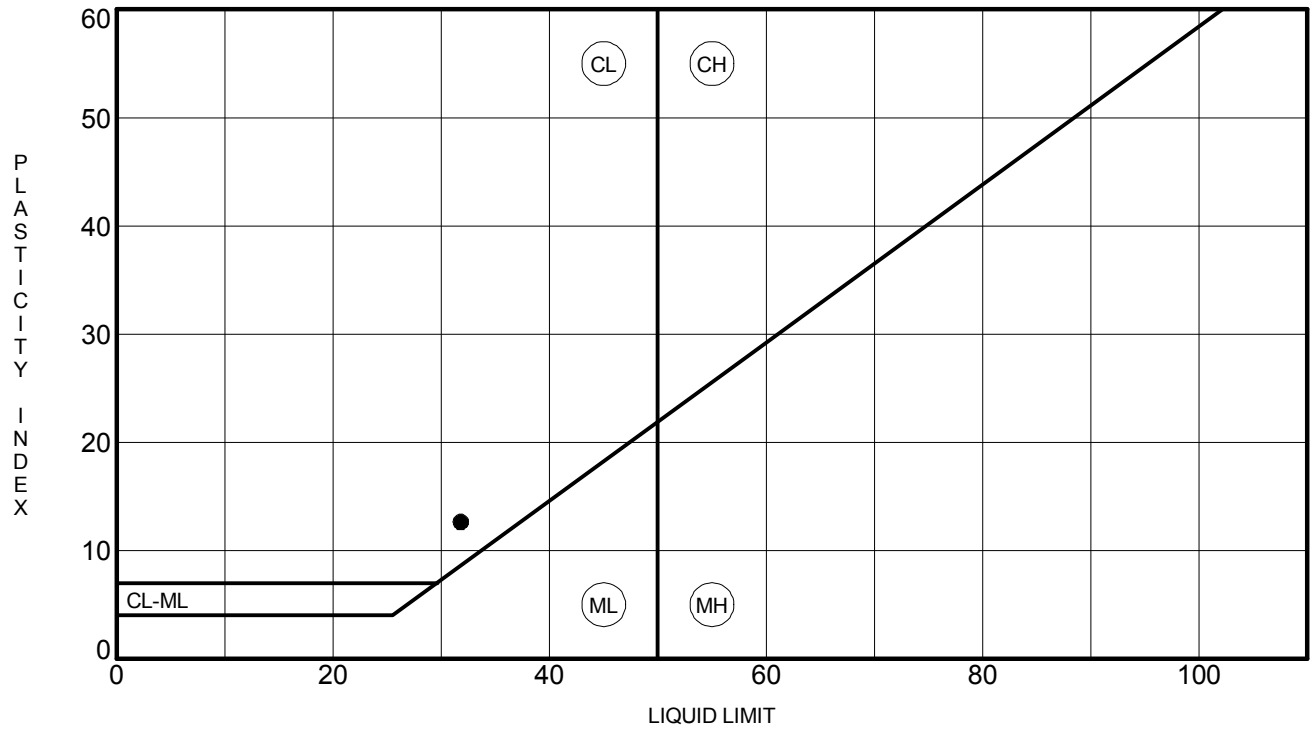
Job Number: 240-89576-1

Login Number: 89576
List Number: 3
Creator: Crafton, Tommie S

List Source: TestAmerica Houston
List Creation: 12/22/17 01:23 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Attachment B
Geotechnical Analysis Results

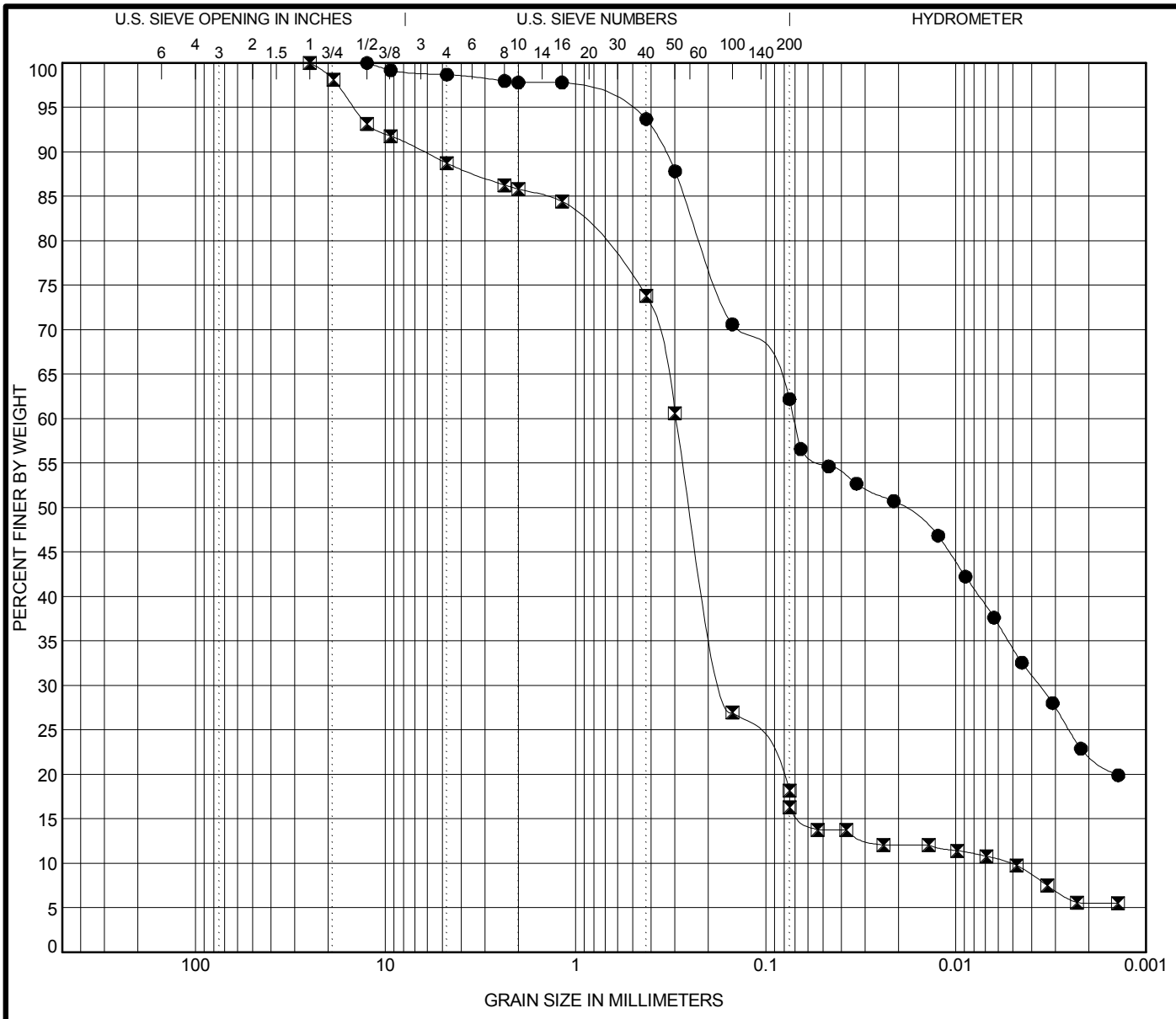


	Specimen Identification	LL	PL	PI	Fines	Classification
●	**1 0**	**32**	**19**	**13**	**62**	**(ML) Clayey SILT and SAND, trace gravel**

ATTERBERG LIMITS RESULTS

Project Name: Nodular Soil
Project Number: 058502-T01-001Y17
Client: RACER Trust
Location: Saginaw, Michigan

ATTERBERG LIMITS 058502-T03-001Y17 NODULAR SOIL.GPJ CRA PLYMOUTH.GDT 9/1/18



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● 1	0	**(ML) Clayey SILT and SAND, trace gravel**	**32**	**19**	**13**		
⊠ 2	0	**(SM) SAND with silt and gravel, trace clay**				**16.52**	**56.89**

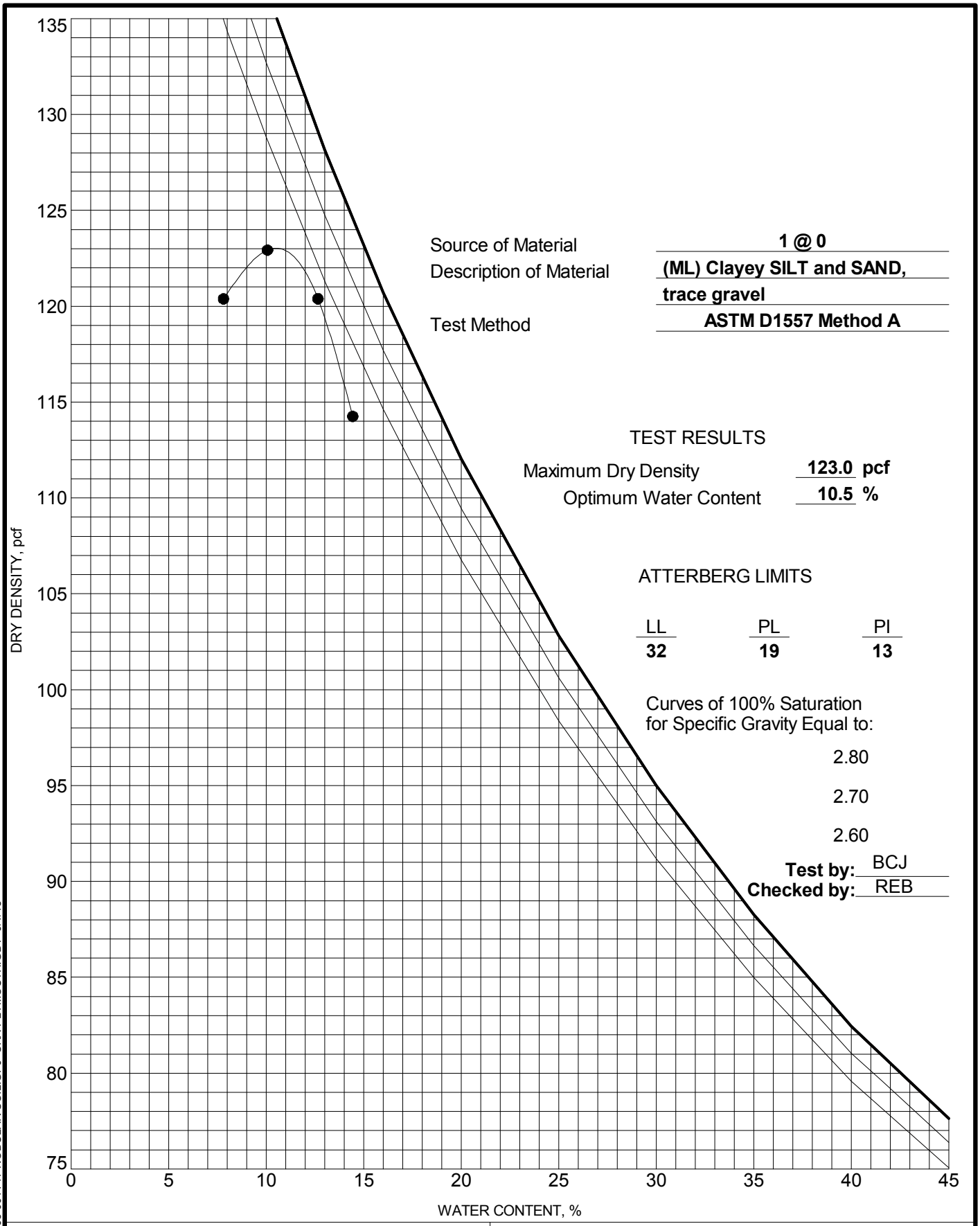
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 1	0	**12.5**	**0.071**	**0.004**		**1.3**	**36.5**	**39.9**	**22.3**
⊠ 2	0	**25**	**0.296**	**0.16**	**0.005**	**11.3**	**70.5**	**12.7**	**5.5**

GRAIN SIZE DISTRIBUTION

Project Name: Nodular Soil
Project Number: 058502-T01-001Y17
Client: RACER Trust
Location: Saginaw, Michigan

Test by: BCJ **Checked by:** REB

GRAIN SIZE 058502-T03-001Y17 NODULAR SOIL.GPJ CRA PLYMOUTH.GDT 9/1/18



Source of Material: **1 @ 0**

Description of Material: **(ML) Clayey SILT and SAND, trace gravel**

Test Method: **ASTM D1557 Method A**

TEST RESULTS

Maximum Dry Density: **123.0** pcf

Optimum Water Content: **10.5** %

ATTERBERG LIMITS

LL	PL	PI
32	**19**	**13**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

Test by: BCJ

Checked by: REB

MOISTURE-DENSITY RELATIONSHIP

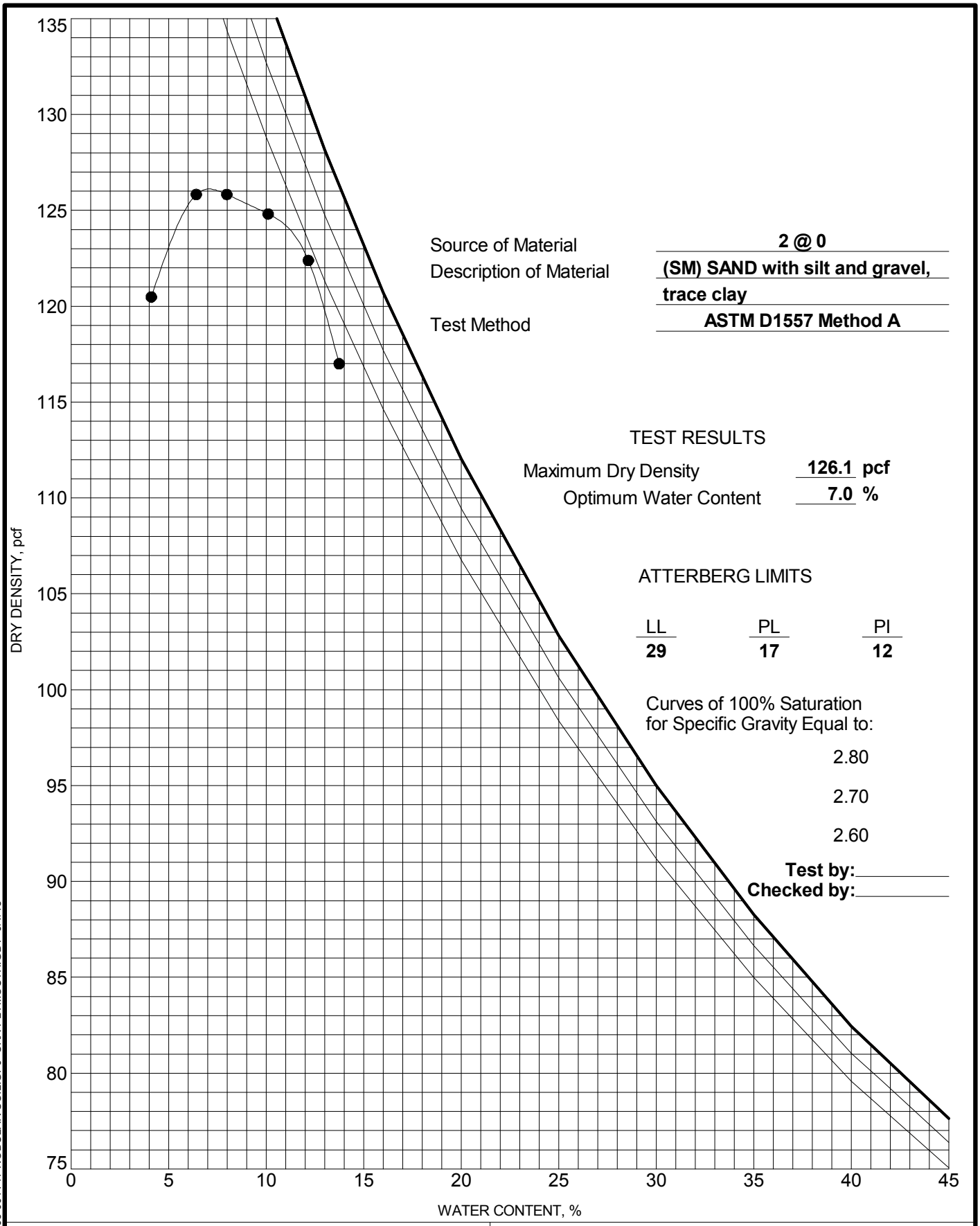
Project Name: Nodular Soil

Project Number: 058502-T01-001Y17

Client: RACER Trust

Location: Saginaw, Michigan

COMPACTION 058502-T03-001Y17 NODULAR SOIL.GPJ CRA PLYMOUTH.GDT 9/1/18



Source of Material: **2 @ 0**

Description of Material: **(SM) SAND with silt and gravel, trace clay**

Test Method: **ASTM D1557 Method A**

TEST RESULTS

Maximum Dry Density: **126.1 pcf**

Optimum Water Content: **7.0 %**

ATTERBERG LIMITS

LL	PL	PI
29	**17**	**12**

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

Test by:_____

Checked by:_____

MOISTURE-DENSITY RELATIONSHIP

Project Name: Nodular Soil

Project Number: 058502-T01-001Y17

Client: RACER Trust

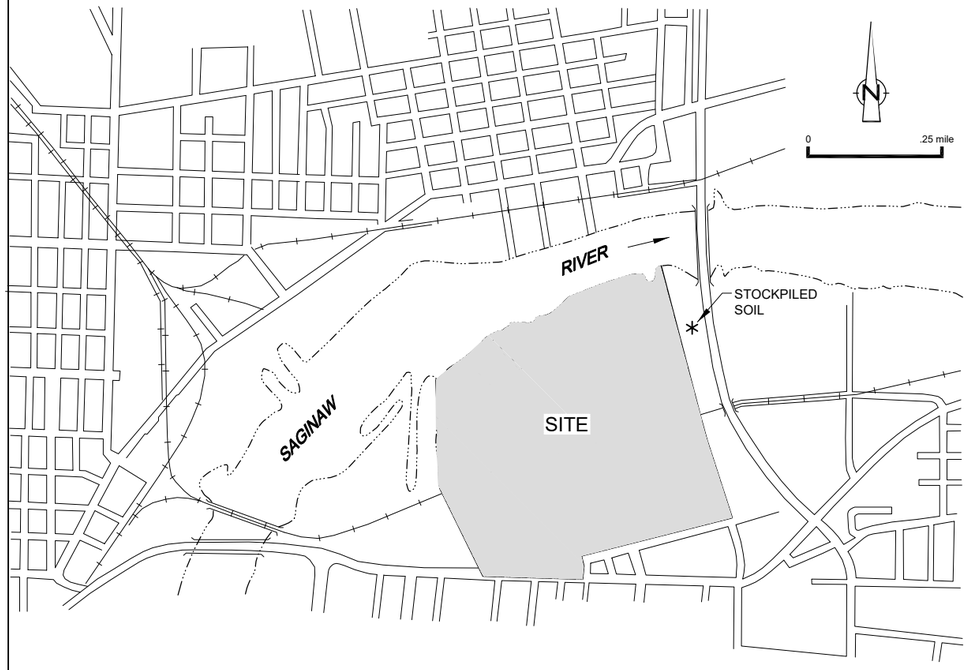
Location: Saginaw, Michigan

COMPACTION 058502-T03-001Y17 NODULAR SOIL.GPJ CRA PLYMOUTH.GDT 9/1/18

Appendix E

As-Recorded Drawings of Multi-Layer Cap

REMEDIAL ACTION PLAN
AS RECORDED DRAWINGS - SEPTEMBER 2000
GM POWERTRAIN DIVISION
AND CROTTY STREET CHANNEL SITE
BAY CITY, MICHIGAN



KEY PLAN

DRAWING INDEX

DWG.No.			DRAWING TITLE
GENERAL			
GN-WA001	G-01AR	SH01	COVER SHEET/DRAWING INDEX
GN-WA005	G-02AR	SH02	ABBREVIATIONS AND DETAIL DESIGNATIONS
GN-WA004	G-03AR	SH03	CIVIL, STRUCTURAL, AND ARCHITECTURAL LEGEND
GN-WA007	G-04AR	SH04	MECHANICAL LEGEND
GN-WA009	G-05AR	SH05	INSTRUMENTATION AND CONTROL LEGEND
GN-WA006	G-06AR	SH06	ELECTRICAL LEGEND
GN-WA010	G-07AR	SH07	CIVIL STANDARD DETAILS
GN-WA002	G-08AR	SH08	FENCING
GN-WA008	G-09AR	SH09	DISTRIBUTION PIPING
GN-WA011	G-10AR	SH10	GENERAL SITE PRE-CONSTRUCTION PLAN
GN-WA012	G-11AR	SH11	WEST SIDE PRE-CONSTRUCTION PLAN
GN-WA013	G-12AR	SH12	EAST SIDE PRE-CONSTRUCTION PLAN
CIVIL			
CI-WA017	C-01AR	SH13	MONITORING WELLS ABANDONED
CI-WA013	C-02AR	SH14	EXISTING MONITORING WELLS
CI-WA004	C-03AR	SH15	WELL EXTENSION DETAILS
CI-WA001	C-04AR	SH16	SOIL EXCAVATION LOCATIONS AND RESULTS
CI-WA012	C-05AR	SH17	GROUNDWATER EXTRACTION SYSTEM
CI-WA005	C-06AR	SH18	GROUNDWATER EXTRACTION SYSTEM DETAILS
CI-WA006	C-07AR	SH19	GROUNDWATER EXTRACTION WELL 13, 14, AND 15 DETAILS
CI-WA003	C-08AR	SH20	SITE CAPPING
CI-WA007	C-09AR	SH21	CAP DETAILS
CI-WA008	C-10AR	SH22	EAST LAGOON LINER PLAN
CI-WA009	C-11AR	SH23	EAST LAGOON LINER DETAILS - 1 OF 2
CI-WA010	C-12AR	SH24	EAST LAGOON LINER DETAILS - 2 OF 2
CI-WA021	C-13AR	SH25	INLET SLIP LINER PLAN AND DETAILS
CI-WA019	C-14AR	SH26	WEST SUPPORT FACILITIES AREA PAVEMENT PLAN
CI-WA018	C-15AR	SH27	EAST SUPPORT FACILITIES AREA PAVEMENT PLAN
CI-WA011	C-16AR	SH28	SUPPORT FACILITIES AREA DETAILS
CI-WA020	C-17AR	SH29	EAST AREA PLAN DRAINAGE
CI-WA022	C-18AR	SH30	MANHOLE AND CATCHBASIN DETAILS

DWG.No.			DRAWING TITLE
STRUCTURAL			
ST-WA002	S-01AR	SH31	SHEET PILING 1+0 TO 12+78.87
ST-WA003	S-02AR	SH32	SHEET PILING 10+50 TO 25+46
ST-WA001	S-03AR	SH33	SHEET PILING DETAILS SHEET 1 OF 2
ST-WA004	S-04AR	SH34	SHEET PILING DETAILS SHEET 2 OF 2
ELECTRICAL			(BY MURDOCK ENGINEERING)
EL-ME001	E-01AR	SH35	ELECTRICAL SITE PLAN
EL-ME002	E-02AR	SH36	EQUIPMENT STORAGE AREA POWER DISTRIBUTION 1 OF 3
EL-ME003	E-03AR	SH37	EQUIPMENT STORAGE AREA POWER DISTRIBUTION 2 OF 3
EL-ME004	E-04AR	SH38	EQUIPMENT STORAGE AREA POWER DISTRIBUTION 3 OF 3
EL-ME005	E-05AR	SH39	CONTROL SCHEMATIC CP1
EL-ME006	E-06AR	SH40	EQUIPMENT STORAGE AREA CONTROL PANEL LAYOUT (CP1)
EL-ME007	E-07AR	SH41	LAGOON AREA POWER DISTRIBUTION 1 OF 2
EL-ME008	E-08AR	SH42	LAGOON AREA POWER DISTRIBUTION 2 OF 2
EL-ME009	E-09AR	SH43	CONTROL SCHEMATIC CP2
EL-ME010	E-10AR	SH44	EQUIPMENT STORAGE AREA CONTROL PANEL LAYOUT (CP2)
EL-ME011	E-11AR	SH45	POWER DISTRIBUTION SINGLE LINE
EL-ME012	E-12AR	SH46	BUILDING ELECTRICAL LAYOUT AND DETAILS

GM POWERTRAIN
GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.	SHEET No.
PE-H-96	SH01

AS RECORDED SEPTEMBER 2000

REF. PE-E-81

REALM Remediation and Liability Management Company, Inc.

CRA CONESTOGA-ROVERS & ASSOCIATES

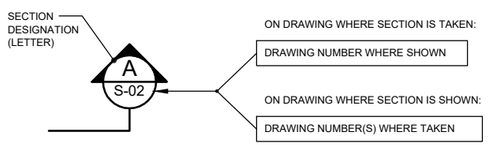
12610-10(016)GN-WA001 APR. 16/2002

ABBREVIATIONS

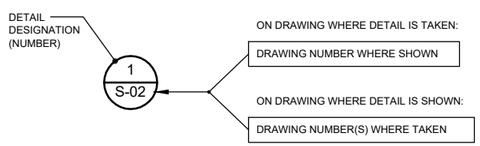
3/C	CONDUCTORS, NUMBER OF (3)
AAP	ALARM ANNUNCIATOR PANEL
AAV	AUTOMATIC AIR VENT
AB	ANCHOR BOLT
ABAN	ABANDON(ED)
ABS	ABSOLUTE
ABV	ABOVE
AC	ALTERNATING CURRENT
ACCUM	ACCUMULATOR
ACNV	AUTOMATIC CONTROL VALVE
ACOUS	ACOUSTICAL
ACP	ASPHALTIC CONCRETE PAVING
ACTR	ACTUATOR
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADH	ADHESIVE
ADJ	ADJUSTABLE
ADJC	ADJACENT
ADPTR	ADAPTOR
AF	AFTER FILTER
AGGR	AGGREGATE
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ALM	ALARM
ALT	ALTERNATE
AMB	AMBIENT
AMSL	ABOVE MEAN SEA LEVEL
ANLG	ANALOG
AP	ACID PROOF
APPROX.	APPROXIMATELY
APPX	APPENDIX
APT	APARTMENT
ARCH	ARCHITECT(URAL)
ASL	ABOVE SEA LEVEL
ASPH	ASPHALT(IC)
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
ASU	AIR SUPPLY UNIT
ASW	AUXILIARY SWITCH
ASYM	ASYMMETRICAL
AT	AIR TIGHT
ATS	AUTOMATIC TRANSFER SWITCH
AVE	AVENUE
AWG	AMERICAN WIRE GAGE
AZ	AZIMUTH
B&B	BALLED AND BURLAPPED
B&B	BELL AND BELL
B&F	BELL AND FLANGE
B&S	BELL AND SPIGOT
B/B	BACK TO BACK
BAF	BAFFLE
BAL	BALANCE
BAT	BATTERY
BBRG	BALL BEARING
BBS	BOTTOM OF BACKSLOPE
BC	BACK OF CURB
BC	BOLT CIRCLE
BE	BELL END
BETW	BETWEEN
BEV	BEVEL
BF	BOTH FACES
BFS	BOTTOM OF FORESLOPE
BFV	BUTTERFLY VALVE
BFW	BOILER FEED WATER
BGS	BELOW GROUND SURFACE
BHP	BRAKE HORSEPOWER
BI	BLACK IRON
BITUM	BITUMINOUS
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKHD	BULKHEAD
BLO	BLOWER
BLR	BOILER
BLW	BELOW
BM	BEAM
BM	BENCH MARK
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BRK	BRICK
BRKR	BREAKER
BRL	BARREL
BRS	BRASS
BRZ	BRONZE
BS	BOTH SIDES
BSHG	BUSHING
BSMT	BASEMENT
BSP	BLACK STEEL PIPE
BSTR	BOOSTER
BTFL	BUTTERFLY
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BW	BOTH WAYS
Cu	COPPER
C&G	CURB AND GUTTER
C/C	CENTER TO CENTER
CAL	CALIBRATE
CAP	CAPACITY
CAT	CATALOG
CB	CATCH BASIN
CCPD	COUPLING CAPACITOR POTENTIAL DEVICE
CCW	COUNTER CLOCKWISE
CER	CERAMIC
CFP	CHEMICAL FEED PUMP
CHAN	CHANNEL
CHEM	CHEMICAL
CHFR	CHAMFER
CHK	CHECK
CHKV	CHECK VALVE
CI	CAST IRON
CIMJ	CAST IRON MECHANICAL JOINT
CIP	CAST IRON PIPE
CIR	CIRCLE
CIRC	CIRCULAR
CISP	CAST IRON SOIL PIPE
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CL	CENTER LINE
CLDI	CONCRETE LINED DUCTILE IRON
CLJ	CONTROL JOINT
CLL	COLUMN LINE
CLP	CLAMP
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CNR	CORNER
CNTFLG	CENTRIFUGAL
CO	CLEANOUT
COAX	COAXIAL CABLE
COL	COLUMN
COMM	COMMUNICATION
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS (CONTINUATION)
COORD	COORDINATE
COV	COVER
CP	CANDLE POWER
CP	CONCRETE PIPE
CP	CONTROL PANEL
CPLG	COUPLING
CR	CONCENTRIC REDUCER
CRCMF	CIRCUMFERENCE
CRN	CROWN
CRS	COLD ROLLED STEEL
CSP	CONCRETE SEWER PIPE
CT	COOLING TOWER
CTV	CABLE TELEVISION
CU	COPPER
CV	CONTROL VALVE
C/W	COMPLETE WITH
CW	COLD WATER
CWP	CIRCULATING WATER PIPE
CYL	CYLINDER
DAT	DATUM
DBC	DIAMETER BOLT CIRCLE
DC	DIRECT CURRENT
DCI	DUCT COVERING INSULATION
DEMO	DEMOLITION
DET	DETAIL
DF	DIESEL FUEL
DI	DUCTILE IRON
DIA	DIAMETER
DIFF	DIFFERENCE
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DIST	DISTANCE
DIV	DIVISION
DIW	DEIONIZED WATER
DL	DEAD LOAD
DLI	DUCT LINER INSULATION
DLV	DOOR LOUVER
DMH	DROP MANHOLE
DMPF	DAMPPROOFING
DMPR	DAMPER
DN	DOWN
DP	DEW POINT
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DR	DRAIN
DS	DOWNSPOUT
DT	DRAIN TILE
DUPL	DUPLICATE
DW	DISTILLED WATER
DWG	DRAWING
DWL	DOWEL
DWV	DRAIN WASTE & VENT
E	EAST
ECC	ECCENTRIC
EF	EACH FACE
EFL	EFFLUENT
EL	EASEMENT LINE
EL	ELEVATION
ELB	ELBOW
ELEC	ELECTRICAL
EMER	EMERGENCY
ENCL	ENCLOSURE
ENG	ENGINE
ENGR	ENGINEER
ENTR	ENTRANCE
EP	EDGE OF PAVEMENT
EP	ELECTRICAL PANEL
EPRF	EXPLOSION PROOF
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EDGE OF SHOULDER
ESMT	EASEMENT
ESP	EMERGENCY SWITCH PANEL
EST	ESTIMATE
EVAP	EVAPORATE
EW	EACH WAY
EWH	ELECTRICAL WATER HEATER
EXC	EXCAVATE (EXCAVATION)
EXCH	EXCHANGER
EXH	EXHAUST
EXP	EXPANSION
EXT	EXTERIOR
F/F	FACE TO FACE
FA	FIRE ALARM
FC	FOOTCANDLE
FD	FLOOR DRAIN
FDMPR	FIRE DAMPER
FDN	FOUNDATION
FDR	FEEDER
FEC	FIRE EXTINGUISHER CABINET
FEM	FEMALE
FEXT	FIRE EXTINGUISHER
FGL	FIBERGLASS
FHC	FIRE HOSE CABINET
FHY	FIRE HYDRANT
FIN	FINISH(ED)
FIN FL	FINISH(ED) FLOOR
FIN GR	FINISH(ED) GRADE
FL	FLASHING
FLA	FULL LOAD AMPS
FLEX C	FLEXIBLE CONNECTION
FLG	FLANGE
FLOC	FLOCCULATOR
FLR	FLOOR(ING)
FLSW	FLOW SWITCH
FLTR	FILTER
FN	FENCE
FO	FUEL OIL
FOC	FACE OF CONCRETE
FP	FREEZING POINT
FPT	FEMALE PIPE THREAD
FR	FIRE RATING
FR	FRAME
FREQ	FREQUENCY
FSTNR	FASTENER
FTG	FITTING
FTG	FOOTING
FU	FUSE
FUR	FURNACE
FUT	FUTURE
FV	FOOT VALVE
FXTR	FIXTURE
G	GAS
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR
GL	GLASS
GLV	GLOBE VALVE
GLZ	GLAZING
GND	GROUND
GOVT	GOVERNMENT
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPS	GALLONS PER SECOND
GR	GRADE (GRADING)
GR LN	GRADE LINE
GRL	GRILLE
GRTG	GRATING
GSKT	GASKET
GSNK	GOOSENECK
GT	GREASE TRAP
GT	GROUT
GTV	GATE VALVE
GUT	GUTTER
GVL	GRAVEL
GWH	GAS WATER HEATER
H	HIGH
HB	HOSE BIB
HD	HEAD
HDPE	HIGH DENSITY POLYETHYLENE
HDWE	HARDWARE
HEX	HEAT EXCHANGER
HGT	HEIGHT
HH	HANDHOLE
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HMF	HOLLOW METAL FRAME
HNDRL	HAND RAIL
HNDWL	HANDWHEEL
HOA	HAND-OFF-AUTO
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HP	HORSEPOWER
HPT	HIGH POINT
HR	HOUR
HSB	HIGH STRENGTH BOLT
HT	HEAT
HTG	HEATING
HTR	HEATER
HV	HOSE VALVE
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HVY	HEAVY
HW	HOT WATER
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HWT	HOT WATER TANK
HWY	HIGHWAY
HYD	HYDRANT
HYDR	HYDRAULIC
HZ	HERTZ
ID	INSIDE DIAMETER
IF	INSIDE FACE
IGN	IGNITION
ILLUM	ILLUMINATION
IN WC	INCHES (WATER COLUMN)
IND	INDICATOR
INDL	INDUSTRIAL
INF	INFLUENT
INL	INLET
INSTL	INSTALLATION
INSTR	INSTRUMENT
INSUL	INSULATION
INTLK	INTERLOCK
INTR	INTERIOR
INV	INVERT
INV EL	INVERT ELEVATION
IP	IRON PIPE
IPS	INTERNATION PIPE STANDARD
IPT	IRON PIPE THREAD
ISO	ISOMETRIC
JAN	JANITOR
JB	JUNCTION BOX
JCT	JUNCTION
KOP	KNOCKOUT PANEL
KPL	KICK PLATE
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR (RESISTANCE)
KW	KILOWATT
KWH	KILOWATT HOUR
L	LEFT
LAB	LABORATORY
LAD	LADDER
LATL	LATERAL
LAV	LAVATORY
LB	POUND
LBL	LABEL
LBR	LUMBER
LDPE	LOW DENSITY POLYETHYLENE
LG	LONG (LENGTH)
LH	LEFT HAND
LIM SW	LIMIT SWITCH
LIN	LINEAR
LKR	LOCKER
LL	LIVE LOAD
LNTL	LINTEL
LO	LUBRICATING OIL
LOC	LOCATION
LONG	LONGITUDINAL
LP	LIGHT POLE
LP	LOW PRESSURE
LPT	LOW POINT
LPV	LUBRICATED PLUG VALVE
LRG	LARGE
LT	LIGHT
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LV	LOW VOLTAGE
LVL	LEVEL(ER)
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
M	METER
MA	MILLIAMPERE
MACH	MACHINE
MAINT	MAINTENANCE
MAN	MANUAL
MAS	MASONRY
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBTU	THOUSAND BRITISH THERMAL UNITS
MC	MOMENTARY CONTACT
MCC	MOTOR CONTROL CENTER
MD	MANUAL DAMPER
MECH	MECHANICAL
MET	METAL
MEZZ	MEZZANINE
MFG	MANUFACTURING
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MHT	MEAN HIGH TIDE
MI	MALLEABLE IRON
MI	MILE
MID	MIDDLE
MIN	MINIMUM
MIN	MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MK	MARK
MKR	MARKER
MLT	MEAN LOW TIDE
MLWK	MILLWORK
MMDD	MODIFIED MAXIMUM DRY DENSITY
MOBIL	MOBILIZATION
MOD	MOTOR OPERATED DAMPER
MON	MONITOR
MON	MONUMENT
MOT	MOTOR
MOV	MOTOR OPERATED VALVE
MPH	MILES PER HOUR
MPT	MALE PIPE THREAD
MS	MOTOR STARTER
MTD	MOUNTED
MV	MEGAVOLT
MW	MEGAWATT
N	NORTH
NA	NOT APPLICABLE
NAT	NATURAL
NC	NATIONAL COARSE THREAD
NC	NORMALLY CLOSED
NEG	NEGATIVE
NEUT	NEUTRAL
NF	NATIONAL FINE THREAD
NIC	NOT IN CONTRACT
NIP	NIPPLE
NKL	NICKEL
NO	NORMALLY OPEN
NO	NUMBER
NOM	NOMINAL
NOZ	NOZZLE
NPF	NATIONAL PIPE THREAD
NPL	NAMEPLATE
NPT	NATIONAL TAPER PIPE THREAD
NRCP	NON-REINFORCED CONCRETE PIPE
NRS	NON-RISING STEM
NTS	NOT TO SCALE
O/O	OUT TO OUT
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHGW	OVERHEAD GUY WIRE
O/L	OVER LOAD
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
ORF	ORIFICE
ORIG	ORIGINAL
OVFL	OVERFLOW
OXY	OXYGEN
OZ	OUNCE
P	PUMP
PA	PIPE ANCHOR
PAR	PARALLEL
PARG	PARGING
PAT	PATTERN
PB	PULL BOX
PB	PUSH BUTTON
PC	PIECE
PC	POINT OF CURVE
PC	PORTLAND CEMENT
PCC	POINT OF COMPOUND CURVE
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTAL
PERF	PERFORATED
PERIM	PERIMETER
PERM	PERMANENT
PERP	PERPENDICULAR
PF	POWER FACTOR
PH	PHASE
PHOTO	PHOTOGRAPH
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PIVC	POINT OF INTERSECTION FOR VERTICAL CURVE
PKG	PACKAGE
PKWY	PARKWAY
PL	PLATE
PL	PROPERTY LINE
PLAT	PLATFORM
PLBG	PLUMBING
PLYWD	PLYWOOD
PNEU	PNEUMATIC
PNL	PANEL
PNT	PAINT
POLY	POLYETHYLENE
PORT	PORTABLE
POS	POSITIVE
PPM	PARTS PER MILLION
PR	PAIR
PRC	POINT OF REVERSE CURVE
PRCST	PRECAST
PRCVC	POINT OF REVERSE CURVE VERTICAL CURVE
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PRELIM	PRELIMINARY
PRI	PRIMARY
PRKG	PARKING
PROJ	PROJECT
PROP	PROPERTY
PRV	PRESSURE REDUCING VALVE
PRV	PRESSURE RELIEF VALVE
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PST	POINT OF SPIRAL TANGENT
PT	PIPE TAP
PT	POINT OF TANGENCY
PTD	PAINTED
PV	PAVED
PVC	POINT OF VERTICAL CURVE
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
PWR	POWER
QCV	QUICK COUPLER VALVE
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R	RISER
RAD	RADIUS
RBR	RUBBER
RC	REINFORCED CONCRETE
RD	ROAD
RD	ROOF DRAIN
RDC	MOTOR OPERATED DAMPER
REC	RECESSED
RECIRC	RECIRCULATE
RECPT	RECEPTACLE
RECT	RECTANGULAR
REF	REFERENCE
REINF	REINFORCE(D)(ING)(MENT)
REM	REMOVABLE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
RF	RAISED FACE
RFG	ROOFING
RGLTR	REGULATOR
RH	RELATIVE HUMIDITY
RH	RIGHT HAND
RLF	RELIEF
RLG	RAILING
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RR	RAILROAD
RV	RELIEF VALVE
RV	ROOF VENT
S	SOUTH
SA	SUPPLY AIR
SALV	SALVAGE
SAN	SANITARY
SAT	SATURATION
SCHED	SCHEDULE
SCRN	SCREEN
SD	STORM DRAIN
SDL	SADDLE
SDMH	STORM DRAIN MANHOLE
SEC	SECOND
SECT	SECTION
SEG	SEGMENT
SF	SAFETY FACTOR
SF	SUPPLY FAN
SGL	SINGLE
SHLDR	SHOULDER
SHR	SHOWER
SHT	SHEET(ING)
SHTNG	SHEATHING
SIG	SIGNAL
SIM	SIMILAR
SK	SINK
SLP	SLOPE
SLV	SLEEVE
SM	SHEET METAL
SM	SMOOTH
SMDD	STANDARD MAXIMUM DRY DENSITY
SMLS	SEAMLESS
SOLV	SOLENOID VALVE
SP	SINGLE POLE
SP	SOIL PIPE
SP	SPACE(ING)
SP GR	SPECIFIC GRAVITY
SP VOL	SPECIFIC VOLUME
SPDT	SINGLE POLE DOUBLE THROW
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SPKR	SPEAKER
SPLY	SUPPLY
SPRT	SUPPORT
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
SQ FT	SQUARE FEET
SQ IN	SQUARE INCH
SQ KM	SQUARE KILOMETER
SQ M	SQUARE METER
SQ MM	SQUARE MILLIMETER
SQ YD	SQUARE YARD
SS	SANITARY SEWER
SSK	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STAG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STK	STAKE
STL	STEEL
STOR	STORAGE
STR	STRAIGHT
STRUCT	STRUCTURAL
SUCT	SUCTION
SURF	SURFACE
SURV	SURVEY
SV	SAFETY VALVE
SW	SIDEWALK
SWP	SAFE WORKING PRESSURE
SWR	SEWER
SYM	SYMBOL
SYMM	SYMMETRICAL
SYS	SYSTEM
T	TEE
T	THERMOSTAT
T	TREAD
T&B	TOP AND BOTTOM
G&G	TONGUE AND GROOVE
TAN	TANGENT
TB	TOP OF BEAM
TBM	TEMPORARY BENCH MARK
TC	TOP OF CONCRETE
TC	TOP OF CURB
TDH	TOTAL DYNAMIC HEAD
TE	TOP ELEVATION
TE	TOTALLY ENCLOSED
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TEMP	TEMPORARY
TERM	TERMINAL
TF	TOP OF FOOTING
TFF	TOP OF FINISHED FLOOR
THD	THREAD(ED)
THERM	THERMAL
THK	THICK(NESS)
THRU	THROUGH
TNL	TUNNEL
TOT	TOTAL
TP	TOP OF PAVEMENT
TP	TOTAL PRESSURE
TRANS	TRANSPARENT
TSF	TONS PER SQUARE FOOT
TSL	TOP OF SLAB
TST	TOP OF STEEL
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TW	TOP OF WALL
TYP	TYPICAL
U	HEAT TRANSFER UNIT
UG	UNDERGROUND
UH	UNIT HEATER
ULT	ULTIMATE
UN	UNION
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNIF	UNIFORM
UNIV	UNIVERSAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
UV	ULTRAVIOLET
V	SANITARY VENT
V	VALVE
V	VOLT
VAC	VACUUM
VAC	VOLTS ALTERNATING CURRENT
VAP	VAPOR
VB	VALVE BOX
VEH	VEHICLE
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VFPE	VERY FLEXIBLE POLYETHYLENE
VIB	VIBRATION
VIN	VINYL
VISC	VISCOSITY
VOL	VOLUME
VP	VACUUM PUMP
W	WASTE
W	WATT
W	WEST
W/O	WITHOUT
W/W	WALL TO WALL
WB	WET BULB
WC	WATER CLOSET
WD	WIDTH
WD	WOOD
WDW	WINDOW
WF	WIDE FLANGE
WG	WATER GAGE
WHA	WATER HAMMER ARRESTOR
WHTR	WATER HEATER
WI	WROUGHT IRON
WL	WATER LINE
WL	WATER LEVEL
WLD	WELDED
WP	WORKING POINT
WPR	WORKING PRESSURE
WR	WATER RESISTANT
WT	WEIGHT
WTR	WATER
WTRPRF	WATERPROOF(ING)
WW	WASTE WATER
WWF	WELDED WIRE FABRIC
X ARM	CROSS ARM
X SECT	CROSS SECTION
XFMR	TRANSFORMER
XFR	TRANSFER
YD	YARD DRAIN
YH	YARD HYDRANT

STANDARD DETAIL DESIGNATION

SECTION DESIGNATION



DETAIL DESIGNATION



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:

1. THIS IS A STANDARD LEGEND LIST, THEREFORE SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE DRAWINGS.
2. CONTACT ENGINEER FOR ABBREVIATIONS NOT LISTED.

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH02

AS RECORDED MAY 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

ABBREVIATIONS AND DETAIL DESIGNATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	MAY 2000	
Scale: NO SCALE	Project N №: 12610-10	Report N №: 016	Drawing N №: G-02AR

12610-10(016)GN-WA005 APR 16/2002

TOPOGRAPHICAL

PROPERTY BOUNDARY

SITE BOUNDARY

FENCE

DITCH, SWALE

GROUND CONTOUR

GROUNDWATER ELEVATION CONTOUR (PIEZOMETRIC OR POTENTIOMETRIC SURFACE)

SOIL EXCAVATION CONTOUR

FINAL CONTOUR

LIMIT OF REFUSE DISPOSAL

SLOPED SURFACE (TOP OF BANK)

BUILDING

RAILWAY

SHORELINE

ACCESS ROAD

WATERMAIN

SANITARY SEWER

STORM SEWER

PROCESS SEWER

AIR, HIGH PRESSURE

GAS MAIN

TELEPHONE LINE

ELECTRIC CABLE

UNDERGROUND CONDUIT

OVERHEAD CABLE, WIRE

GUARDRAIL

SHALLOW GROUNDWATER EXTRACTION SYSTEM

DEEP GROUNDWATER EXTRACTION SYSTEM

DEEP SOIL MIXING WALL

EXCAVATE AND DISPOSE IN MSA

+ 588.00 SPOT ELEVATION

PROPOSED MONITORING

PROPOSED STORM SEWER

PROPOSED GROUNDWATER EXTRACTION SYSTEM

PROPOSED RELIEF DRAIN

PROPOSED RELIEF DRAIN

MUNICIPAL SYMBOLS

STANDARD IRON BAR	ROAD SIGN
IRON BAR	UTILITY POLE
ROUND IRON BAR	GUY ANCHOR
MONUMENT/BENCHMARK	GAS VALVE
CUT CROSS	TELEPHONE PEDESTAL
IRON PIPE	TELEPHONE CHAMBER
NAIL/CONTROL	HAND HOLE
SANITARY MANHOLE	ELECTRICAL MANHOLE
STORM MANHOLE	LIGHT STANDARD
PROCESS MANHOLE	DECIDUOUS TREE AND DIAMETER
CATCHBASIN	CONIFEROUS TREE AND DIAMETER
DOUBLE CATCHBASIN	SHRUB AND DIAMETER
WATER VALVE	TREE STUMP AND DIAMETER
VALVE CHAMBER	DECIDUOUS CLUMP TREES AND DIAMETER
CURB STOP	CONIFEROUS CLUMP TREES NUMBER AND DIAMETER
HYDRANT	
DITCH INLET CATCHBASIN	

PROPOSED MUNICIPAL SYMBOLS

MHA1 PROPOSED SANITARY MANHOLE	VC PROPOSED VALVE CHAMBER
MH1 PROPOSED STORM MANHOLE	HYD. PROPOSED HYDRANT
CB PROPOSED CATCHBASIN	DCB PROPOSED DOUBLE CATCHBASIN
W.V. PROPOSED WATER VALVE	U.P. PROPOSED UTILITY POLE

MONITORING

BH BOREHOLE	TP TEST PIT
SS SURFACE SOIL SAMPLE	IW INJECTION WELL
SP STANDPIPE	GP GAS PROBE
MW OBSERVATION/MONITORING WELL	GV GAS VENT
SW SURFACE WATER MONITORING LOCATION	HA HAND AUGER BORING LOCATION
WS WATER SUPPLY WELL	MPE MULTI-PHASE EXTRACTION WELL
PZ PIEZOMETER	VE VAPOR EXTRACTION WELL
BP BUNDLE PIEZOMETER	AS AIR SPARGING WELL
EW EXTRACTION WELL	OF OUTFALL LOCATION
WP WELL POINT	

PROPOSED MONITORING

BH PROPOSED BOREHOLE	TP PROPOSED TEST PIT
SS PROPOSED SURFACE SOIL SAMPLE	IW PROPOSED INJECTION WELL
SP PROPOSED STANDPIPE	GP PROPOSED GAS PROBE
MW PROPOSED OBSERVATION/MONITORING WELL	GV PROPOSED GAS VENT
SW PROPOSED SURFACE WATER MONITORING LOCATION	HA PROPOSED HAND AUGER BORING LOCATION
WS PROPOSED WATER SUPPLY WELL	MPE PROPOSED MULTI-PHASE EXTRACTION WELL
PZ PROPOSED PIEZOMETER	VE PROPOSED VAPOR EXTRACTION WELL
BP PROPOSED BUNDLE PIEZOMETER	AS PROPOSED AIR SPARGING WELL
EW PROPOSED EXTRACTION WELL	OF PROPOSED OUTFALL LOCATION

GEOLOGIC & HYDROGEOLOGIC SECTIONS

OW50-92
- WELL DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- WATER ELEVATION
- SCREENED INTERVAL

TYPICAL WELL INSTALLATION

OW50-92
- 176.9 WATER LEVEL IN WELL SCREEN

MEASURED WATER LEVEL

OW50-92
- MONITORED/SAMPLING INTERVAL

MONITORING OR SAMPLING LOCATION

OW90-92
- (20.0) TYPICAL CHEMICAL CONCENTRATION

MEASURED CHEMICAL CONCENTRATION

OW50-92
- STRATIGRAPHIC BOUNDARY
- CL TYPICAL SOIL CLASSIFICATION

SOIL CLASSIFICATIONS

MATERIAL

- CAP
- CONTAINMENT CAP
- SAND
- SEDIMENT
- SAND AND GRAVEL
- RUBBLE AND DEBRIS
- FILL
- WASTE, REFUSE
- RIPRAP
- P-STONE
- BEDROCK
- SWAMP
- TOPSOIL
- ASPHALT
- CONCRETE
- EAST LAGOON LINER
- BRICK MASONRY
- RIGID INSULATION
- WOOD, ROUGH NON-BATT INSULATION
- CONTINUOUS
- ROCK SURFACE
- EARTH SURFACE
- GRATING

ARCHITECTURAL

ACTIVE / INACTIVE — INDICATES PAIR OF DOORS

1 DOOR NUMBER

1 LINTEL NUMBER

MISCELLANEOUS

SEED AND MULCH, VEGETATION COVER, GRASS

GRADE, TOP OF GROUND

GEOTEXTILE

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:

1. THIS IS A STANDARD LEGEND LIST, THEREFORE SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE DRAWINGS.
2. CONTACT ENGINEER FOR ABBREVIATIONS AND SYMBOLS NOT LISTED.

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH03

AS RECORDED MAY 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

CIVIL, STRUCTURAL AND ARCHITECTURAL LEGEND

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	MAY 2000	
Scale: NO SCALE	Project N º: 12610-10	Report N º: 016	Drawing N º: G-03AR

12610-10(016)GN-WA004 APR 16/2002

PIPE AND PIPE FITTING SYMBOLS

FITTING	SINGLE LINE FLANGED	SINGLE LINE SCREWED	SINGLE LINE WELDED	DOUBLE LINE FLANGED
STRAIGHT CROSS				
ELBOW 11.25°				
ELBOW 22.5°				
ELBOW 45°				
ELBOW 90°				
ELBOW UP				
ELBOW DOWN				
CAPPED END				
LATERAL				
CONCENTRIC REDUCER				
ECCENTRIC REDUCER				
TEE-STRAIGHT SIZE				
TEE-OUTLET UP				
TEE-OUTLET DOWN				
UNION				
WELD NECK				
EXISTING PIPE				
NEW PIPE				
EXISTING PIPE TO BE ABANDONED				
EXISTING PIPE TO BE REMOVED				

VALVE SYMBOLS

- MULTIPORT BALL VALVE (BALL VALVE SHOWN. ARROWS INDICATE PATTERN, SEAT PORTS ARE IMPLIED
- FOUR WAY VALVE
- AIR AND VACUUM VALVE
- ANGLE GATE VALVE
- ANGLE GLOBE VALVE
- GLOBE VALVE
- GATE VALVE
- KNIFE GATE VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DIAPHRAGM VALVE
- NEEDLE VALVE
- PLUG VALVE
- SEAT PORT — ECCENTRIC PLUG VALVE
- PRV — PRESSURE REDUCING VALVE
- PINCH VALVE
- PRESSURE RELIEF VALVE
- SELF-CONTAINED PRESS. REGULATOR
- VALVE WITH ACTUATOR
- SOLENOID VALVE OPERATOR
- FI — FLOW INDICATOR
- TEMP. CONTROL VALVE
- CONTROL VALVE — FLOW DIRECTION — VALVE SYMBOL
- HOSE VALVE OR BIBB
- SP — SAMPLE PORT
- F — FLUSH

PIPE MATERIAL

CS	CARBON STEEL
CI	CAST IRON
CLDI	CEMENT LINED DUCTILE IRON
CPVC	CHLORINATED POLYVINYL CHLORIDE
CU	COPPER
DI	DUCTILE IRON
ELS	EPOXY LINED STEEL
FRP	FIBERGLASS REINFORCED PLASTIC
GALVS	GALVANIZED STEEL
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
SST	STAINLESS STEEL

METER SYMBOLS

- M — MAGNETIC FLOW METER
- POSITIVE DISPLACEMENT FLOW METER
- TURBINE FLOW METER
- VORTEX FLOW METER
- WEIR

PROCESS PIPE IDENTIFICATION

AC	ACID
AI	AIR, INSTRUMENT
ALP	AIR, LOW PRESSURE
AHP	AIR, HIGH PRESSURE
AS	AIR SCOUR
BD	BLOWDOWN
BW	BACKWASH WASTE
CD	CONDENSATE DRAIN
CG	CHLORINE GAS
D	DECANT
DDS	DEWATERED DIGESTED SLUDGE
DG	DIGESTER GAS
DR	DRAIN
DS	DIGESTED SLUDGE
EXH	EXHAUST
FC	FERRIC CHLORIDE
GW	GROUNDWATER
M	METHANOL
N	NUTRIENT
O	OXYGEN
OF	OVERFLOW
P	POLYMER
PW	POLISHED WATER
RAS	RETURN ACTIVATED SLUDGE
RW	RAW WATER
S	SUPERNATANT
SA	SAMPLE
SL	SLUDGE
SPD	SUMP PUMP DISCHARGE
TBS	THICKENED BOTTOM SLUDGE
TWAS	THICKENED WASTE ACTIVATED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
WW	WASH WATER
W1	SERVICE WATER, NON-POTABLE
W2	TREATED EFFLUENT USED FOR SERVICE, NON-POTABLE

PIPING DESIGNATION: 16"-CLDI-RAS

16" - CLDI - RAS

- 16" — PIPE USE IDENTIFICATION LEGEND
- CLDI — PIPE MATERIAL
- RAS — NOMINAL PIPE DIAMETER (INCH)

EQUIPMENT SYMBOLS

- SG — SIGHT GLASS
- TRANSDUCER MOUNTING
- DISSOLVED OXYGEN ANALYZER
- INLINE MIXER
- INLINE CIRCULATING PUMP
- DIAPHRAGM PUMP
- CENTRIFUGAL PUMP OR BLOWER
- GEAR PUMP OR POS DISPLACEMENT BLOWER

LEVEL SENSOR SYMBOLS

- LEVEL SWITCH
- ULTRASONIC LEVEL TRANSMITTER
- FLOAT SWITCH

MISCELLANEOUS PIPING SYMBOLS

- BFP — BACKFLOW PREVENTOR
- DIRECTION OF SLOPE
- DIRECTION OF FLOW
- INSULATED LINE
- INSULATED LINE w/STEAM TRACE
- ELEC — INSULATED LINE w/ELECTRICAL TRACE
- L R F — LUBRICATOR, REGULATOR, FILTER

GATE SYMBOLS

EL. VIEW / PLAN VIEW

- SLUICE
- BUTTERFLY
- FLAP
- SHEAR
- FABRICATED SLIDE

HVAC SYMBOLS

- OED — OPEN END DUCT
- T — ROOM THERMOSTAT
- T G — ROOM THERMOSTAT w/GUARD
- SUPPLY AIR DUCT SECTION UP
- SUPPLY AIR DUCT SECTION DOWN
- RETURN/EXHAUST AIR DUCT SECTION UP
- RETURN/EXHAUST AIR DUCT SECTION DOWN
- FLEXIBLE CONNECTION
- TURNING VANES
- SUPPLY AIR DIFFUSER
- INSULATED DUCT
- OPPOSED BLADE DAMPER
- FD — FIRE DAMPER
- BDD — BACKDRAFT DAMPER
- BD — BALANCING DAMPER
- M — DAMPER MOTOR
- DG — DOOR GRILLE
- UH — UNIT HEATER

BUILDING SERVICES PIPE IDENTIFICATION

- HOT WATER
- HOT WATER RECIRCULATION
- COLD WATER
- S — COLD WATER (SOFT)
- SAN — SANITARY SEWER
- STM — STORM SEWER
- PS — PROCESS SEWER
- RWL — RAIN WATER LEADER
- V — VENT
- G — GAS
- F — FIRE STANDPIPE
- SPK — SPRINKLER
- HWS — HEATING WATER SUPPLY
- HWR — HEATING WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- LPS — LOW PRESSURE STEAM
- LPC — GRAVITY STEAM CONDENSATE
- FT — FLOAT & THERMOSTATIC TRAP
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- RD — ROOF DRAIN
- CO — CLEANOUT
- FD — FLOOR DRAIN
- HD — HUB DRAIN

GENERAL PIPING NOTES

1. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
2. EXISTING PIPE AND EQUIPMENT IS SHOWN THIN-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.
3. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS.
4. SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
5. ALL FLEXIBLE CONNECTORS OR FLANGED ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS NOTED OTHERWISE. THRUST PROTECTION SHALL BE ADEQUATE FOR PRESSURES SPECIFIED.
6. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:

1. THIS IS A STANDARD LEGEND LIST, THEREFORE SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE DRAWINGS.
2. CONTACT ENGINEER FOR ABBREVIATIONS AND SYMBOLS NOT LISTED.

REALM **Remediation and Liability Management Company, Inc.**

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH04

AS RECORDED MAY 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

MECHANICAL
LEGEND

CRA **CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	MAY 2000	
Scale: NO SCALE	Project N №: 12610-10	Report N №: 016	Drawing N №: G-04AR

12610-10(016)GN-WA007 APR 16/2002

PRIMARY ELEMENT SYMBOLS

- TURBINE FLOW METER
- MAGNETIC FLOW METER
- POSITIVE DISPLACEMENT FLOW METER
- WEIR
- VORTEX FLOW METER
- ROTAMETER
- ULTRASONIC LEVEL TRANSMITTER
- FLOAT
- OPEN DRAIN OR SEWER
- CLOSED DRAIN OR SEWER
- SPECIFICATION CHANGE
- CAP
- HOSE CONNECTION
- BLIND FLANGE
- STRAINER
- INLINE MIXER
- FLEXIBLE PIPE

PUMP AND COMPRESSOR SYMBOLS

- CENTRIFUGAL PUMP (DRY PIT)
- CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP
- CHEMICAL FEED PUMP
- DIAPHRAGM PUMP
- GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
- PISTON PUMP
- PROGRESSIVE CAVITY PUMP
- SUBMERSIBLE SUMP PUMP
- COMPRESSOR (CENTRIFUGAL) BLOWER OR TURBINE
- COMPRESSOR (PISTON)
- EJECTOR

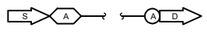
NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)
XX: AS = ADJUSTABLE SPEED
CS-1 = CONSTANT SPEED (SINGLE SPEED)
CS-2 = CONSTANT SPEED (TWO SPEED)

ACTUATOR SYMBOLS

- PNEUMATIC WITH POSITIONER
- PHEUMATIC WITH SOLENOID
- ELECTRIC
- ELECTRIC WITH POSITIONER
- ELECTROHYDRAULIC
- HYDRAULIC
- PNEUMATIC WITH VOLUME BOOSTER
- SOLENOID
- MANUAL

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL OR HYDRAULIC)
XX: FD = FAIL OPEN
FC = FAIL CLOSED
FLP = FAIL TO LAST POSITION

INTERFACE SYMBOLS



- PROCESS INTERFACE
- SIGNAL INTERFACE
- A INTERFACE LETTER
- D DESTINATION DRAWING NUMBER
- S SOURCE DRAWING NUMBER

INTERFACE TO/FROM PROCESS EXTERNAL TO PROJECT

INSTRUMENTATION SYMBOLS

- PROGRAMMABLE LOGIC CONTROL FIELD MOUNTED
- PROGRAMMABLE LOGIC CONTROL NORMALLY ACCESSIBLE (BOARD MOUNTED)
- PROGRAMMABLE LOGIC CONTROL BEHIND BOARD MOUNTED
- PROGRAMMABLE LOGIC CONTROL AUX. LOCATION
- DISCRETE INSTRUMENT/ELECTRICAL DEVICE FIELD MOUNTED
- DISCRETE INSTRUMENT/ELECTRICAL DEVICE NORMALLY ACCESSIBLE (BOARD MOUNTED)
- DISCRETE INSTRUMENT/ELECTRICAL DEVICE BEHIND BOARD MOUNTED
- DISCRETE INSTRUMENT/ELECTRICAL DEVICE AUX. LOCATION
- SHARED DISPLAY/CONTROL DEVICE FIELD MOUNTED
- SHARED DISPLAY/CONTROL DEVICE NORMALLY ACCESSIBLE (BOARD MOUNTED)
- SHARED DISPLAY/CONTROL DEVICE BEHIND BOARD MOUNTED
- SHARED DISPLAY/CONTROL DEVICE AUX. LOCATION
- LOCAL INDICATOR LIGHT R - RED, Y - YELLOW, G - GREEN
- INDICATOR LIGHT NORMALLY ACCESSIBLE
- UNDEFINED COMPLEX INTERCONNECTING LOGIC

INSTRUMENTATION LINES

- ELECTRIC ANALOG SIGNAL
- ELECTRIC BINARY SIGNAL
- PNEUMATIC SIGNAL
- PNEUMATIC BINARY SIGNAL
- INTERNAL SYSTEM LINK

ISA LETTER COMBINATIONS

First-Letters	Initiating or Measured Variable	Controllers: Recording	Controllers: Indicating	Controllers: Blind	Controllers: Self-Actuated Control Valves	Readout Devices: Recording	Readout Devices: Indicating	Switches and Alarm Devices *: High **	Switches and Alarm Devices *: Low	Switches and Alarm Devices *: Comb	Transmitters: Recording	Transmitters: Indicating	Transmitters: Blind	Solenoids, Relays, Computing Devices	Primary Element	Test Point	Well or Probe	Viewing Device, Glass	Safety Device	Final Element
A	Analysis	ARC	AIC	AC		AR	AI	ASH	ASL	ASHL	ART	AIT	AT	AY	AE	AP	AW			AV
B	Burner/Combustion	BRC	BIC	BC		BR	BI	BSH	BSL	BSHL	BRT	BIT	BT	BY	BE		BW	BG		BZ
C	User's Choice																			
D	User's Choice																			
E	Voltage	ERC	EIC	EC		ER	EI	ESH	ESL	ESHL	ERT	EIT	ET	EY	EE					EZ
F	Flow Rate	FRC	FIC	FC	FCV, FICV	FR	FI	FSH	FSL	FSHL	FRT	FIT	FT	FY	FE	FP		FG		FV
FQ	Flow Quantity	FQRC	FQIC			FQR	FQI	FQSH	FQSL			FQIT	FQT	FQY	FQE					FQV
FF	Flow Ratio	FFRC	FFIC	FFC		FFR	FFI	FFSH	FFSL						FE					FFV
G	User's Choice																			
H	Hand		HIC	HC						HS										HV
I	Current	IRC	IIC			IR	II	ISH	ISL	ISHL	IRT	IIT	IT	IY	IE					IZ
J	Power	JRC	JIC			JR	JI	JSH	JSL	JSHL	JRT	JIT	JT	JY	JE					JV
K	Time	KRC	KIC	KC	KCV	KR	KI	KSH	KSL	KSHL	KRT	KIT	KT	KY	KE					KV
L	Level	LRC	LIC	LC	LCV	LR	LI	LSH	LSL	LSHL LSHH	LRT	LIT	LT	LY	LE		LW	LG		LV
M	User's Choice																			
N	User's Choice																			
O	User's Choice																			
P	Pressure/Vacuum	PRC	PIC	PC	PCV	PR	PI	PSH	PSL	PSHL	PRT	PIT	PT	PY	PE	PP			PSV, PSE	PV
PD	Pressure, Differential	PDRC	PDIC	PDC	PDCV	PDR	PDI	PDSH	PDSL		PDRT	PDIT	PDT	PDY	PE	PP				PDV
Q	Quantity	QRC	QIC			QR	QI	QSH	QSL	QSHL	QRT	QIT	QT	QY	QE					QZ
R	Radiation	RRC	RIC	RC		RR	RI	RSH	RSL	RSHL	RRT	RIT	RT	RY	RE		RW			RZ
S	Speed/Frequency	SRC	SIC	SC	SCV	SR	SI	SSH	SSL	SSHL	SRT	SIT	ST	SY	SE					SV
T	Temperature	TRC	TIC	TC	TCV	TR	TI	TSH	TSL	TSHL	TRT	TIT	TT	TY	TE	TP	TW		TSE	TV
TD	Temperature, Differential	TDRC	TDIC	TDC	TDCV	TDR	TDI	TDSH	TDSL		TDRT	TDIT	TDT	TDY	TE	TP	TW			TDV
U	Multivariable					UR	UI							UY						UV
V	Vibration/Machinery Analysis					VR	VI	VSH	VSL	VSHL	VRT	VIT	VT	VY	VE					VZ
W	Weight/Force	WRC	WIC	WC	WCV	WR	WI	WSH	WSL	WSHL	WRT	WIT	WT	WY	WE					WZ
WD	Weight/Force, Differential	WDRC	WDIC	WDC	WDCV	WDR	WDI	WDSH	WDSL		WDRT	WDIT	WDT	WDY	WE					WDZ
X	Unclassified																			
Y	Event/State/Presence		YIC	YC		YR	YI	YSH	YSL				YT	YY	YE					YZ
Z	Position/Dimension	ZRC	ZIC	ZC	ZCV	ZR	ZI	ZSH	ZSL	ZSHL	ZRT	ZIT	ZT	ZY	ZE					ZV
ZD	Gauging/Deviation	ZDRC	ZDIC	ZDC	ZDCV	ZDR	ZDI	ZDSH	ZDSL		ZDRT	ZDIT	ZDT	ZDY	ZDE					ZDV

Note: This table is not all-inclusive.
* A, alarm, the annunciating device, may be used in the same fashion as S, switch, the actuating device.

** The letters H and L may be omitted in the undefined case.

Other Possible Combinations:

FO	(Restriction Orifice)	PFR	(Ratio)
FRK, HIK	(Control Stations)	KQI	(Running Time Indicator)
FX	(Accessories)	QQI	(Indicating Counter)
TJR	(Scanning Recorder)	WKIC	(Rate-of-Weight-Loss Controller)
LLH	(Pilot Light)	HMS	(Hand Momentary Switch)
LCH	(Level Control High)	LCL	(Level Control Low)

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:
1. THIS IS A STANDARD LEGEND LIST, THEREFORE SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE DRAWINGS.
2. CONTACT ENGINEER FOR ABBREVIATIONS AND SYMBOLS NOT LISTED.
3. COMPONENTS AND PANELS SHOWN WITH AN ARE TO BE FURNISHED AS PART OF A PACKAGE SYSTEM.

REALM **Remediation and Liability Management Company, Inc.**

GM **POWERTRAIN**
GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

SHEET No. SH05
PE-H-96
AS RECORDED MAY 2000

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN
AS RECORDED
INSTRUMENTATION AND CONTROL LEGEND

CRA **CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	MAY 2000	
Scale: NO SCALE	Project N №: 12610-10	Report N №: 016	Drawing N №: G-05AR

12610-10(016)GN-WA009 APR 16/2002

GROUNDING SYMBOLS

- GROUND ROD
- GROUND CABLE CONNECTION AND GROUND STUB
- ROD ELECTRODE AND GROUND INSPECTION WELL
- ROD GROUNDING ELECTRODE
- CORNER SET GROUNDING ELECTRODES
- GROUND CABLE EMBEDDED OR BURIED, CABLE UP
- GROUND CABLE EXPOSED, CABLE DOWN
- GROUND CABLE CONNECTION TO EQUIPMENT
- GROUND CABLE CONNECTION TO BUILDING STEEL COLUMN

CIRCUIT SYMBOLS

- RECTIFIER BRIDGE
- RESISTOR
- TIME DELAY CAPSULE N/O (15 SECS.)
- TIME DELAY CAPSULE N/C (10 SECS.)
  1. ENTER TIME DELAY REQ'D. (e.g. 10 SECS.)
- NORMALLY OPEN RELAY CONTACT
- NORMALLY CLOSED RELAY CONTACT
- RELAY COIL (CR)
- METER: CTR–COUNTER (AM), AM–AMMETER, VM–VOLTMETER, WHM–WAT (HOURMETER)
- TRANSFORMER (T1)
- PILOT LIGHT (LENS COLOUR) (R)
- POLARIZED CAPACITOR
- FIXED CAPACITOR
- LIGHT EMITTING DIODE
- ZENER DIODE
- DIODE
- ARC SUPPRESSOR
- FUSE (5A)
- BATTERY
- TERMINAL WITH DESIGNATION (1A)
- GROUND
- BREAKER STABS
- THERMAL OVERLOAD
- MOTOR OVERLOAD
- MAGNETIC OVERLOAD
- CIRCUIT BREAKER
- MOTOR (XX)
- MOTOR (100A)
- WIRE LABELING (XX, XX, XX)

SWITCH SYMBOLS

- LIMIT SWITCH N/O
- LIMIT SWITCH N/C
- TIME DELAY N/O DELAY ON CLOSING
- TIME DELAY N/C DELAY ON OPENING
- TIME DELAY N/C DELAY ON CLOSING
- TIME DELAY N/O DELAY ON OPENING
- TIME DELAY COIL
- PROXIMITY LIMIT SWITCH N/O
- PROXIMITY LIMIT SWITCH N/C
- FOOT OPERATED L/S CLOSED
- FOOT OPERATED L/S OPEN
- FLOW OPERATED L/S CLOSED
- FLOW OPERATED L/S OPEN
- FLOAT OPERATED L/S CLOSED
- FLOAT OPERATED L/S OPEN
- PRESSURE OPERATED L/S CLOSED
- PRESSURE OPERATED L/S OPEN
- TEMPERATURE OPERATED L/S CLOSED
- TEMPERATURE OPERATED L/S OPEN
- 2 POSITION SELECTOR SWITCH
- 3 POSITION SELECTOR SWITCH
- SOLENOID
- PUSHBUTTON CLOSED
- PUSHBUTTON OPEN
- DISCONNECT SWITCH N/O
- MAINTAINED EMERGENCY STOP
- HAND–OFF AUTO SELECTOR SWITCH (H O A)

LAYOUT SYMBOLS

- PHOTOCELL EMITTER
- PHOTOCELL RECEIVER
- HORN
- BUZZER
- BELL
- SENSING ELEMENT
- PILOT LIGHT C/W TEST SWITCH (LENS COLOUR)
- SWITCH SINGLE POLE 120V
- SWITCH DOUBLE POLE 120V
- SWITCH THREE WAY 120V
- DUPLEX RECEPTACLE 120V, 20A;
- DUPLEX RECEPTACLE WITH GROUND FAULT PROTECTION, 120V, 20A (GF)
- DUPLEX RECEPTACLE WEATHER PROOF, 120V, 20A (WP)
- TWIST LOCK RECEPTACLE 120V (TW)
- THERMOSTAT (T)
- KW, RATING REQUIRED. 'A' DENOTES ELECTRIC UNIT HEATER, C/W CEILING–MOUNTED BRACKETS. (E.U.H. 2.0 A)
- MOTORIZED DOOR OPERATOR
- POWER TRANSFORMER – T1
- WELDING RECEPTACLE
- TELEPHONE OUTLET MOUNTED 12" ABOVE FINISHED FLOOR LEVEL
- TELEPHONE OUTLET MOUNTED 4'–6" ABOVE FINISHED FLOOR LEVEL
- SINGLE PHASE MANUAL MOTOR STARTER
- THREE PHASE MANUAL MOTOR STARTER/DISCONNECT SWITCH
- START–STOP PUSHBUTTON AND PILOT LIGHT
- LOCKABLE DISCONNECT SWITCH
- FIRE ALARM PULL STATION MOUNTED 4'–6" ABOVE FINISHED FLOOR LEVEL
- PHOTO ELECTRIC SMOKE DETECTOR (P, E)
- SPRINKLER FLOW ALARM SWITCH CONNECTED TO FIRE ALARM SYSTEM
- SOLENOID VALVE CONNECTED TO FIRE ALARM SYSTEM (SV)
- 115V, DUPLEX RECEPTACLE (GFI, A-1)
  GFI – GROUND FAULT CIRCUIT INTERUPTER
  WP – WEATHERPROOF
- DATA GRADE TELEPHONE OUTLET
- LOCAL CONTROL STATION (CS01)
- HEAT DETECTOR (H)
- FIRE BELL (F)
- FIRE ALARM STROBE (S)
- FIRE ALARM INTEGRATED BELL AND LIGHT UNIT

LIGHTING SYMBOLS

- STROBE LIGHT – TYPE S
- LIGHTING FIXTURE – TYPE A
- FLUORESCENT LIGHTING FIXTURE – TYPE F
- LIGHTING FIXTURE WALL MOUNTED TYPE A
- EXIT LIGHT AND CEILING MOUNTED OUTLET BOX. DIRECTIONAL ARROWS AS INDICATED. SHADED AREAS DENOTE FACES.
- EMERGENCY BATTERY PACK WITH CHARGER AND SEALED BEAM HEADS (B)
- EMERGENCY BATTERY PACK WITH CHARGER, EXIT LIGHT AND SEALED BEAM HEADS (B)
- EMERGENCY LIGHTING REMOTE HEAD (G)
- EXIT LIGHT – WALL MOUNTED
- FIRE ALARM PANEL
- LIGHTING OR DISTRIBUTION PANEL 208/120V, 3ø, 4W – PANEL ID NUMBER AS SHOWN (DP01)
- DISTRIBUTION PANEL 240/120V, 1ø, 3W – PANEL ID NUMBER AS SHOWN (UPS01)

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:

1. THIS IS A STANDARD LEGEND LIST, THEREFORE SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LIST AND NOT ON THE DRAWINGS.
2. CONTACT ENGINEER FOR ABBREVIATIONS AND SYMBOLS NOT LISTED.

REALM **Remediation and Liability Management Company, Inc.**

GM **POWERTRAIN**

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96 | SHEET No. SH06

AS RECORDED MAY 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

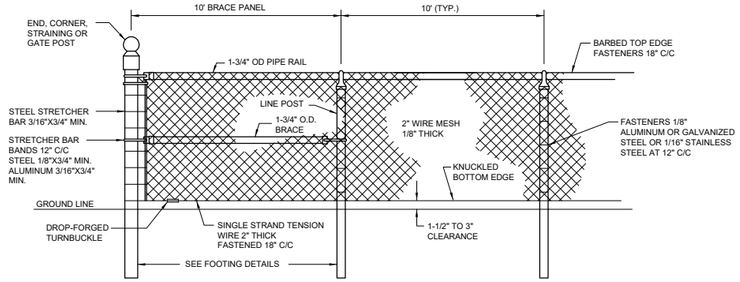
ELECTRICAL LEGEND

CRA **CONESTOGA-ROVERS & ASSOCIATES**

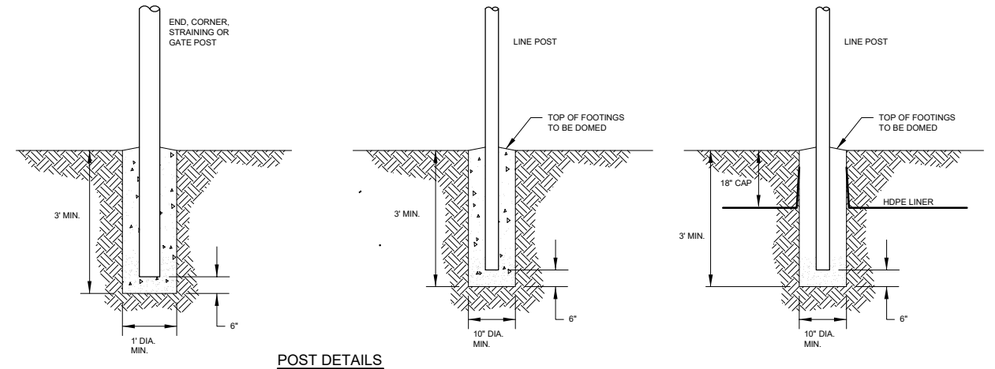
Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	MAY 2000	
Scale: NO SCALE	Project N º: 12610-10	Report N º: 016	Drawing N º: G-06AR

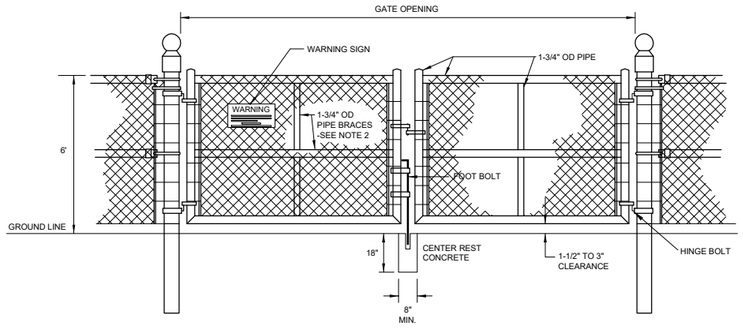
12610-10(016)GN-WA006 APR 16/2002



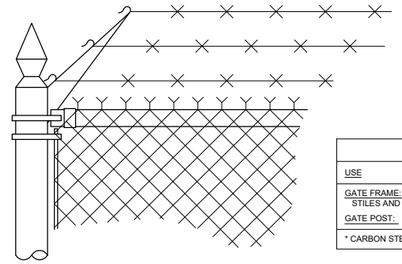
CORNER BRACE



POST DETAILS



DOUBLE GATE



BARBED WIRE CORNER

POST AND RAIL SIZES - FENCE

USE	FABRIC HEIGHT	O.D.*	LBS/FT	BOTTOM PLATE
INTERMEDIATE POSTS	BELOW 9'	2-1/2"	3.65	5"x5"x5/16"
CORNER, END, GATE AND BRACE POSTS	BELOW 9'	3"	5.79	7"x7"x3/8"
RAILS	ALL	1-3/4"	2.27	

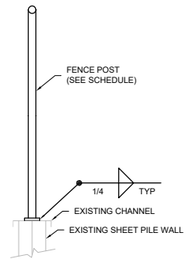
* CARBON STEEL PIPE - ASTM A-20, SCH 40

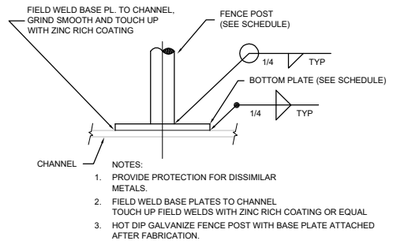
POST AND RAIL SIZES - GATES

USE	LEAF WIDTH		FABRIC HGT	O.D.*		LBS/FT
	DOUBLE	MANGATE		DOUBLE	MANGATE	
GATE FRAME: STILES AND RAILS	2x8'	2x4'	6'	2"	2"	2.27
GATE POST:	16'	4'	6'	6"	4"	18.97/9.11

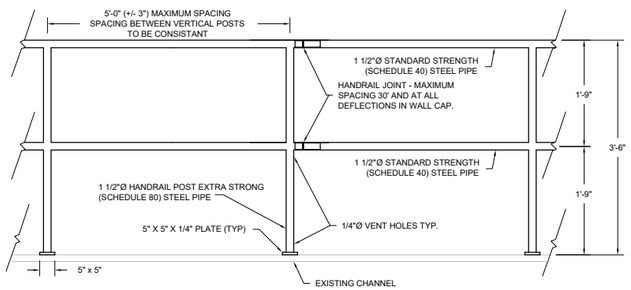
* CARBON STEEL PIPE - SCHED. 40

SITE FENCING AND GATES

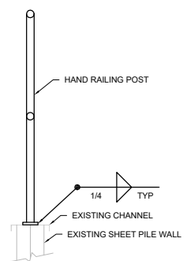


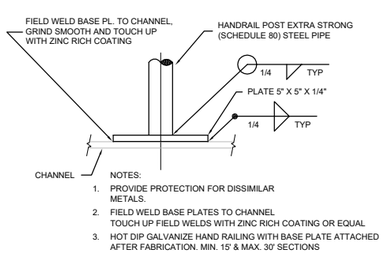


FENCE POST ANCHORAGE TO STEEL

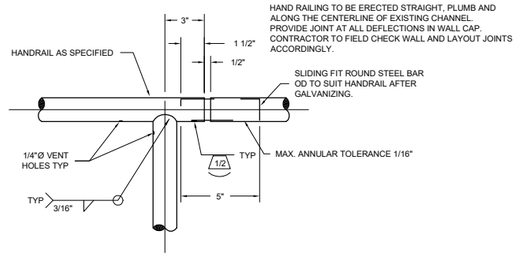


HANDRAIL DETAIL





HANDRAIL POST ANCHORAGE TO STEEL



TYPICAL HAND RAIL JOINT
TYPICAL FOR TOP AND MIDDLE RAILS

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

REALM **Remediation and Liability Management Company, Inc.**

GM **POWERTRAIN**

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH07

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

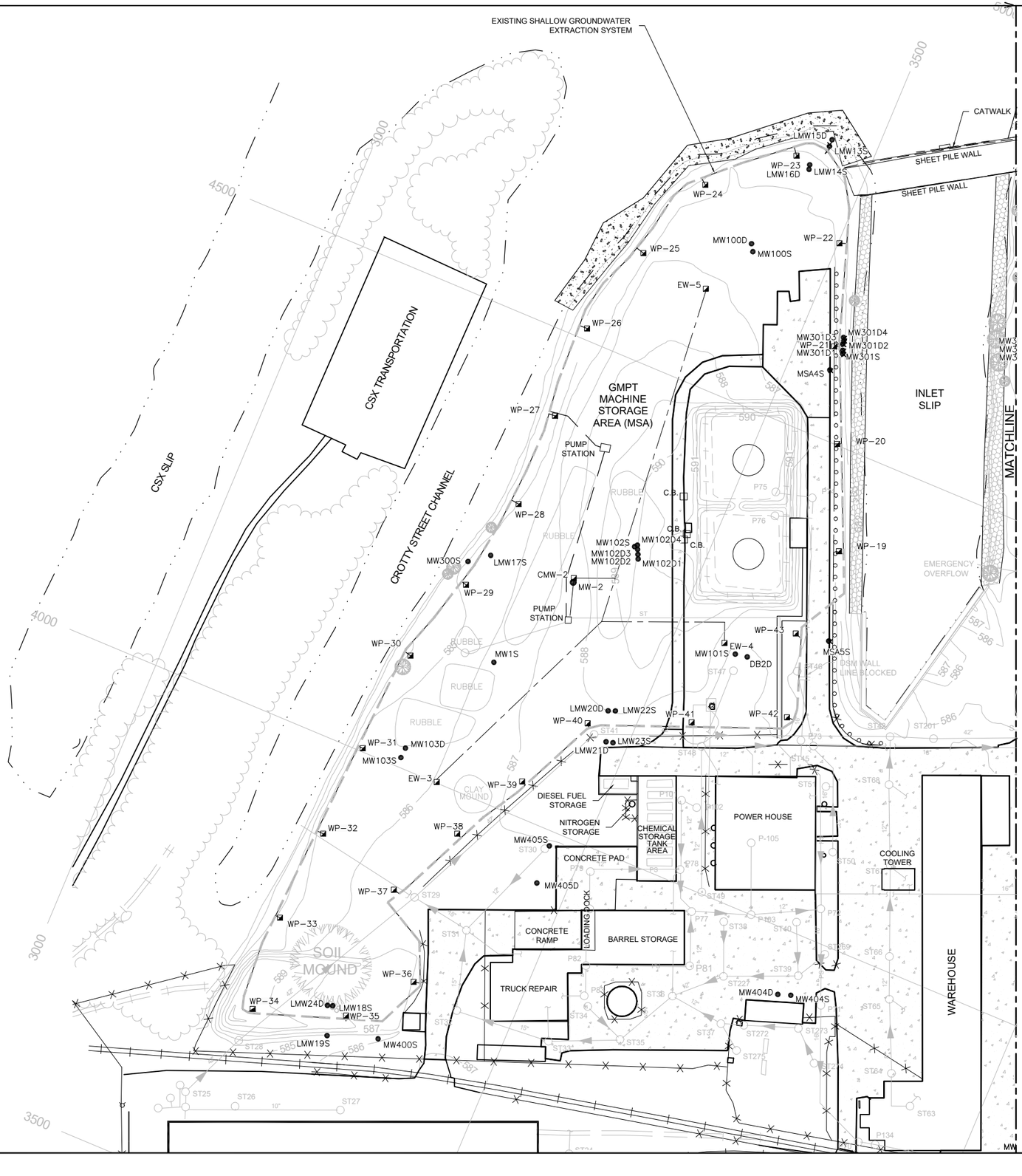
CIVIL
STANDARD DETAILS

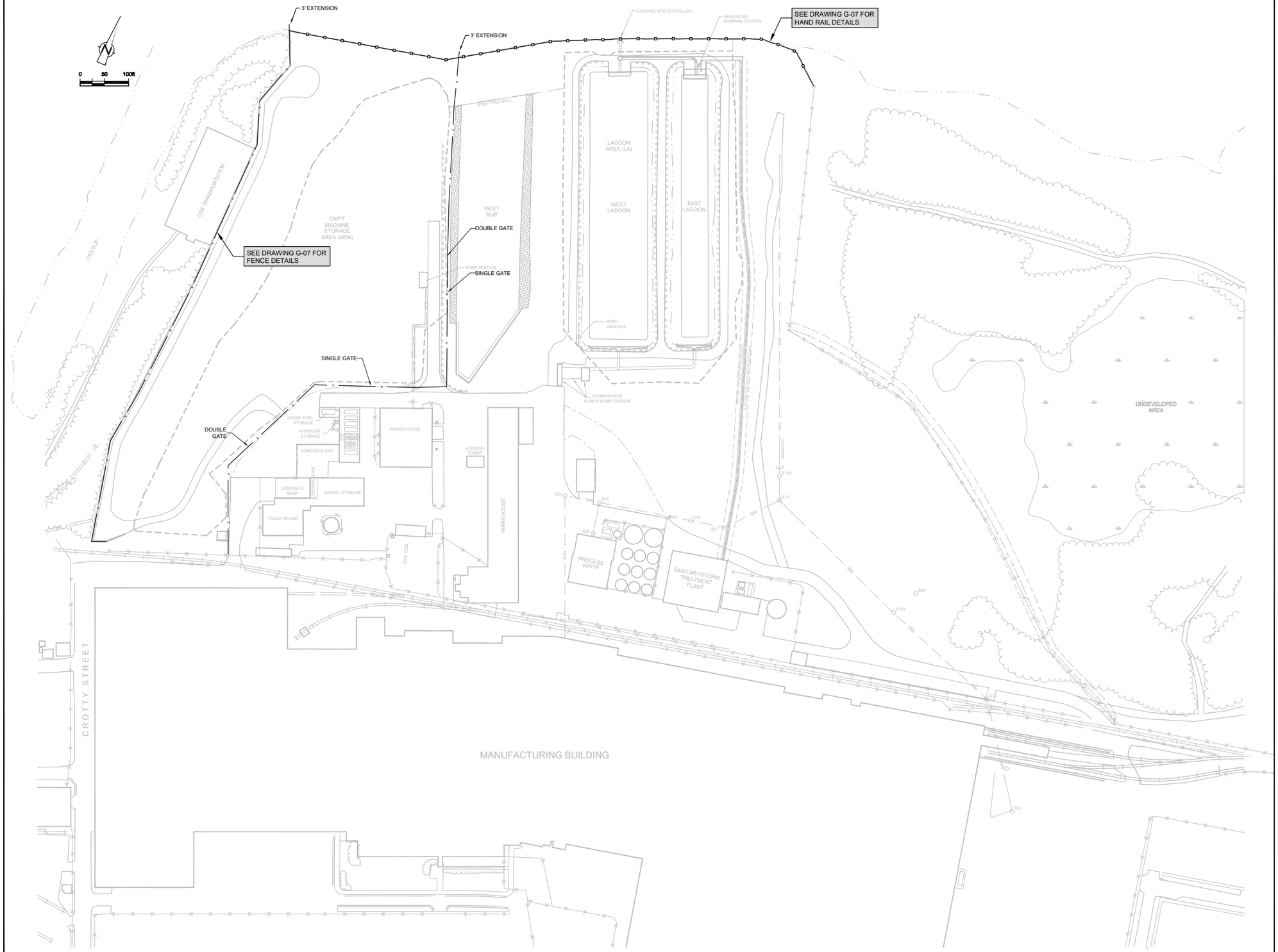
CRA **CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: AS SHOWN	Project No.: 12610-10	Report No.: 016	Drawing No.: G-07AR

12610-10(016)GN-WA010 APR 16/2002


EXISTING SHALLOW GROUNDWATER EXTRACTION SYSTEM
CSX TRANSPORTATION
CSX SLIP
CROTTY STREET CHANNEL
GMPT MACHINE STORAGE AREA (MSA)
INLET SLIP
MATCHLINE
CATWALK
SHEET PILE WALL
SHEET PILE WALL
PUMP STATION
PUMP STATION
RUBBLE
SOIL MOUND
CLAY MOUND
DIESEL FUEL STORAGE
NITROGEN STORAGE
CHEMICAL STORAGE TANK AREA
CONCRETE PAD
CONCRETE RAMP
LOADING DOCK
BARREL STORAGE
TRUCK REPAIR
POWER HOUSE
COOLING TOWER
WAREHOUSE
EMERGENCY OVERFLOW
DSM WALL LINE BLOCKED
WP-19
WP-20
WP-22
WP-23
WP-24
WP-25
WP-26
WP-27
WP-28
WP-29
WP-30
WP-31
WP-32
WP-33
WP-34
WP-35
WP-36
WP-37
WP-38
WP-39
WP-40
WP-41
WP-42
WP-43
EW-3
EW-4
EW-5
CMW-2
MW-2
MW1S
MW100D
MW100S
MW101S
MW102D1
MW102D2
MW102D3
MW102S
MW103D
MW103S
MW300S
MW301D1
MW301D2
MW301D3
MW301D4
MW301S
MW400S
MW404D
MW404S
MW405D
MW405S
LMW15D
LMW13S
LMW14S
LMW16D
LMW17S
LMW18S
LMW19S
LMW20D
LMW21D
LMW22S
LMW23S
LMW24D
MSA4S
MSA5S
DB2D
C.B.
ST25
ST26
ST27
ST28
ST29
ST30
ST31
ST34
ST35
ST36
ST37
ST38
ST39
ST40
ST41
ST45
ST47
ST50
ST63
ST64
ST65
ST66
ST68
ST69
ST70
ST71
ST72
ST73
ST74
ST75
ST78
ST79
ST80
ST82
ST83
ST84
ST85
ST86
ST87
ST88
ST89
ST90
ST91
ST92
ST93
ST94
ST95
ST96
ST97
ST98
ST99
ST100
ST101
ST102
ST103
ST104
ST105
ST106
ST107
ST108
ST109
ST110
ST111
ST112
ST113
ST114
ST115
ST116
ST117
ST118
ST119
ST120
ST121
ST122
ST123
ST124
ST125
ST126
ST127
ST128
ST129
ST130
ST131
ST132
ST133
ST134
ST135
ST136
ST137
ST138
ST139
ST140
ST141
ST142
ST143
ST144
ST145
ST146
ST147
ST148
ST149
ST150
ST151
ST152
ST153
ST154
ST155
ST156
ST157
ST158
ST159
ST160
ST161
ST162
ST163
ST164
ST165
ST166
ST167
ST168
ST169
ST170
ST171
ST172
ST173
ST174
ST175
ST176
ST177
ST178
ST179
ST180
ST181
ST182
ST183
ST184
ST185
ST186
ST187
ST188
ST189
ST190
ST191
ST192
ST193
ST194
ST195
ST196
ST197
ST198
ST199
ST200
ST201
ST202
ST203
ST204
ST205
ST206
ST207
ST208
ST209
ST210
ST211
ST212
ST213
ST214
ST215
ST216
ST217
ST218
ST219
ST220
ST221
ST222
ST223
ST224
ST225
ST226
ST227
ST228
ST229
ST230
ST231
ST232
ST233
ST234
ST235
ST236
ST237
ST238
ST239
ST240
ST241
ST242
ST243
ST244
ST245
ST246
ST247
ST248
ST249
ST250
ST251
ST252
ST253
ST254
ST255
ST256
ST257
ST258
ST259
ST260
ST261
ST262
ST263
ST264
ST265
ST266
ST267
ST268
ST269
ST270
ST271
ST272
ST273
ST274
ST275
P10
P75
P76
P77
P78
P79
P80
P81
P82
P83
P84
P85
P86
P87
P88
P89
P90
P91
P92
P93
P94
P95
P96
P97
P98
P99
P100
P101
P102
P103
P104
P105
P106
P107
P108
P109
P110
P111
P112
P113
P114



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

LEGEND

- HANDRAIL
- NEW FENCE
- ALL OTHER FENCES PREVIOUSLY SHOWN

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96

SHEET No.: SH08

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

AS RECORDED

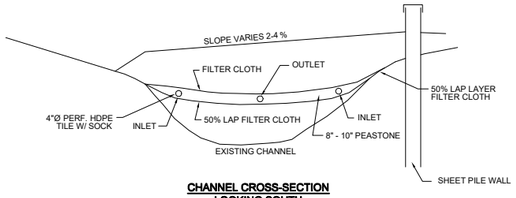
FENCING

CONESTOGA-ROVERS & ASSOCIATES

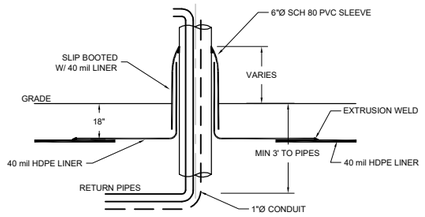
Source Reference:
SPICER GROUP, SAGINAW, MICHIGAN, DRAWING D-352414, SEPTEMBER 2000

Project Manager:	Reviewed By:	Date:	
MRT	AW	JUNE 2000	
Scale: 1"=100'	Project № : 12610-10	Report № : 016	Drawing № : G-08AR

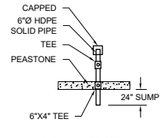
12610-10(016)GN-WA002 APR 16/2002



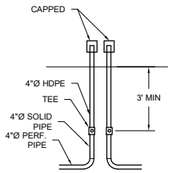
CHANNEL CROSS-SECTION LOOKING SOUTH
N.T.S.



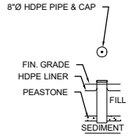
VERTICAL ACCESS INLET AND OUTLET LINER ATTACHMENT
N.T.S.



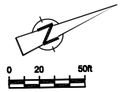
VERTICAL ACCESS OUTLET VA1

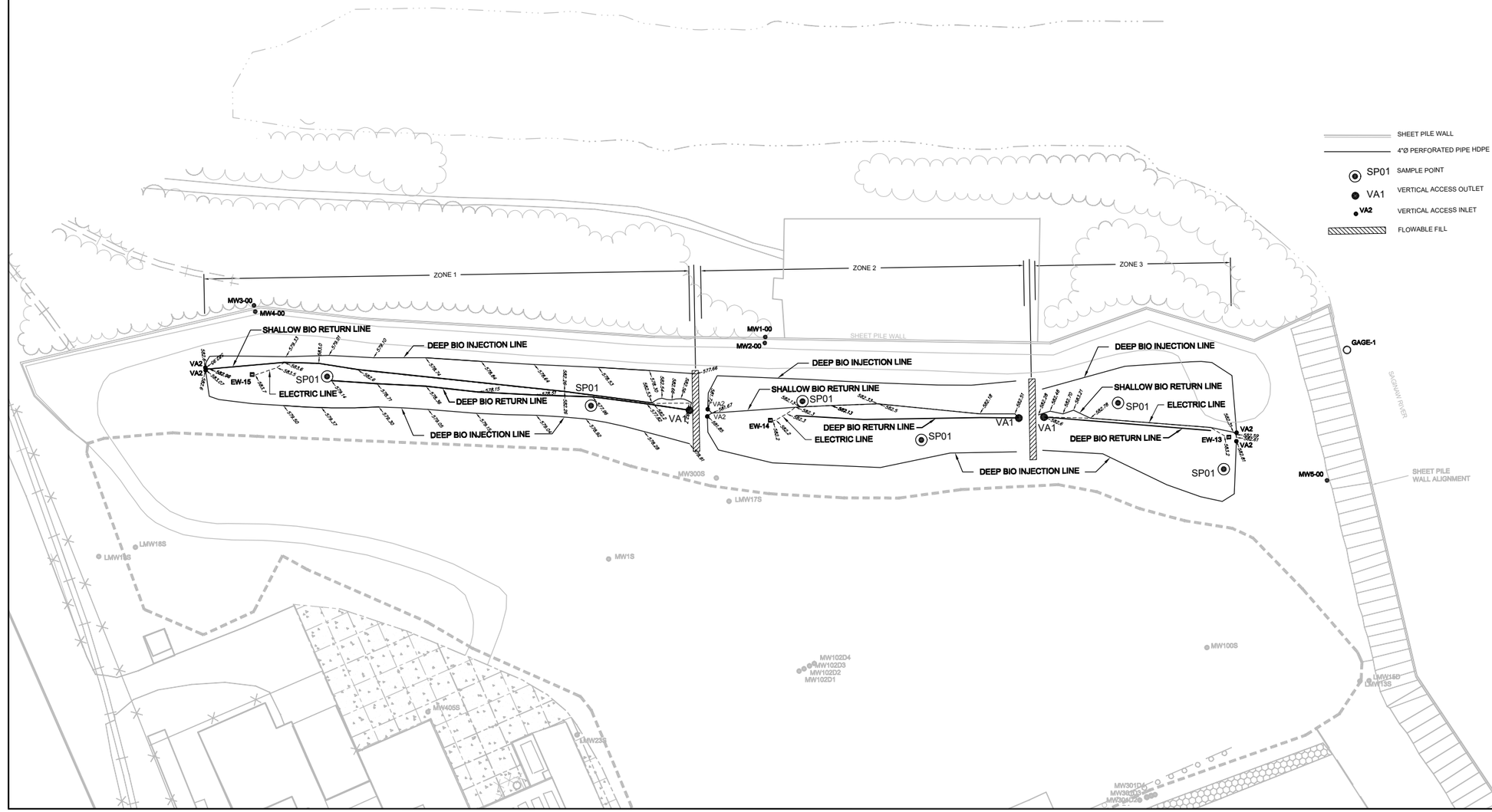


VERTICAL ACCESS INLET VA2



SAMPLE POINT SP01





№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH09

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

AS RECORDED

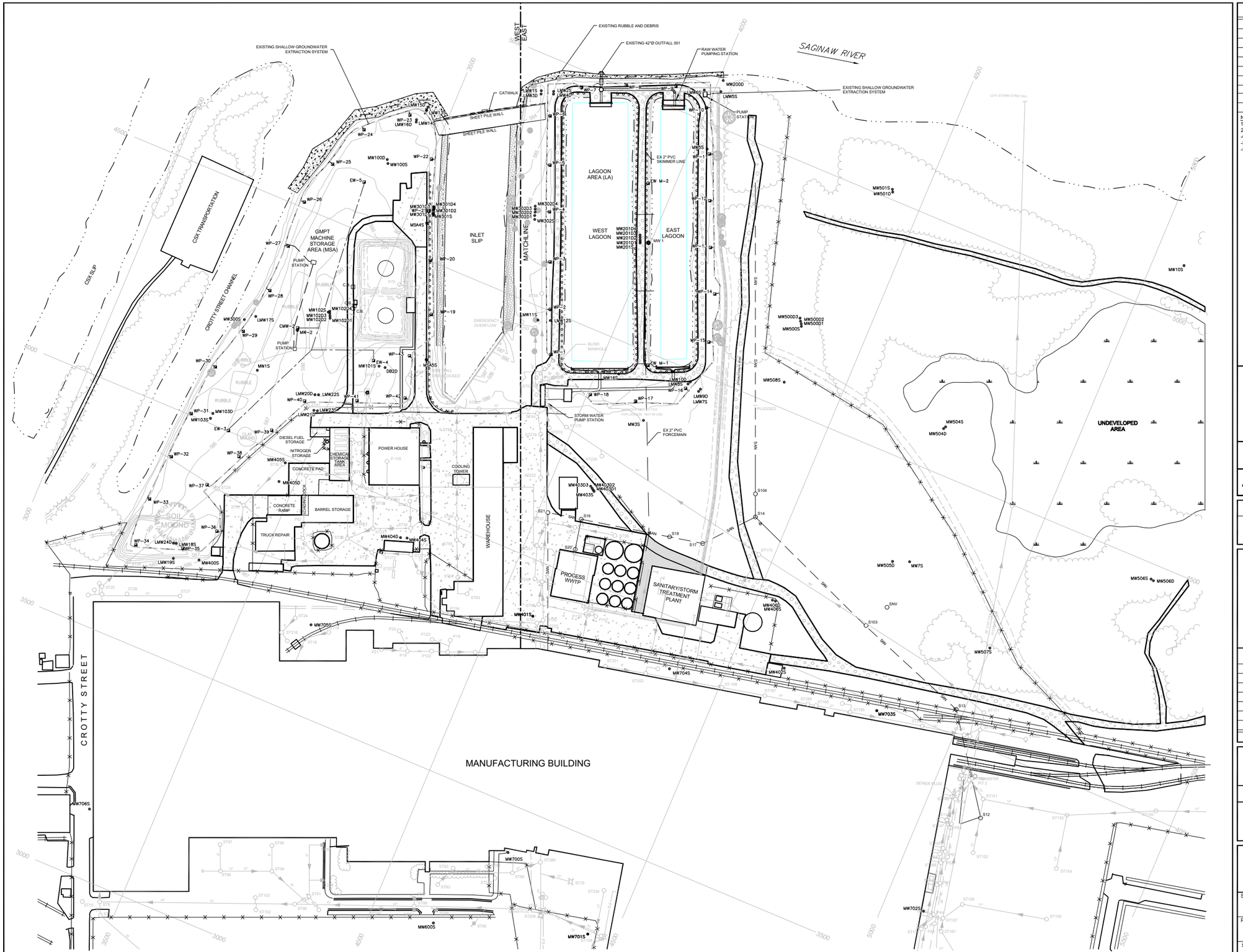
DISTRIBUTION PIPING

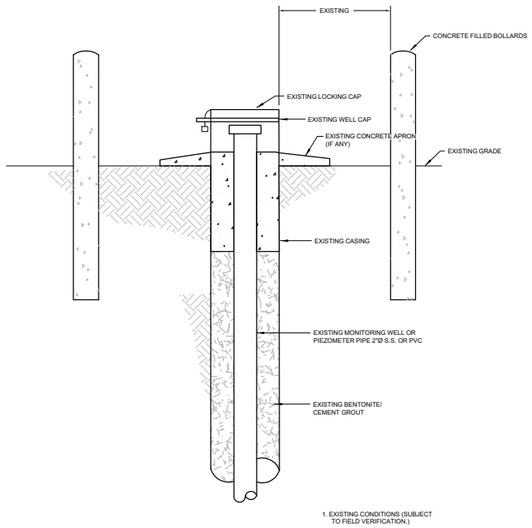
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
SPICER GROUP, SAGINAW, MICHIGAN, DRAWING D352413 AND D352410, MAY 2000

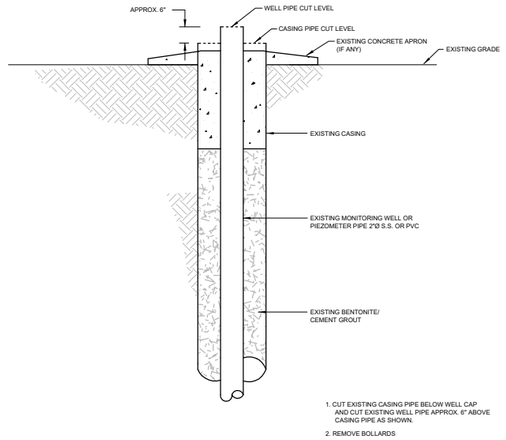
Project Manager:	Reviewed By:	Date:	
MRT	MRT	MAY 2000	
Scale: 1"=50'	Project N º: 12610-10	Report N º: 016	Drawing N º: G-09AR

12610-10(016)GN-WA008 APR 16/2002

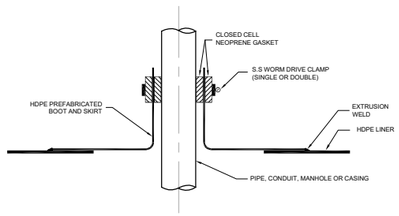

EXISTING SHALLOW GROUNDWATER EXTRACTION SYSTEM
EXISTING RUBBLE AND DEBRIS
EXISTING 42"Ø OUTFALL 001
RAW WATER PUMPING STATION
SAGINAW RIVER
EXISTING SHALLOW GROUNDWATER EXTRACTION SYSTEM
CATWALK
SHEET PILE WALL
PUMP STATION
CSX TRANSPORTATION
CSX SLIP
CROTTY STREET CHANNEL
GMPT MACHINE STORAGE AREA (MSA)
INLET SLIP
MATCHLINE
LAGOON AREA (LA)
WEST LAGOON
EAST LAGOON
EX 2" PVC SKIMMER LINE
EMERGENCY OVERFLOW
BLIND MANHOLE
STORM WATER PUMP STATION
EX 2" PVC FORCEMAIN
UNDEVELOPED AREA
DIESEL FUEL STORAGE
NITROGEN STORAGE
CHEMICAL STORAGE TANK AREA
POWER HOUSE
COOLING TOWER
CONCRETE PAD
CONCRETE RAMP
BARREL STORAGE
TRUCK REPAIR
SOIL MOUND
WAREHOUSE
PROCESS WWTP
SANITARY/STORM TREATMENT PLANT
MANUFACTURING BUILDING
CROTTY STREET
CITY STORM OVERFLOW
SEWER PLUG
TRANSFER
PLUGGED
MW1S
MW2D
MW3S
MW10S
MW100D
MW100S
MW101S
MW102D1
MW102D2
MW102D3
MW102S
MW103D
MW103S
MW200D
MW300S
MW301D1
MW301D2
MW301S
MW302D1
MW302D2
MW302D3
MW302D4
MW302S
MW400S
MW401S
MW402S
MW403D3
MW403S
MW404D
MW404S
MW405D
MW405S
MW500D1
MW500D2
MW500D3
MW500S
MW501D
MW501S
MW504D
MW504S
MW505D
MW506D
MW506S
MW507S
MW508S
MW600S
MW700S
MW701S
MW702S
MW703S
MW704S
MW705S
MW706S
MW7S
LMW1D
LMW1S
LMW2D
LMW2S
LMW3D
LMW3S
LMW4D
LMW4S
LMW5D
LMW5S
LMW7S
LMW9D
LMW10D
LMW10S
LMW11S
LMW12S
LMW14S
LMW15D
LMW16D
LMW16S
LMW17S
LMW18S
LMW19S
LMW20D
LMW22S
LMW23S
LMW24D
DB2D
MSA4S
MSA5S
CMW-2
EW-1
EW-2
EW-3
EW-4
EW-5
EW M-1
EW M-2
MW 1
WP-1
WP-2
WP-3
WP-4
WP-5
WP-6
WP-7
WP-8
WP-9
WP-10
WP-11
WP-12
WP-13
WP-14
WP-15
WP-16
WP-17
WP-18
WP-19
WP-20
WP-22
WP-23
WP-24
WP-25
WP-26
WP-27
WP-28
WP-29
WP-30
WP-31
WP-32
WP-33
WP-34
WP-35
WP-36
WP-37
WP-38
WP-39
WP-40
WP-41
WP-42
S12
S13
S14
S17
S18
S19
S20
S21
S103
S104
SAN
SNV
SW
SWV
NWS
NWV
C.B.
P175
P105
ST154
ST175
ST176
ST177
ST178
ST179
ST180
ST181
ST182
ST183
ST184
ST185
ST186
ST187
ST188
ST189
ST190
ST191
ST192
ST193
ST194
ST195
ST196
ST197
ST198
ST199
ST200
ST201
ST202
ST203
ST204
ST205
ST206
ST207
ST208
ST209
ST210
ST211
ST212
ST213
ST214



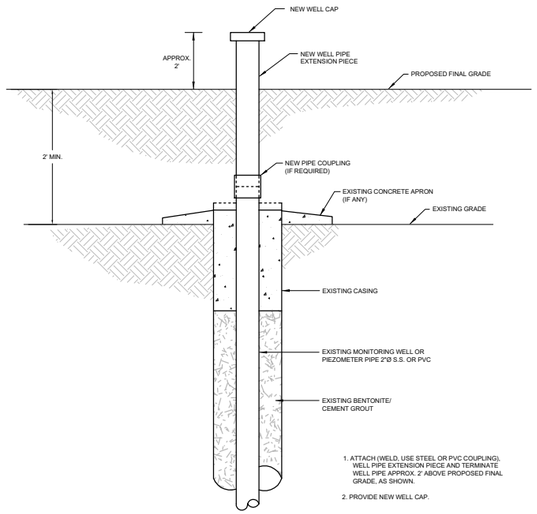
STEP 1



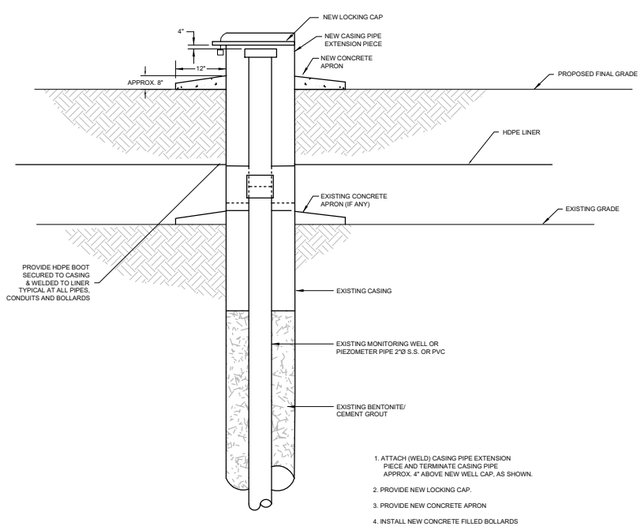
STEP 2



HDPE LINER PENETRATION DETAIL



STEP 3



STEP 4

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH15

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

REMEDIAL ACTION PLAN

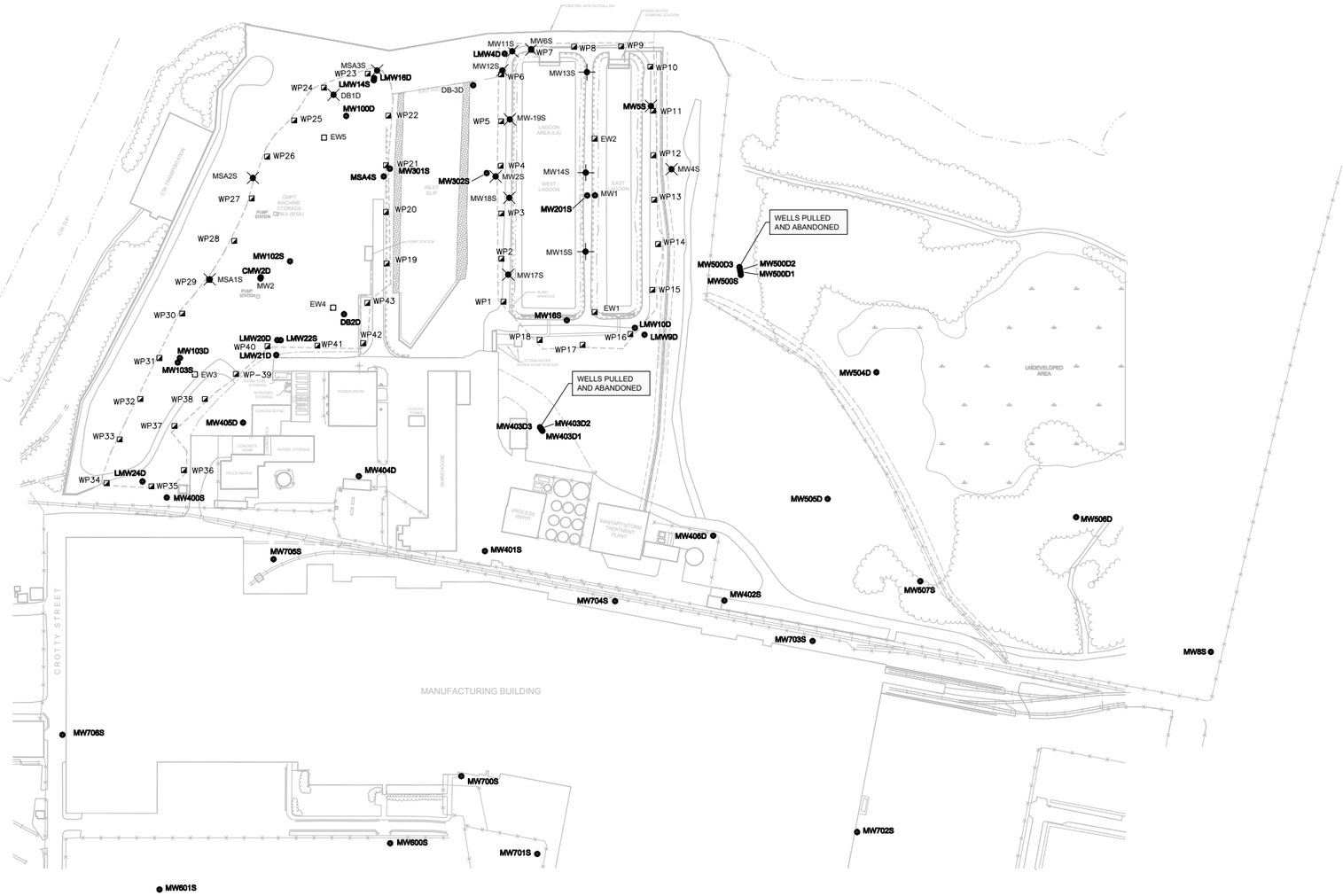
WELL EXTENSION DETAILS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	MRT	JUNE 2000	
Scale: NTS	Project N°: 12610-10	Report N°: 016	Drawing N°: C-03AR

12610-10(016)CI-WA004 APR 16/2002



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:
1. FOR LEGEND SYMBOLS SEE DWG. G-03 AND G-04.
2. BENCHMARKS:
-CUT CROSS ON RIM OF STORM MANHOLE 292 - ELEV. 586.97 FT. AMSL
-SW CORNER WATER TOWER BASE - ELEV. 587.67 FT. AMSL
-SW CORNER ARCHIMEDES SCREW PUMP STATION - ELEV. 587.97 FT. AMSL

LEGEND

●	MW501D	ABANDONED MONITORING WELL
◪	WP3	ABANDONED EXTRACTION WELL
✕	MSA2S	DESTROYED OR LOST MONITORING WELL
✛	MW14S	CUT OFF AND BURIED MONITORING WELL

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH13

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

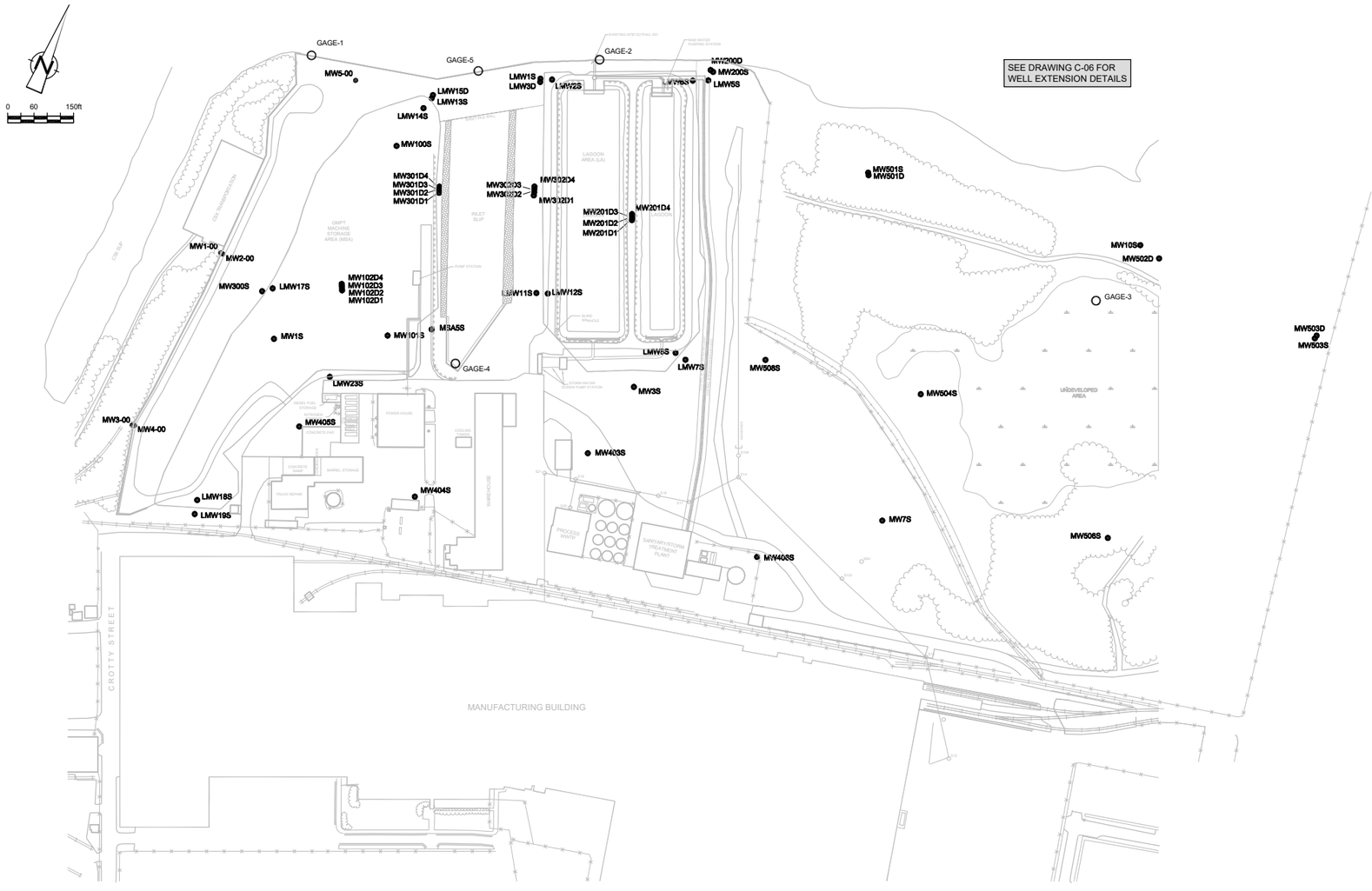
MONITORING WELLS
ABANDONED

CONESTOGA-ROVERS & ASSOCIATES

Source Reference: SPICER GROUP

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: 1"=150'	Project N ⁰: 12610-10	Report N ⁰: 016	Drawing N ⁰: C-01AR

12610-10(016)CI-WA017 APR 16/2002



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

LEGEND

● MW501D EXISTING MONITORING WELL

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH14

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

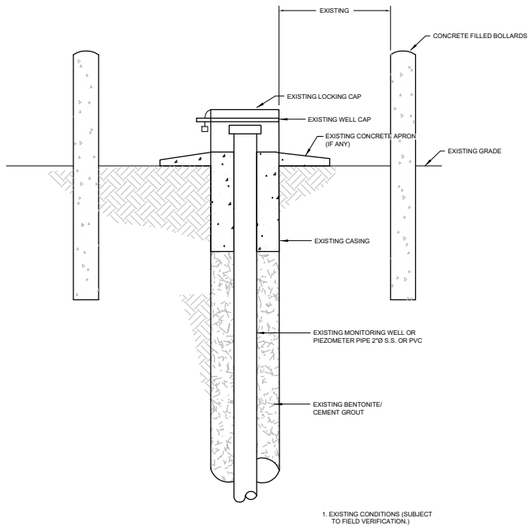
EXISTING MONITORING WELLS

CONESTOGA-ROVERS & ASSOCIATES

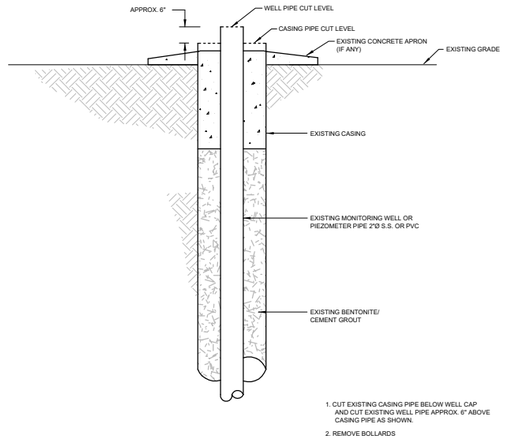
Source Reference:
NOVA CONSULTANTS, INC., SEPTEMBER 2000

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: 1" = 150'	Project № 12610-10	Report № 016	Drawing № C-02AR

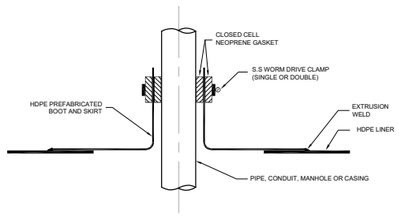
12610-10(016)CI-WA013 APR 16/2002



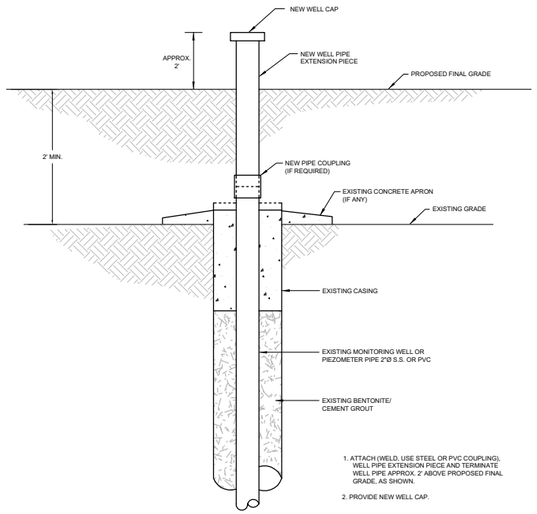
STEP 1



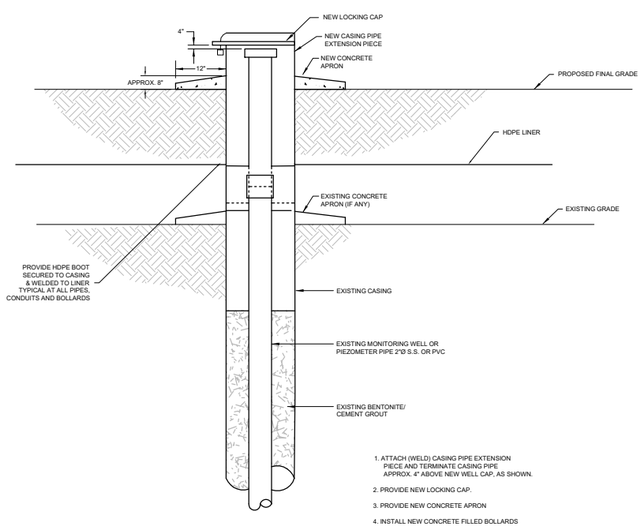
STEP 2



HDPE LINER PENETRATION DETAIL



STEP 3



STEP 4

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH15

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

REMEDIAL ACTION PLAN

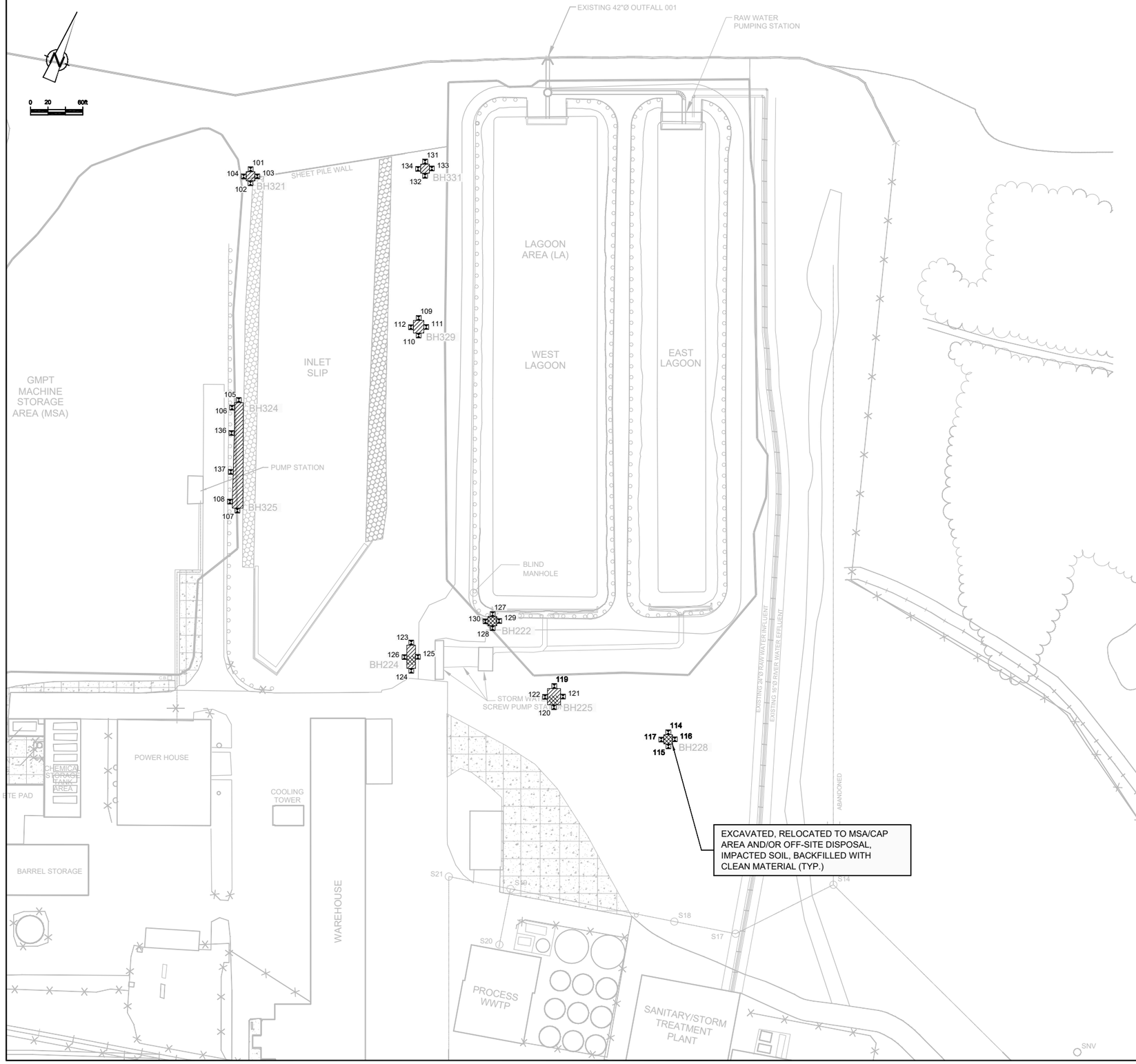
WELL EXTENSION DETAILS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	MRT	JUNE 2000	
Scale: NTS	Project N°: 12610-10	Report N°: 016	Drawing N°: C-03AR

12610-10(016)CI-WA004 APR 16/2002



SOIL SAMPLE RESULTS

Sample Location	Total PCBs (mg/kg)
101	ND
102	2.7
103	ND
104	ND
105	3.02
106	7.28
107	1.36
108	3.5
109	0.7
110	1.52
111	0.74
112	ND
114	0.46
115	ND
116	ND
117	ND
119	2.33
120	ND
121	2.32
122	1.79
123	2.37
124	2.32
125	ND
126	2.01
127	ND
128	ND
129	ND
130	ND
131	ND
132	0.67
133	ND
134	ND
136	1.4
137	0.97

Note:
No PCB concentrations exceeded Industrial Direct Contact Criteria (9.9 mg/kg).

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

LEGEND

114 / 117 116 / 115 BH228 — VERIFICATION SAMPLE ID NUMBER; BOREHOLE ID NUMBER

S-12610-990315-SSH-___ — SOIL SAMPLE ID

NOTE
1. FINAL LIMITS OF IMPACTED SOIL EXCAVATION WILL BE DETERMINED IN FIELD.

REALM **Remediation and Liability Management Company, Inc.**

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH16

AS RECORDED MAY 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

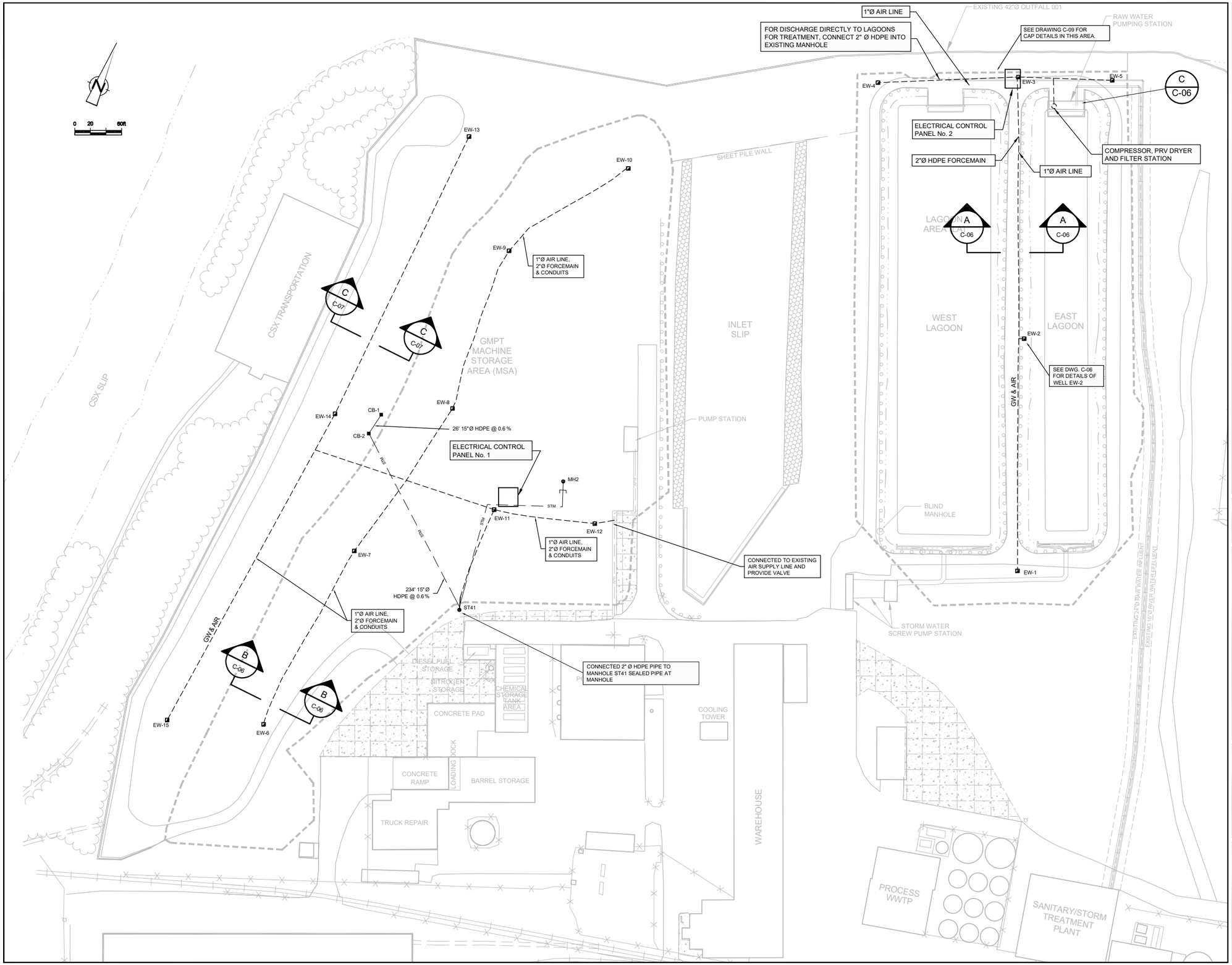
AS RECORDED

SOIL EXCAVATION LOCATIONS AND RESULTS

CRA **CONESTOGA-ROVERS & ASSOCIATES**

Source Reference: SPICER GROUP			
Project Manager: MRT	Reviewed By: MRT	Date: MAY 2000	
Scale: 1"=60'	Project N №: 12610-10	Report N №: 016	Drawing N №: C-04AR

12610-10(016)CI-WA001 APR 16/2002



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

NOTES:
1. SEE DRAWING C-09 FOR EXTRACTION WELL DETAILS

LEGEND
- AIR EXTRACTION LINE
- GROUNDWATER EXTRACTION LINE

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH17

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

AS RECORDED

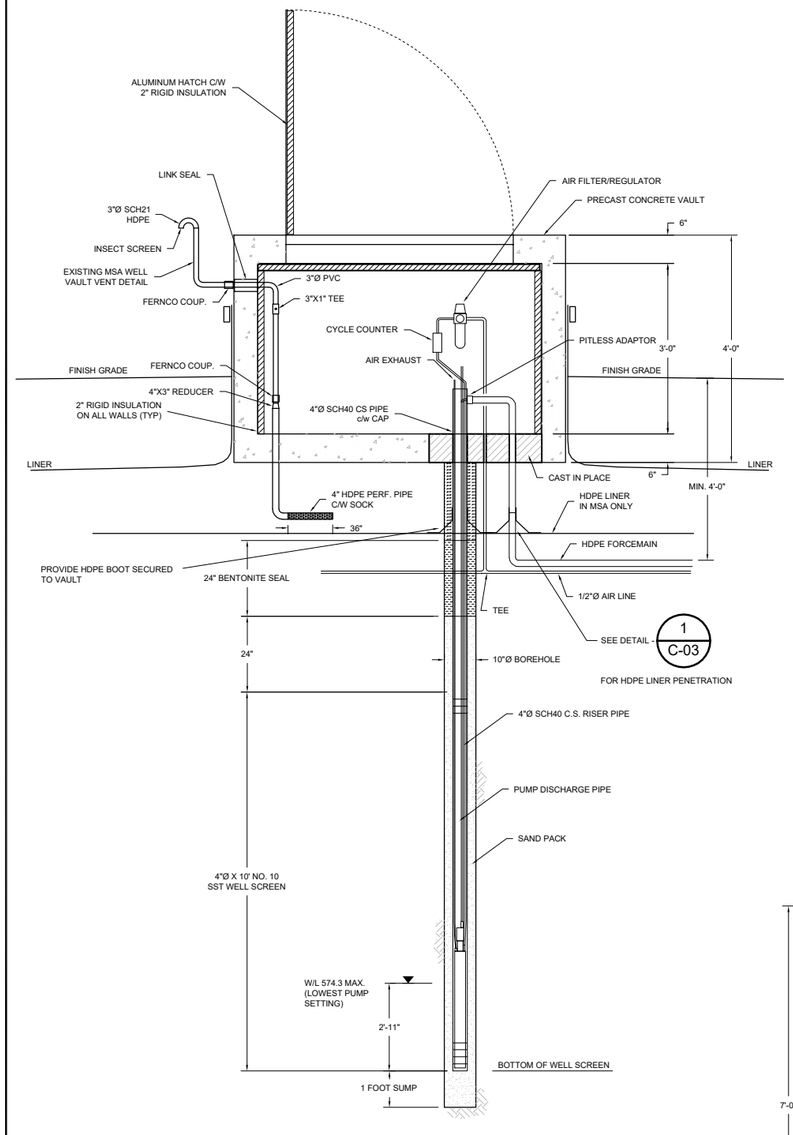
GROUNDWATER EXTRACTION SYSTEM

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
SPICER GROUP, SAGINAW, MICHIGAN, DRAWING D352042, MAY 1999

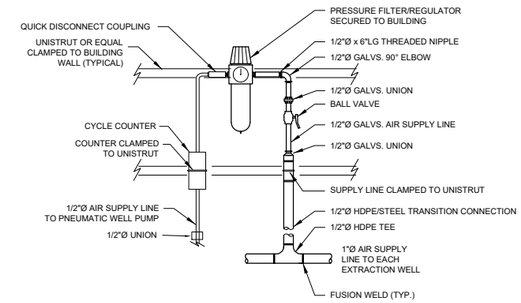
Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: 1"=60'	Project N №: 12610-10	Report N №: 016	Drawing N №: C-05AR

12610-10(016)CI-WA012 APR 16/2002



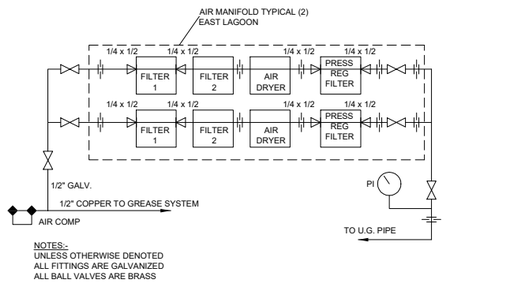
EXTRACTION WELL DETAIL
EW-1 TO EW-12

SECTION A C-06



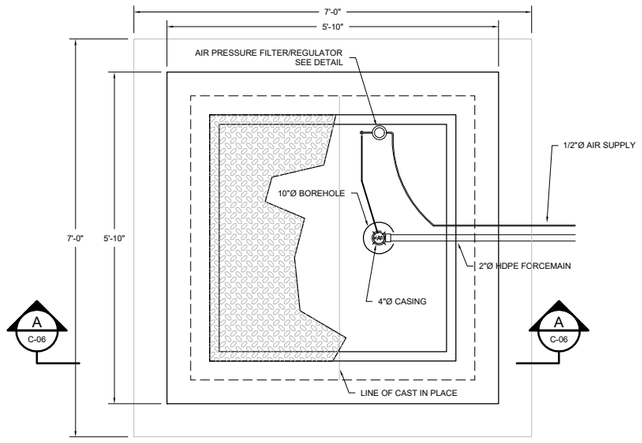
NOTE:
1. CONTRACTOR TO PROVIDE ALL GALVANIZED STEEL SUPPORTS, BRACING AND BRACKETS TO SECURE ALL PIPING, VALVES, EQUIPMENT, ETC. TO BUILDING WALL AS REQUIRED TO FULL SATISFACTION OF OWNER.

PRESSURE FILTER/REGULATOR MOUNTING DETAIL

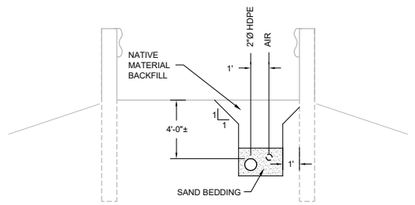


NOTES:-
UNLESS OTHERWISE DENOTED
ALL FITTINGS ARE GALVANIZED
ALL BALL VALVES ARE BRASS

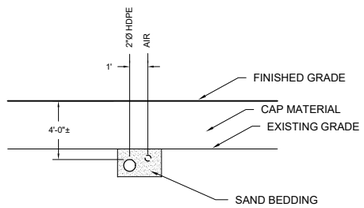
AIR SUPPLY SCHEMATIC AT EAST LAGOON



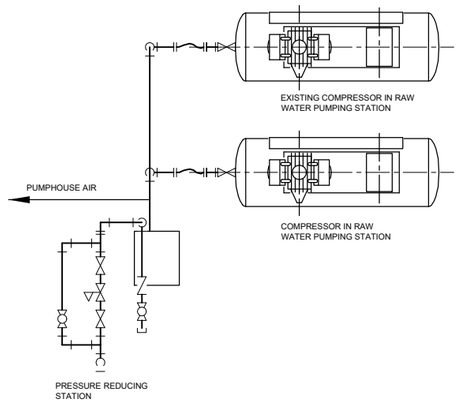
PLAN EW-1 TO EW-12



SECTION A C-05



SECTION B C-05
TYPICAL



PIPE LAYOUT C C-05

EXTRACTION WELL No.	EXTRACTION WELL ELEVATION SUMMARY						
	BOTTOM SCREEN ELEV. (AMSL)	TOP SCREEN ELEV. (AMSL)	PROPOSED FINISHED GRADE (AMSL)	TOTAL WELL DEPTH (FT)	NORTHING	EASTING	TOP I.C.U. (BASED ON McH SURVEY) (AMSL)
EW-1	572.00	582.00	587.0±	15.00	11082.90	11169.05	573.3
EW-2	572.00	582.00	587.0±	15.00	11412.85	11164.37	574.0
EW-3	572.00	582.00	587.0±	15.00	11716.82	11166.09	572.0
EW-4	572.00	582.00	587.0±	15.00	11712.89	10991.27	573.0
EW-5	572.00	582.00	587.0±	15.00	11716.82	11302.96	574.4
EW-6	572.0	582.0	591.5	19.5	10882.30	10202.46	574.0
EW-7	572.0	582.0	589.3	17.3	11110.53	10315.92	573.0
EW-8	572.0	582.0	589.6	17.6	11295.32	10444.85	573.7
EW-9	572.0	582.0	589.3	17.3	11493.36	10521.46	574.0
EW-10	572.0	582.0	589.0	17.0	11598.64	10673.23	575.0
EW-11	575.0	585.0	592.0	17.0	11104.64	10464.00	577.5
EW-12	572.0	582.0	591.5	19.5	11098.01	10626.08	572.5

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

SEE DRAWING E-10 FOR ELECTRICAL

REALM **Remediation and Liability Management Company, Inc.**

GM POWERTRAIN
GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH18

AS RECORDED SEPTEMBER 2000

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

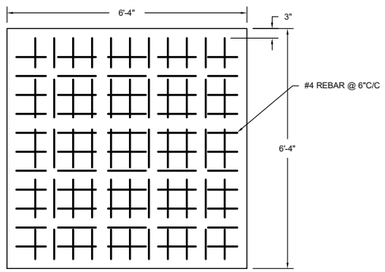
GROUNDWATER EXTRACTION SYSTEM DETAILS

CRA **CONESTOGA-ROVERS & ASSOCIATES**

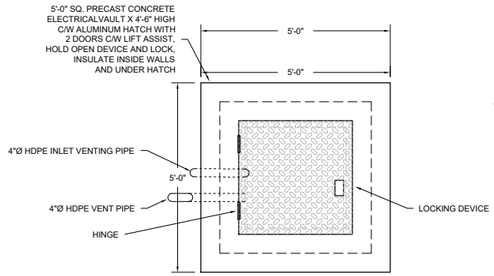
Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: NTS	Project N №: 12610-10	Report N №: 016	Drawing N №: C-06AR

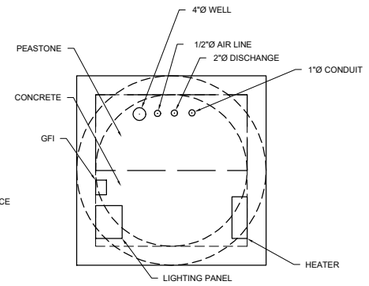
12610-10(016)CI-WA005 APR 16/2002



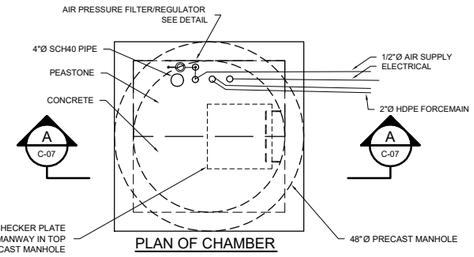
PLAN EXTRACTION WELL BASE SLAB



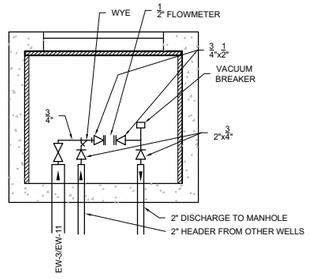
PLAN EW-13, EW-14 AND EW-15



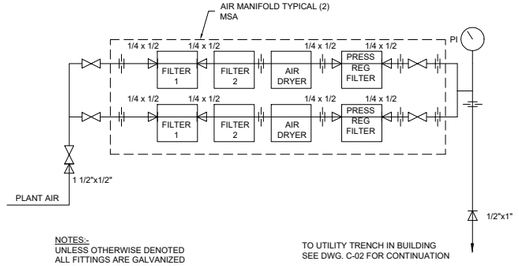
PLAN OF CHAMBER AT BASE



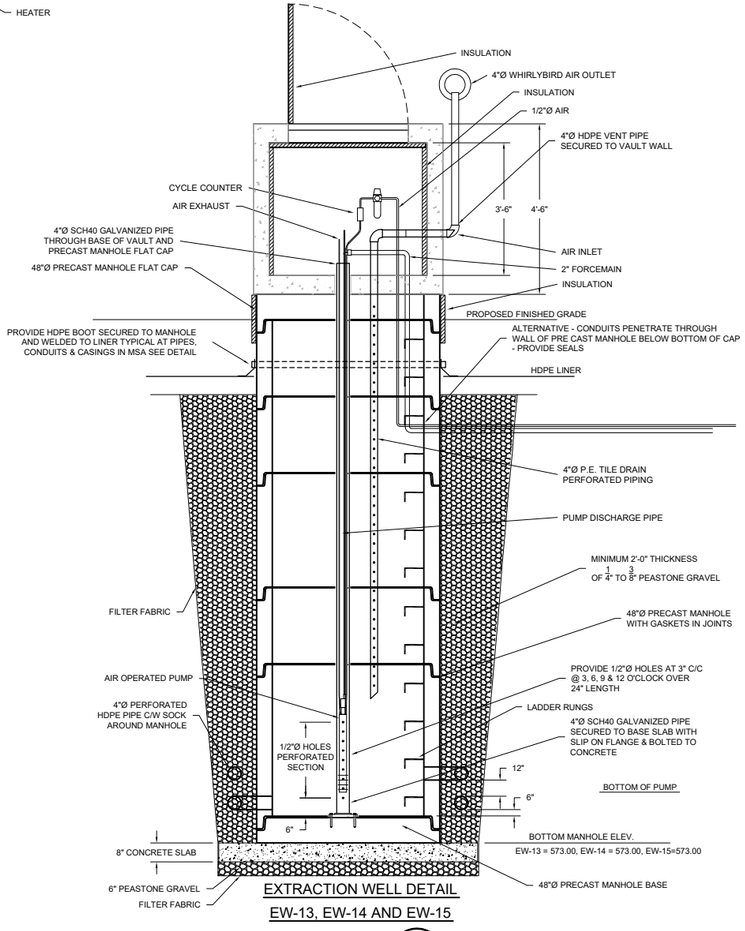
PLAN OF CHAMBER



EW-3 & EW-11 WELL DETAIL

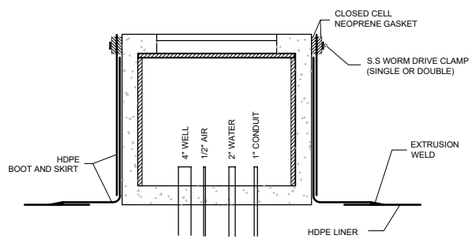


AIR SUPPLY SCHEMATIC AT MSA

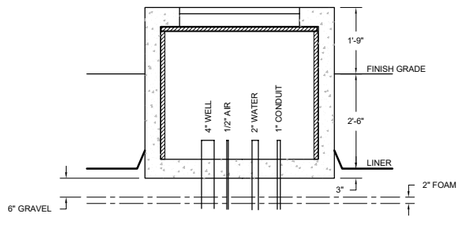


EXTRACTION WELL DETAIL
EW-13, EW-14 AND EW-15

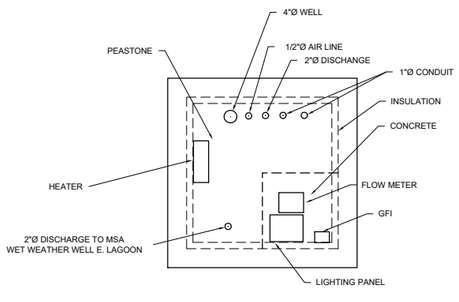
SECTION A / C-07



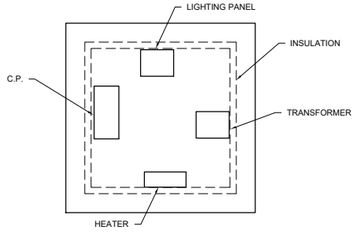
EXTRACTION WELL PENETRATION DETAIL
FOR EW-13, EW-14 AND EW-15



MSA AREA WELL VAULT DETAIL (TYPICAL)



TYPICAL WELL VAULT WITH FLOW METER (2)



TYPICAL ELECTRICAL VAULT (2)

EXTRACTION WELL No.	EXTRACTION WELL ELEVATION SUMMARY						
	TOP MANHOLE CASING (FT AMSL)	BOTTOM MANHOLE ELEV. (FT AMSL)	TOTAL WELL DEPTH (FT)	DEPTH TO PUMP INLET (FT BTOC)	PUMP INLET ELEV. (FT AMSL)	NORTHING	EASTING
EW-13	587.80	571.1284	16.67	15.50	572.30	11666.81	10478.35
EW-14	586.00	569.502	16.50	15.08	570.92	11276.70	10293.17
EW-15	587.43	570.7615	16.67	15.67	571.76	10893.08	10082.45

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

SEE DRAWING E-1 to E-04 FOR ELECTRICAL

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH19

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

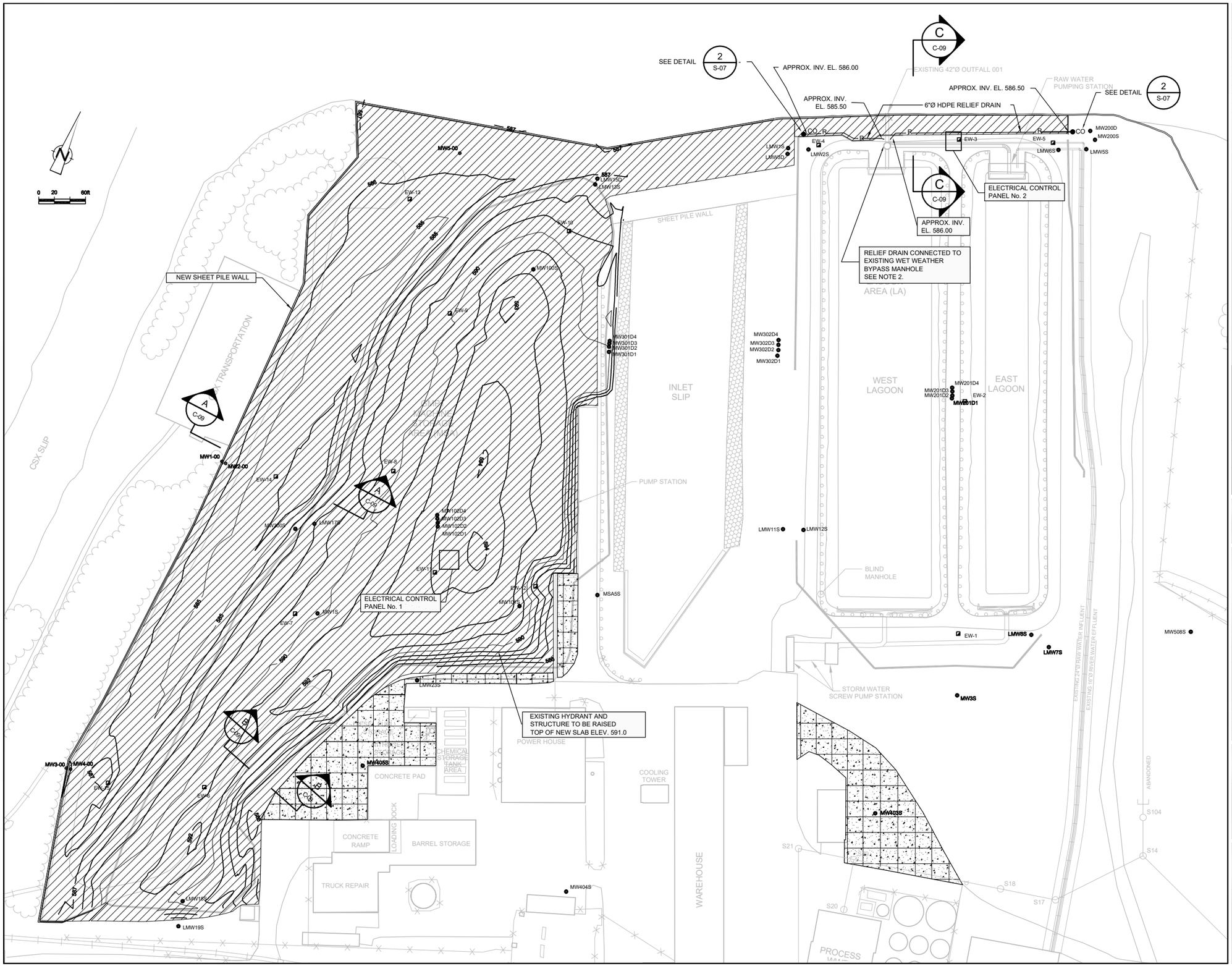
GROUND EXTRACTION WELL
13, 14 AND 15 DETAILS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: NTS	Project N º: 12610-10	Report N º: 016	Drawing N º: C-07AR

12610-10(016)CI-WA006 APR 16/2002



NOTES:

1. FOR HDPE LINER ATTACHMENT TO THE TANK CONCRETE PAD FUEL STORAGE AREA SEE TYPICAL DETAILS DWG. C-17.
2. EXACT LOCATION AND INVERT EL. FOR 6"Ø HDPE RELIEF DRAIN WILL BE FINALIZED IN THE FIELD.

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH20

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY MICHIGAN

AS RECORDED

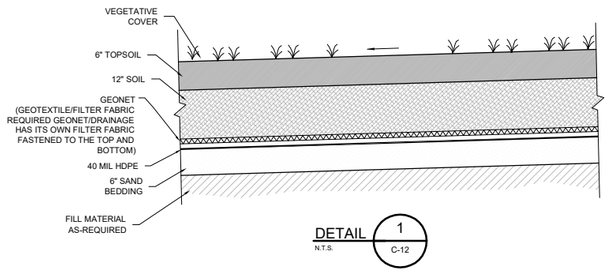
SITE CAPPING

CONESTOGA-ROVERS & ASSOCIATES

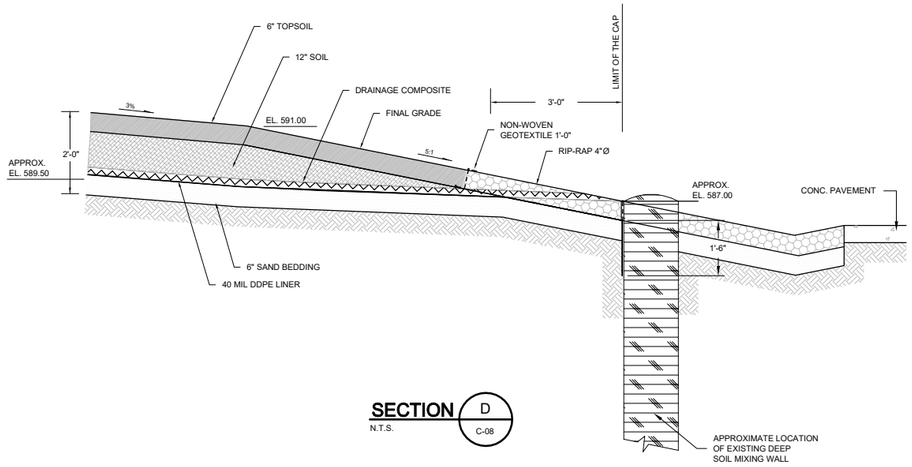
Source Reference:
NOVA CONSULTANTS, INC. SEPTEMBER 2000

Project Manager:	Reviewed By:	Date:	
MRT	AW	JUNE 2000	
Scale: 1"=60'	Project N º: 12610-10	Report N º: 016	Drawing N º: C-08AR

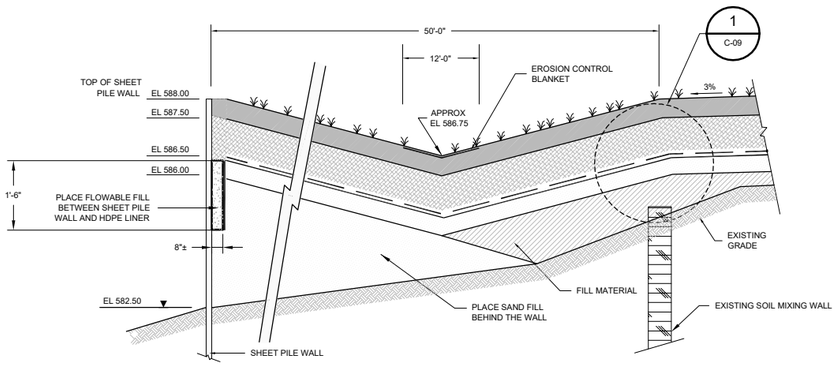
12610-10(016)CI-WA003 APR 16/2002



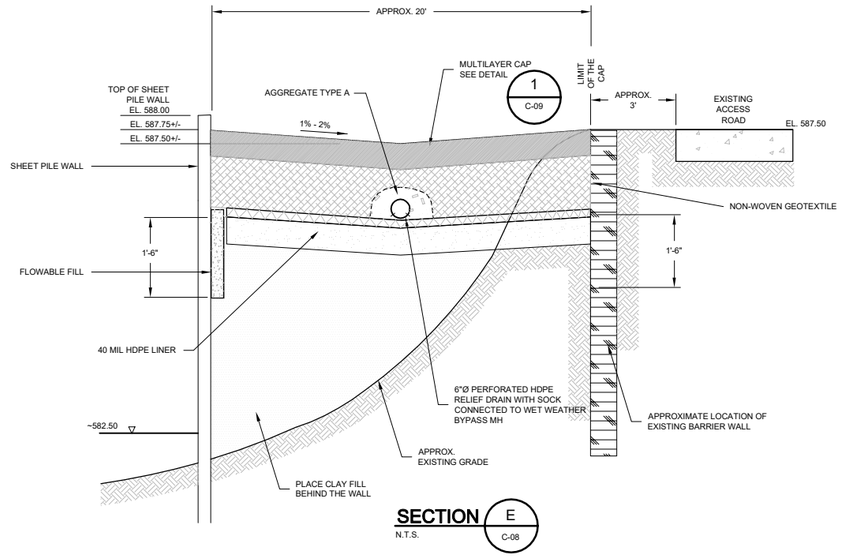
DETAIL 1 / C-12
N.T.S.



SECTION D / C-08
N.T.S.



SECTION A / C-08
N.T.S.



SECTION E / C-08
N.T.S.

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

REALM **Remediation and Liability Management Company, Inc.**

GM **POWERTRAIN**

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH21

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

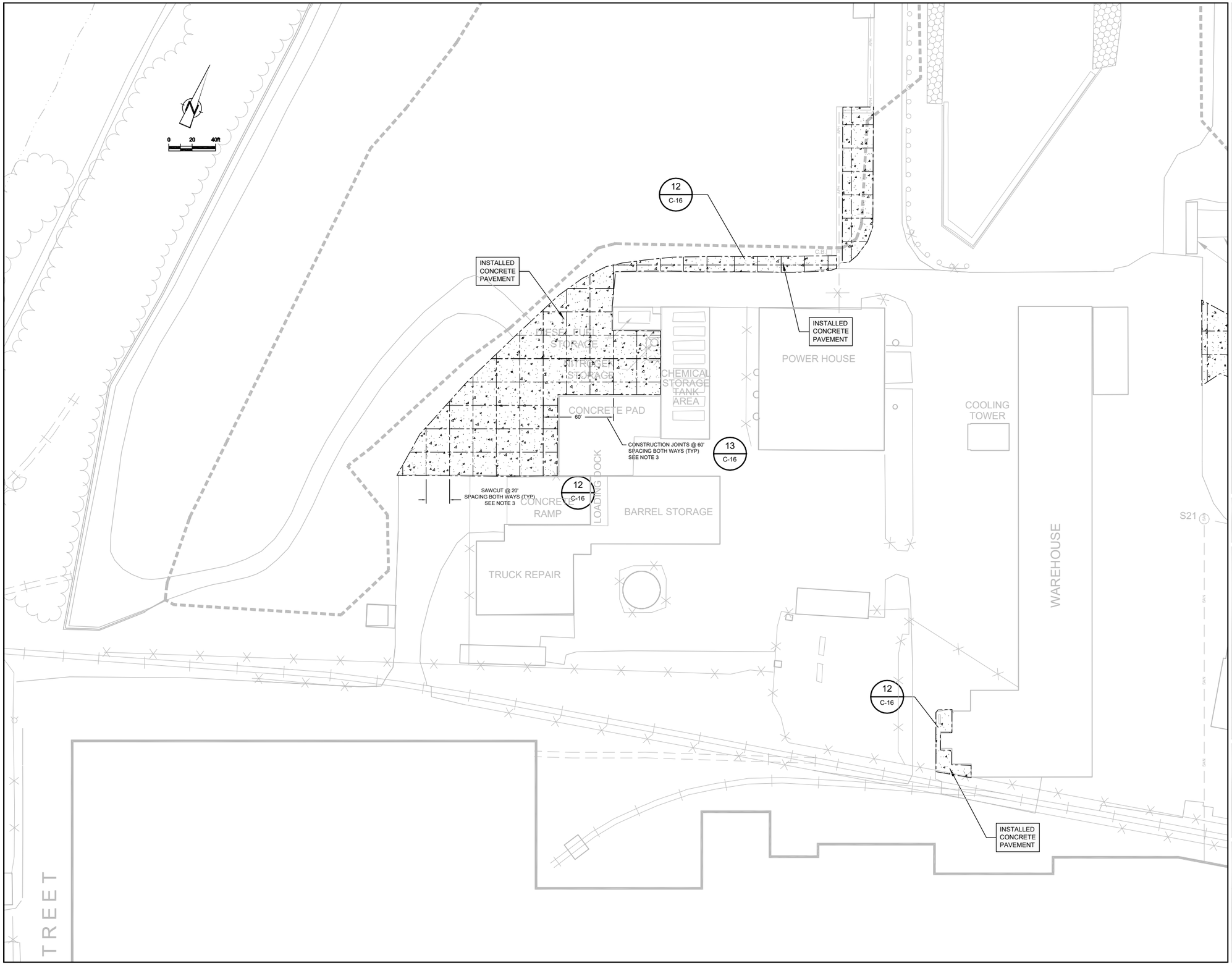
CAP DETAILS

CRA **CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	AW	JUNE 2000	
Scale: NO SCALE	Project № 12610-10	Report № 016	Drawing № C-09AR

12610-10(016)CI-WA007 APR 16/2002



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

NOTES:

1. PAVEMENT FINAL ELEVATIONS AND GRADES WILL BE DETERMINED IN FIELD.
2. ADJUST PAVEMENT TO MATCH EXISTING GRADES, MANHOLES AND STRUCTURES.
3. FINAL LOCATION AND SPACING FOR SAWCUT AND CONSTRUCTION JOINTS WILL BE DETERMINED IN FIELD.

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH26

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

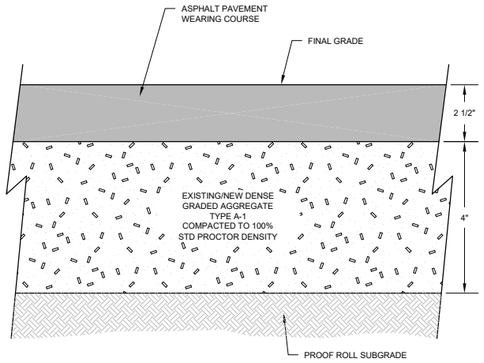
WEST SUPPORT FACILITIES AREA PAVEMENT PLAN

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
SPICER GROUP, SAGINAW, MICHIGAN, DRAWING D352409, OCTOBER 1999

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: 1"=40'	Project No.: 12610-10	Report No.: 016	Drawing No.: C-14AR

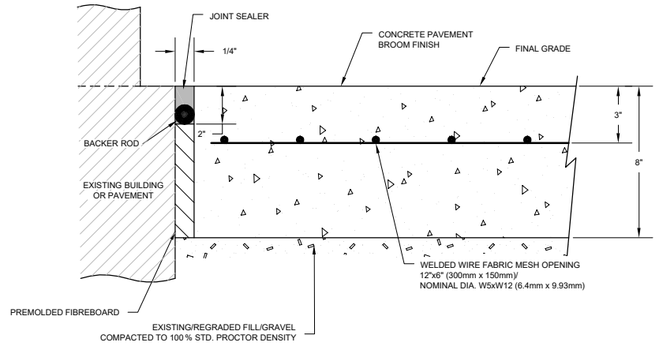
12610-10(016)CI-WA019 APR 16/2002



DETAIL 10 / C-15

FLEXIBLE PAVEMENT DETAIL

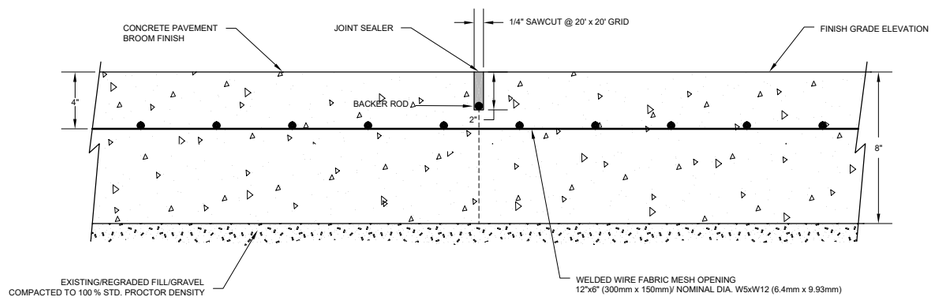
N.T.S.



DETAIL 11 / S-03

RIGID PAVEMENT ISOLATION JOINT DETAIL

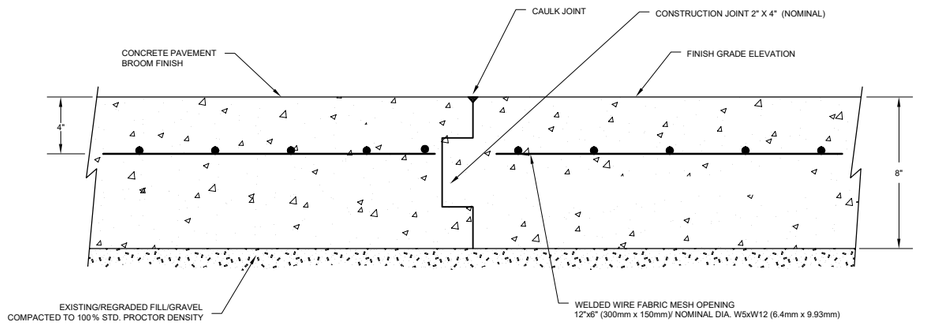
N.T.S.



DETAIL 12 / C-15

SAWCUT DETAIL

N.T.S.



DETAIL 13 / C-15

RIGID PAVEMENT CONSTRUCTION JOINT DETAIL

N.T.S.

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	REVISED CONSTRUCTION JOINT DETAILS	APR 15/99	RLA
3	AS RECORDED	MAY 2000	MRT

REALM **Remediation and Liability Management Company, Inc.**

GM **POWERTRAIN**

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH28

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

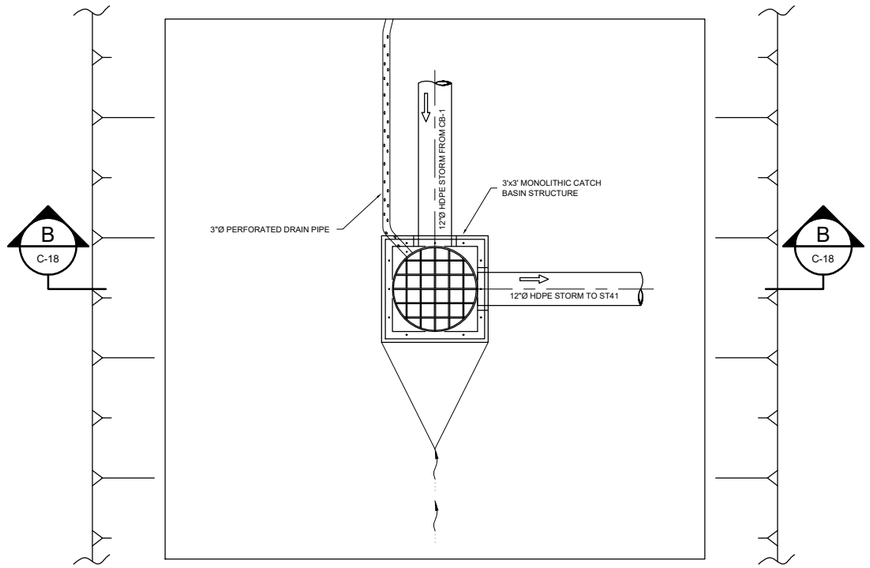
SUPPORT FACILITIES AREA DETAILS

CRA **CONESTOGA-ROVERS & ASSOCIATES**

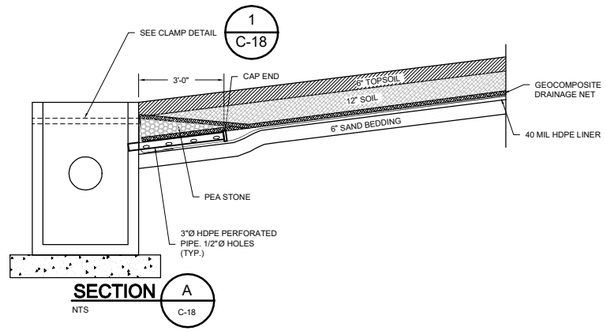
Source Reference:

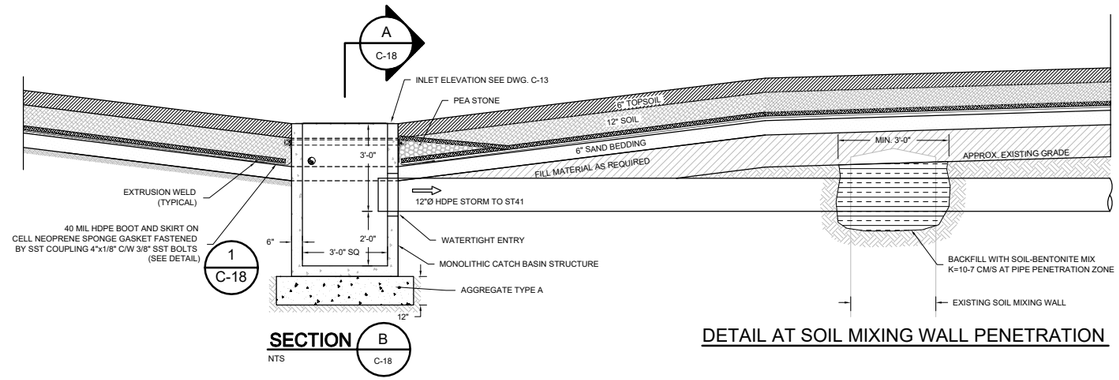
Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: AS SHOWN	Project N º: 12610-10	Report N º: 016	Drawing N º: C-16AR

12610-10(016)CI-WA011 APR 16/2002

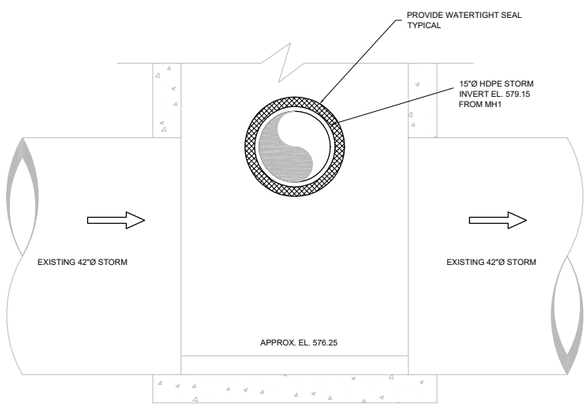


PLAN OF TYPICAL CATCH BASIN DETAIL (CB-2)

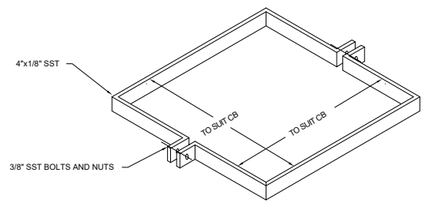




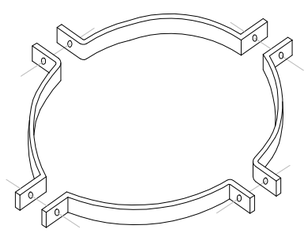
DETAIL AT SOIL MIXING WALL PENETRATION



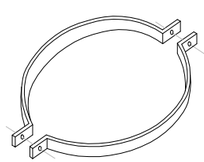
ELEVATION OF EXISTING MANHOLE ST41



TWO PIECE SQUARE COUPLING DETAIL



FOUR PIECE ROUND COUPLING DETAIL



TWO PIECE ROUND COUPLING DETAIL

DETAIL 1 C-18
NTS

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	SEPTEMBER 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH30

AS RECORDED SEPTEMBER 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

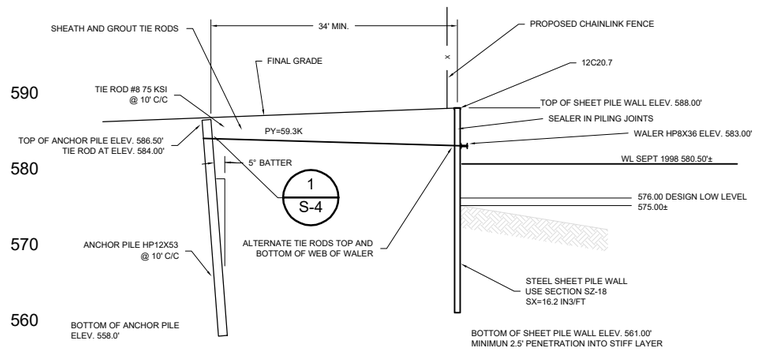
MANHOLE AND CATCHBASIN DETAILS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

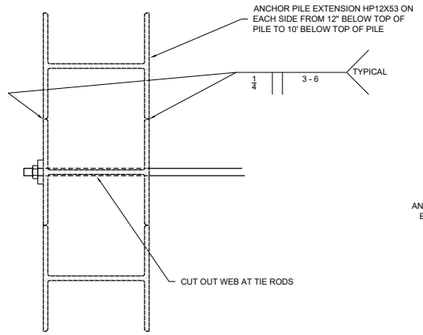
Project Manager:	Reviewed By:	Date:	
MRT	AW	JUNE 2000	
Scale: 3/4"=1'-0"	Project N º: 12610-10	Report N º: 016	Drawing N º: C-18AR

12610-10(016)CI-WA022 APR 16/2002

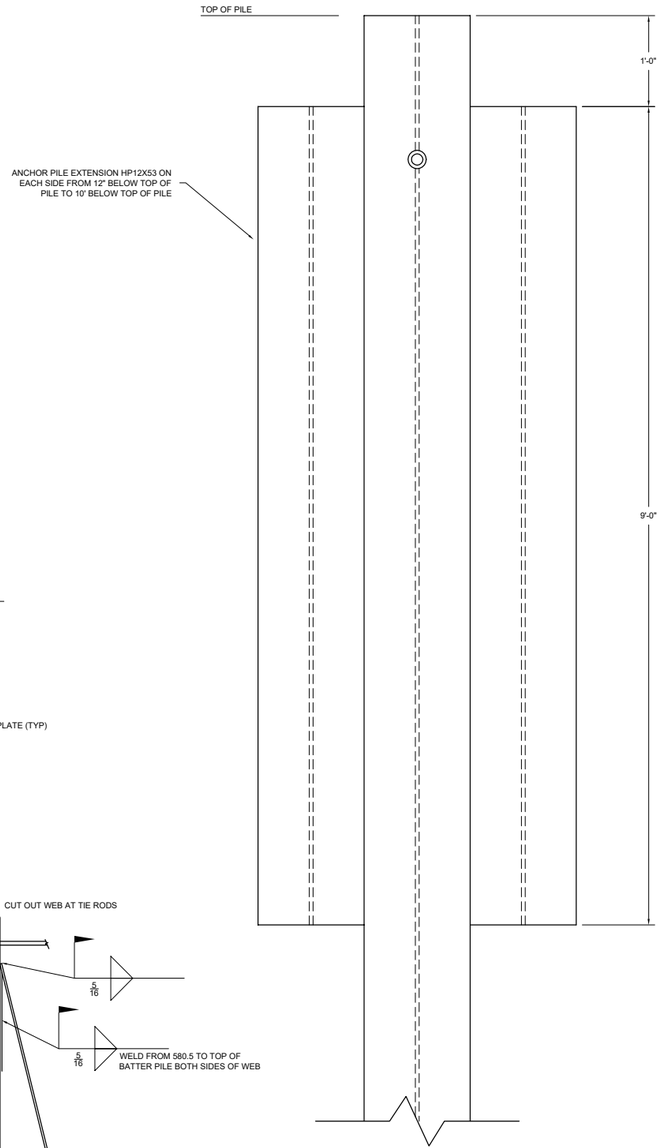


DETAIL D-3 / S-01 — NTS

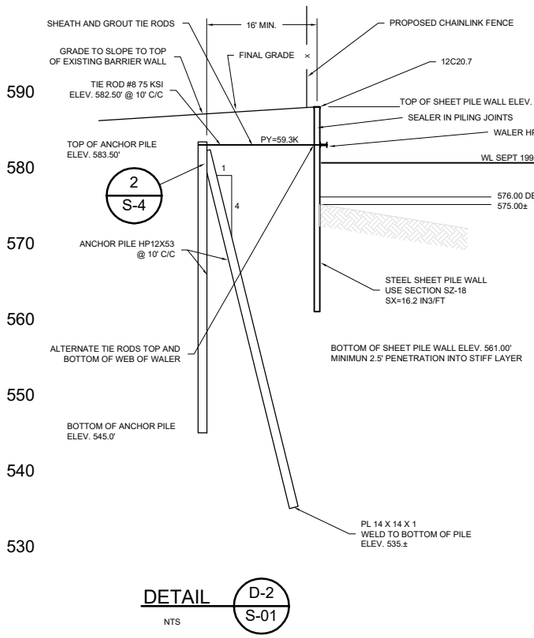
TYPICAL SECTION NOT ADJACENT DSM WALL



DETAIL 1 / S-4 PLAN — NTS

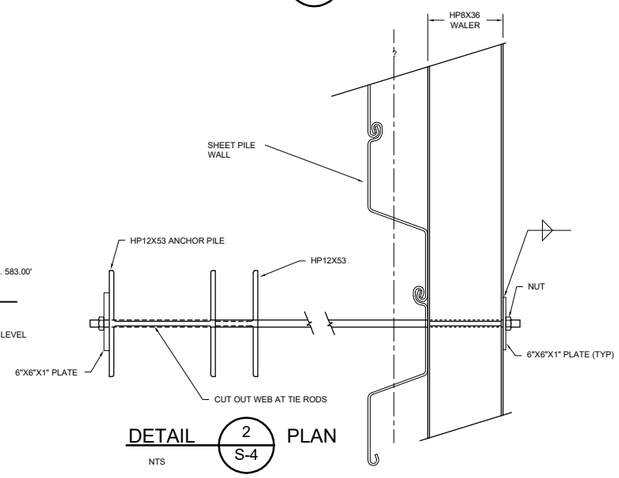


DETAIL 1 / S-4 ELEVATION — NTS

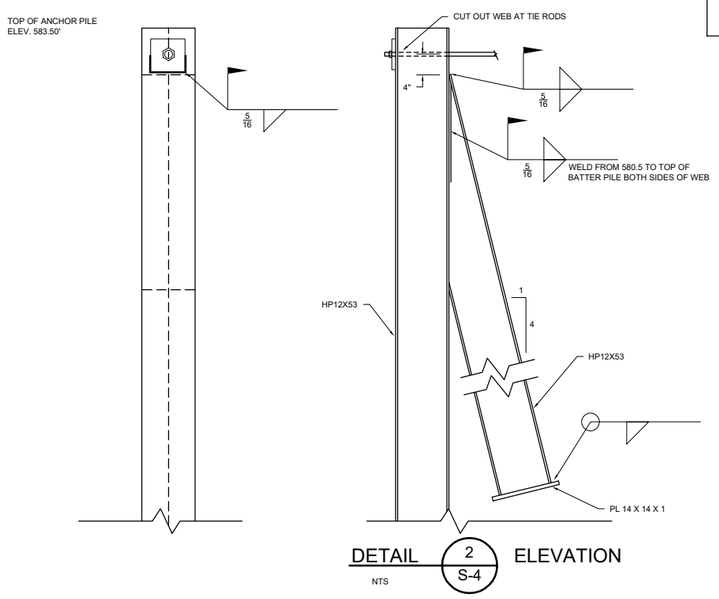


DETAIL D-2 / S-01 — NTS

TYPICAL SECTION ADJACENT TO DSM WALL



DETAIL 2 / S-4 PLAN — NTS



DETAIL 2 / S-4 ELEVATION — NTS

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH34

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

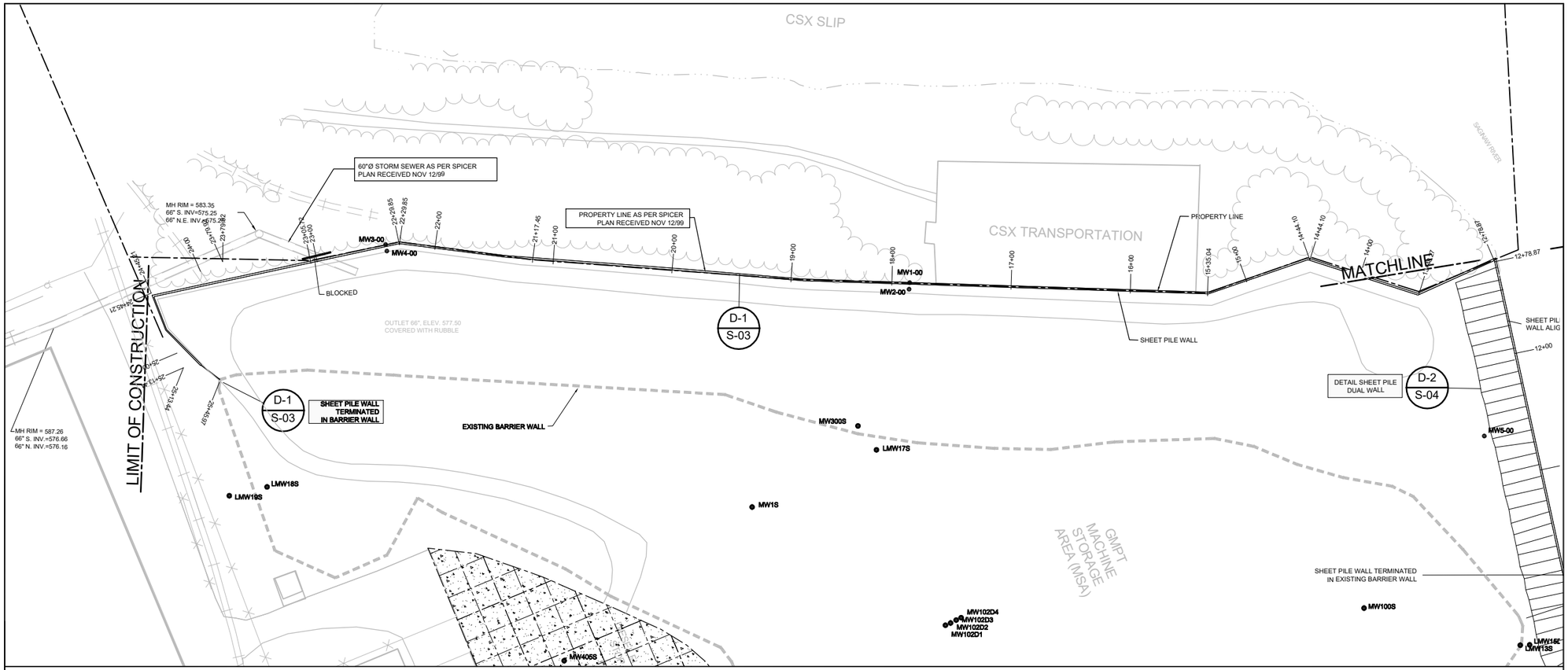
SHEET PILING DETAILS
SHEET 2 OF 2

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: AS SHOWN	Project N º: 12610-10	Report N º: 016	Drawing N º: S-04AR

12610-10(016)ST-WA004 APR 16/2002



№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH32

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

CROTTY STREET CHANNEL SITE
BAY CITY, MICHIGAN

AS RECORDED

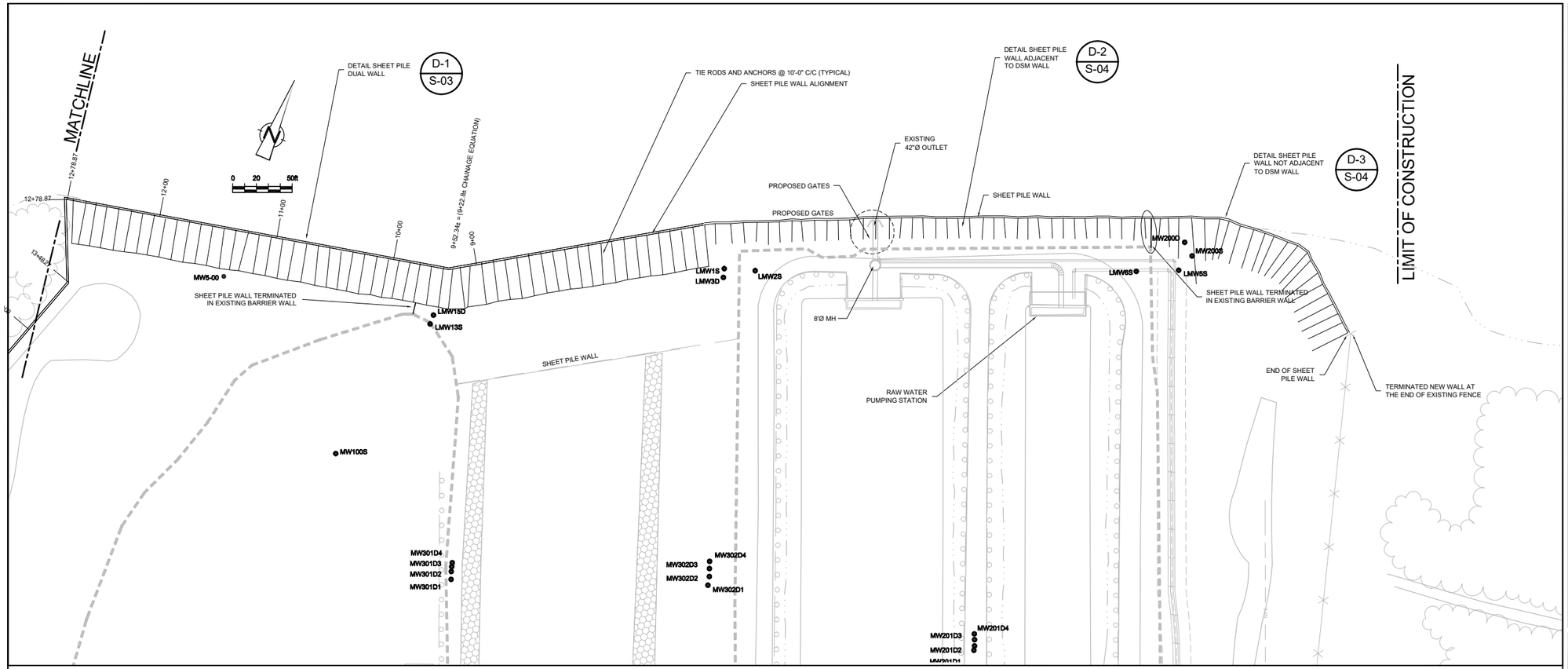
SHEET PILING
PLAN AND PROFILE 10+50 - 25+46

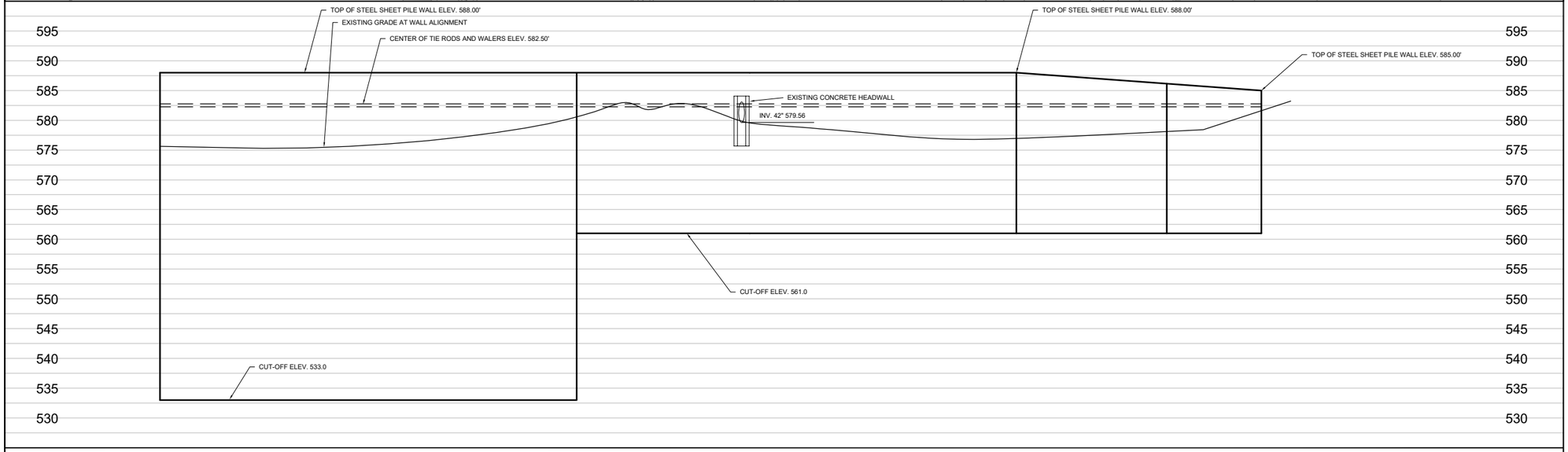
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
SPICER GROUP, SAGINAW, MICHIGAN, DRAWING E23201, FEBRUARY 2000

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: 1"=50' 1"=10'	Project N №: 12610-10	Report N №: 016	Drawing N №: S-02AR

12610-10(016)ST-WA003 APR 16/2002





№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No.: PE-H-96
SHEET No.: SH31

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

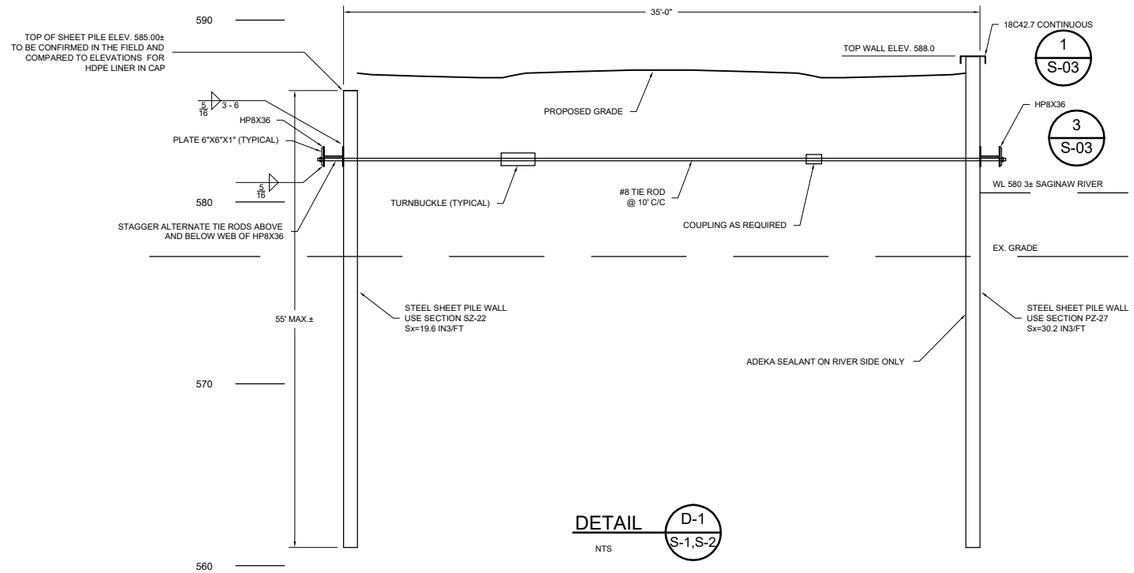
SHEET PILING
PLAN AND PROFILE 1+00 - 12+78.87

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
SPICER GROUP, SAGINAW, MICHIGAN, DRAWING D352408, JULY 1999

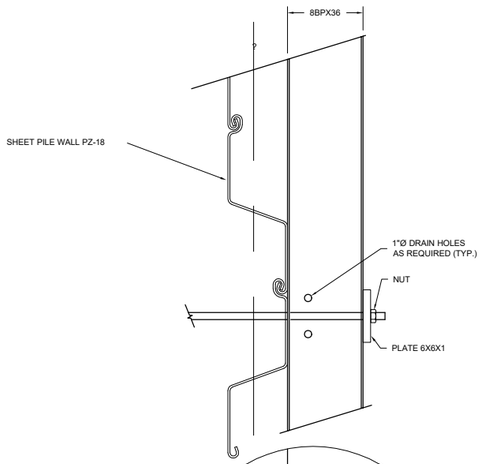
Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: 1"=50' 1"=10'	Project N №: 12610-10	Report N №: 016	Drawing N №: S-01AR

12610-10(016)ST-WA002 APR 16/2002

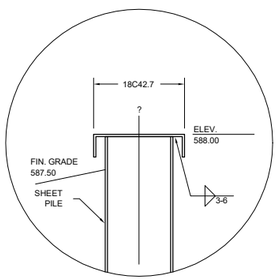


DETAIL D-1 / S-1,S-2
NTS

SECTION THROUGH DUAL WALL



DETAIL 3 / S-03
NTS



DETAIL 1 / S-03
NTS

№	Revision	Date	Initial
1	ISSUED FOR CONSTRUCTION	MAR 01/99	MRT
2	AS RECORDED	MAY 2000	MRT

Remediation and Liability Management Company, Inc.

GM POWERTRAIN

GENERAL MOTORS POWERTRAIN DIVISION
BAY CITY OPERATION
BAY CITY, MICHIGAN 48708-5460

PLANT ENGINEERING BUILDING No. PE-H-96

SHEET No. SH33

AS RECORDED JUNE 2000

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

GM POWERTRAIN DIVISION
BAY CITY, MICHIGAN

AS RECORDED

SHEET PILING DETAILS
SHEET 1 OF 2

CRA CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
MRT	RLA	JUNE 2000	
Scale: AS SHOWN	Project N º: 12610-10	Report N º: 016	Drawing N º: S-03AR

Appendix F

Bay City Discharge Permits

November 12, 2012

Mr. John-Eric Pardys
Conestoga-Rovers & Associates
14496 Sheldon Rd, Suite 200
Plymouth MI, 48170

RE: Request for Sampling Using Time Proportioned Sample Collection and additional clarifications
Bay City Industrial Land, Bay City, Michigan IU Permit No. 120807

Dear Mr.Pardys:

The City of Bay City has reviewed and approves your request to replace the flow proportioned sampling identified in Part 2, A, (3) with the time proportioned sample collection at the post-treatment sample point annotated on your permit application.

In addition, the information you provided related to the collection of permit required samples has been removed from the permit language as the permit is a template. We have included the information in this letter for reference:

- The flow meter is a Rotorflow – Model: RFO-156262 or approved equivalent.
- The 24-hr composite samples are to be collected utilizing a composite sampler from a sample port located within the treatment building after the flow meter. The treatment system is continuous, however, discharge will be intermittent based on demand.
- Grab samples will be collected from the sample port located in the treatment building after the flow meter.
- The discharge location Outfall 001 is located in a sanitary sewer manhole at the north end of Crotty Street (forcemain – treated groundwater). The permit sampling will be conducted in the groundwater treatment building from a port located after the treatment system.

Lastly, in order to comply with the "Access without delay" clause (Part 11, C), the City will work together with RACER to obtain access to the Facility, which may include RACER providing the City keys to the Facility.

If you have any questions, please do not hesitate to call me.

Sincerely

Carol Injasoulian

Carol L. Injasoulian

Laboratory Manager/ I.P.P. Manager

City of Bay City

C: File

INDUSTRIAL USER PERMIT

CITY OF BAY CITY WASTEWATER TREATMENT PLANT

In accordance with Article II of Chapter 106 of the Bay City Code of Ordinances ("Sewer Use and Industrial Pretreatment") (referred to herein as the "Sewer Use Ordinance"):

RACER Properties LLC
2390 Ecorse Rd
Ypsilanti, MI 48198

Site Managed by Conestoga-Rovers & Associates
14496 Sheldon Rd, Suite 200
Plymouth MI, 48170

(the "Permittee") is hereby authorized to discharge industrial wastewater from the facility identified above and through the outfall(s) identified in this permit into the Bay City POTW ("POTW") in accordance with the conditions set forth in this permit. Compliance with this permit does not relieve the Permittee of its obligation to comply with any or all applicable pretreatment regulations, standards or requirements under local, state, or federal laws, including any regulations, standards, requirements or laws that may become effective during the term of this permit.

Noncompliance with any term or condition of this permit is a violation of the Sewer Use Ordinance and may also violate other applicable state and federal laws and regulations.

Date Permit Issued: December 1, 2012

Permit Effective Date: December 1, 2012

Permit Expiration Date: December 1, 2017

Permit Renewal Application
Must Be Filed No Later Than: July 1,2017

By: _____
WWTP Superintendent

PART 1. EFFLUENT LIMITATIONS AND DISCHARGE PROHIBITIONS.

A. During the period beginning on December 1, 2012 and ending on December 1, 2017, the Permittee is authorized to discharge wastewater to the POTW from the outfall(s) described below:

Outfall	Name and/or Location of Outfall and Type of Discharge
001	Sanitary Sewer Manhole at the North End of Crotty Street (forcemain - Treated Groundwater. See Drawing C-04 for discharge point.

B. The discharge from Outfall 001 as authorized by this permit shall not exceed the following specific effluent limitations:

(1) Pollutants in concentrations that exceed the daily maximum or monthly average concentrations listed below in this subsection:

Parameter	Daily Maximum (mg/l	Monthly Average (mg/l
Arsenic (T)	0.683	0.683
Cadmium (T)	0.057	0.057
Chromium (T)	6.812	6.812
Copper (T)	1.476	1.476
Cyanide (Amenable)	0.068	0.068
Cyanide (T)	0.320	0.314
Lead (T)	0.632	0.632
Molybdenum (T)	294.000	48.199
Nickel (T)	2.548	2.548
Selenium (T)	0.337	0.337
Silver (T)	0.200	0.083
Zinc (T)	1.481	1.481
Benzene (71-43-2)	3.19	3.19
Toluene (108-88-3)	2.72	2.72
Ethylbenzene (100-41-4)	1.86	1.86
Xylene (1330-20-7)	1.60	1.60
Phenols (T)*	27.3	27.3
Tetrachloroethylene (127-18-4)	0.53	0.53
1,2-dichloroethane (107-06-2)	1.69	1.69
Cis-1,2-dichloroethene (156-59-2)	5.27	5.27
Trichloroethylene (79-01-6)	1.42	1.42
Vinyl Chloride (75-01-4)	0.002	0.002
Fluoranthene (206-44-0)	22.2	22.2
Chlorine	30.0	30.0
Acenaphthene (83-32-9)	0.213	0.213

Naphthalene (91-20-3)	1.73	1.73
Ammonia Nitrogen (NH3 as N)	30.0[1]	30.0[1]
BOD	835[2]	835[2]
COD	1670[3]	1670[3]
Phosphorous (T)	13.8[4]	13.8[4]
TSS	1336[5]	1336[5]
Grease/Oil	100[6]	100[6]

Notes:

* For purposes of determining compliance with the daily maximum and monthly average limits for phenols (T), only the gas chromatograph 604 or gas chromatograph/mass spectrometer 625 or 1625 test methods as listed in 40 CFR part 136, Table 1C ("List of Approved Test Procedures for Non-Pesticide Organic Compounds") shall be used. Manual distillation followed by colorimetric methods shall not be used for that purpose.

1. Any discharge of ammonia nitrogen in excess of 14.0 mg/l is subject to surcharge.
2. Any discharge of BOD in excess of 225 mg/l is subject to surcharge as provided by the Sewer Use Ordinance (SUO).
3. Any discharge of COD in excess of 450 mg/l is subject to surcharge as provided by the SUO.
4. Any discharge of total phosphorous in excess of 4.3 mg/l is subject to surcharge as provided the SUO.
5. Any discharge of TSS in excess of 151 mg/l is subject to surcharge as provided the SUO.
6. Any discharge of Grease/Oil in excess of 70 mg/l is subject to surcharge as provided the SUO.
7. pH must be maintained between 6.5 and 11.0.

☐

Discharges which contain more than one pollutant which may contribute to fume toxicity shall be subject to more restrictive limitations, as determined necessary by the POTW. The more restrictive discharge limits will be calculated based on the additive fume toxicity of all compounds identified or reasonably expected to be present in the discharge, including, without limitation, the specific compounds listed in section 106-101(b)(1) of the SUO.

(2) Pollutants in concentrations that exceed the instantaneous maximum, daily maximum or monthly average concentrations listed below in this subsection:

Parameter	Instantaneous Maximum	Daily Maximum	Monthly Average Concentration
Mercury	Nondetect for instantaneous maximum concentration, daily maximum and monthly average. Any discharge of mercury at or above the detection limit is a specific violation of the SUO. The detection limit shall be established pursuant to the procedure for determination of the method detection limit ("MDL") as set forth in section 3(a) of Appendix B of 40 CFR part 136. The MDL study used to determine the MDL shall be made available to the POTW immediately upon request. In no case may the detection limit exceed 0.2 g/l, unless a higher detection limit is approved by the POTW because of sample matrix interference. Mercury sampling procedures, preservation and handling, and analytical protocol for compliance monitoring shall be in accordance with EPA method 245.1, unless other methods are approved in advance by the WWTP Superintendent.		

PCBs (T)	Nondetect for instantaneous maximum concentration, daily maximum and monthly average. Any discharge of PCBs at or above the detection limit is a specific violation of the SUO. The detection limit shall be established pursuant to the procedure for determination of the method detection limit ("MDL") as set forth in section 3(a) of Appendix B of 40 CFR part 136. The MDL study used to determine the MDL shall be made available to the POTW immediately upon request. In no case may the detection limit exceed 0.1 g/l, unless a higher detection limit is approved by the POTW because of sample matrix interference. PCB sampling procedures, preservation and handling, and analytical protocol for compliance monitoring shall be in accordance with EPA method 608, unless other methods are approved in advance by the WWTP Superintendent. Total PCBs is defined as the sum of any identified Aroclors, including, but not limited to, Aroclors 1016, 1221, 1232, 1242, 1248, 1254 and 1260. In addition, any detected Aroclor-specific measurements shall be reported.

C. The Permittee shall not contribute or cause to be contributed to the POTW, directly or indirectly, any pollutant, substance or wastewater which will cause "pass through" or "interference" as those terms are defined by the Sewer Use Ordinance.

D. The Permittee shall not contribute or cause to be contributed to the POTW, directly or indirectly, any of the substances, pollutants, or wastewater prohibited by section 106-101(b) of the Sewer Use Ordinance.

E. The dilution of any of Permittee's effluent or discharge as a partial or complete substitute for adequate treatment to achieve compliance with applicable local, state or federal standards or limitations is prohibited as provided by Section 106-106 of the Sewer Use Ordinance.

F. Permittee's discharges shall at all times comply with all other applicable local, state and federal laws, regulations, standards, and requirements, including, without limitation, the Sewer Use Ordinance, and including any such laws, regulations, standards, or requirements that may become effective during the term of this permit.

PART 2. MONITORING AND SAMPLING REQUIREMENTS

The Permittee shall comply with all monitoring requirements as provided by this permit, the Sewer Use Ordinance and other applicable laws and regulations, including, without limitation, the following:

A. Monitoring Location, Frequency and Sample Type . During the period beginning on December 1, 2012 and ending December 1, 2017, the Permittee shall monitor Outfall 001 for the following sample parameters, according to the following monitoring locations, frequencies (daily, weekly, monthly, quarterly, continuous, etc.), and sample types (composite, grab, meter, etc.):

Parameter	Location [1]	Frequency [2]	Type [3]
TSS	001	Semi-Annually	Composite
pH	001	Semi-Annually	Grab
Grease/Oil	001	Semi-Annually	Grab
Phosphorous	001	Semi-Annually	Composite
COD	001	Semi-Annually	Composite
BOD	001	Semi-Annually	Composite
Cadmium	001	Semi-Annually	Composite
Chromium	001	Semi-Annually	Composite
Copper	001	Semi-Annually	Composite
Mercury	001	Semi-Annually	Composite
Lead	001	Semi-Annually	Composite
Nickel	001	Semi-Annually	Composite
Silver	001	Semi-Annually	Composite
Ammonia Nitrogen	001	Semi-Annually	Composite
Total PCB	001	Semi-Annually	Composite
Vinyl Chloride	001	Semi-Annually	Grab
Flow (gpd)	001	Continuous	Meter [4]

Notes :

1. The precise sample monitoring or measurement location shall be as shown in the permit application materials or as otherwise specified by the POTW.

2. "Daily" means at least once within every 24 hour period; "Weekly" means at least once within every 7 day period; "quarterly" means at least once within every 3 month period; and "continuous" means at all times during discharge.

3. "Grab" sample means an individual sample that is taken from a wastestream on a one-time basis without regard to the flow in the wastestream and over a period of time not to exceed 15 minutes. "Composite" sample means a series of individual samples taken at regular intervals over a specific time period and combined into a single sample (formed either by continuous sampling or by mixing discrete samples) representative of the average stream during the sampling period. For categorical sampling, a composite sample shall consist of at least four (4) individual samples taken within a 24 hour period. Except as provided below, a composite sample shall be a 24-hour flow proportioned composite sample. If it is not feasible to obtain a flow proportioned composite sample, and if the Permittee demonstrates to the POTW's satisfaction that a representative sample will be obtained, the POTW may approve the use of a 24-hour time proportioned composite sample (or a minimum of 4 grab samples, as determined appropriate by the POTW) in lieu of the flow proportioned composite sample.

4. Daily flows are to be recorded from the Permittee's flow meter located within the treatment building on-site Following treatment and prior to discharge.

The Permittee may be required by the POTW to perform additional monitoring of the parameters listed in this section (including, without limitation, different locations, frequencies or sample types) as determined necessary by the POTW or as otherwise authorized under applicable laws and regulations.

B. Monitoring - Special Requirements . In addition to any other applicable monitoring requirements, the Permittee shall also comply with any special monitoring requirements as specified by this section.

C. Automatic Resampling Upon Indication of Permit Violation; Notification and Report Required . If sampling performed by the Permittee indicates a violation, the Permittee shall notify the WWTP Superintendent within 24 hours of becoming aware of the violation. The Permittee shall also repeat the sampling and analysis and submit the results of the repeat analysis to the POTW within 30 days after becoming aware of the violation, except that the Permittee shall not be required to resample if (a) the POTW performs sampling at the Permittee's facility at a frequency of at least once per month, or (b) the POTW performs sampling at the Permittee's facility between the time when the Permittee performs its initial sampling and the time when the Permittee receives the results of the sampling that indicates the violation. If the Permittee uses its own laboratory for sample analysis, the WWTP Superintendent may require the Permittee to send split samples to an independent laboratory at a frequency specified by the Superintendent as a quality control check.

D. Monitoring Points . All samples and measurements shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water or substance. The Permittee shall not change monitoring points without the prior approval of the POTW.

E. Sampling and Analytical Methods to Demonstrate Compliance . All sampling, measurements, tests, and analyses of the characteristics of discharges to the POTW shall be performed in accordance with the procedures approved by the U.S. EPA contained in 40 CFR part 136. If, as determined by the WWTP Superintendent, the sampling and analytical techniques contained in 40 CFR part 136 are not available, do not apply to the discharge or pollutants in question, are not appropriate under the circumstances for application to the discharge or pollutants in question, or where one or more alternate techniques are available under 40 CFR part 136, sampling and analysis shall be performed using validated sampling and analytical methods and procedures approved or required by the POTW.

F. Representative Sampling . All samples and measurements taken as required by this permit shall be representative of the volume and nature of the monitored discharge. This shall be subject to verification by the POTW through the use of split sampling or other means determined necessary by the POTW.

G. Flow Measurement . If the Permittee is required by this permit to measure flow, the Permittee shall use flow measurement devices and methods consistent with approved scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. Measurement devices used by the Permittee shall be capable of

measuring flows with a maximum deviation of less than 10 percent from true discharge rates throughout the range of expected discharge volumes.

H. Maintenance, Repair and Calibration of Sampling Equipment . All equipment used for sampling, measurement and analysis as required by this permit must be routinely calibrated, inspected, and maintained by the Permittee as provided by the Sewer Use Ordinance. Calibration, inspection and maintenance shall be performed as often as necessary to ensure that monitoring data, measurements and analysis are accurate and representative, and consistent with the accepted capability of the type of equipment used. The Permittee shall keep a complete and accurate written record of all calibrations, inspections and maintenance done (including, without limitation, the date and time of the activity, a description of what was done and the methods used, the names of persons conducting the activity, and any required or recommended follow-up). The record shall also include a description of all problems discovered regarding the equipment whether in response to a regularly scheduled inspection or otherwise. The POTW, in any event, may inspect and test a user's sampling and flow measurement equipment and instruments at all reasonable times.

I. Records of Sampling and Analysis . The Permittee shall keep a written record of all samples, measurements, and analysis required by this permit and the Sewer Use Ordinance. At a minimum, the records shall include the date, exact place, time (including start time and stop time) and method of sampling or measurement, and the name(s) of person(s) taking the samples or measurements; sampler programming information; the sample preservation techniques or procedures used; the full chain-of-custody for each sample; the dates the analyses were performed; who performed the analyses; the analytical techniques and methods used; quality assurance/quality control (QA/QC) procedures used and QA/QC data; and the results of the analyses. Records shall be maintained and retained as provided by Division 13 of the Sewer Use Ordinance.

PART 3. SPECIAL CONDITIONS .

The Permittee shall comply with any special conditions specified by this section.

N/A

PART 4. REPORTING AND NOTIFICATION REQUIREMENTS .

A. Required Reports and Notifications . The Permittee shall comply with all reporting and notice requirements as provided by this permit, the Sewer Use Ordinance, and other applicable laws and regulations, including, without limitation, the following:

1. Baseline Reports . As applicable to the Permittee, the Permittee shall submit to the POTW within the required submission deadlines the reports as required by section 106-151(a) of the Sewer Use Ordinance.

2. Reports on Compliance with Categorical Pretreatment Standard Deadline . As applicable to the Permittee, the Permittee shall submit to the POTW within the required submission deadlines the reports as required by section 106-151(b) of the Sewer Use Ordinance.

3. Periodic Reports on Continued Compliance . All monitoring results obtained by the Permittee as required by this permit shall be summarized and reported on an Industrial User Monitoring Report Form once every 6 months (unless required more frequently by the applicable pretreatment standard or by the POTW) as otherwise required by section 106-151(c) of the Sewer Use Ordinance. The reports are due on the **30th day of July and January** of each year (unless alternate months are specified by the POTW). The first report is due on **July 30, 2013**. Each report shall indicate, without limitation, the following information for the applicable reporting period: the nature and concentration of all pollutants in the effluent for which sampling and analysis were performed; the measured maximum and average daily flows; the names of all person(s) responsible for operating and maintaining any pretreatment equipment, pretreatment processes, or responsible for wastewater management at the Permittee's facilities, with a brief description of each person's duties; information regarding materials or substances which may cause interference or pass through; and any other information required by the Sewer Use Ordinance or deemed necessary by the POTW to assess and assure compliance with applicable discharge requirements or to safeguard the operation of the POTW.

4. Notice of Potential Problems . The Permittee shall immediately notify the POTW of any discharge by the Permittee that could cause problems to the POTW, including, without limitation, slug loadings, or discharges that exceed any applicable discharge prohibition or limitation, or otherwise result in noncompliance with permit requirements.

5. Notice by User of Violation of Pretreatment Standards .If sampling performed by an industrial user indicates a violation, the user shall notify the POTW within 24 hours of becoming aware of the violation (and shall comply with other applicable requirements provided by section 106-176 of the Sewer Use Ordinance regarding repeat sampling and analysis).

6. Notice of Changed Discharge or Change in User Status . The Permittee shall promptly notify the POTW in advance of any substantial change in the volume or character of pollutants in its discharge, or of any facility expansion, production increase, or process modifications that could result in a substantial change in the

volume or character of pollutants in its discharge, as provided by section 106-155 of the Sewer Use Ordinance.

7. Notice Regarding Discharge of Wastes That Are Otherwise Hazardous . If the Permittee discharges to the POTW a substance that, if disposed of other than by discharge to the POTW, would be a hazardous waste under 40 CFR part 261 or under the rules promulgated under the state hazardous waste management act (Part 111 of Act 451 of the Public Acts of Michigan of 1994, MCLA §§ 324.11101 et seq., as amended), the Permittee shall notify the WWTP Superintendent, the U.S. EPA Region V Waste Management Division Director, and the Chief of the Waste Management Division of the Michigan Department of Environmental Quality, of the discharge as required by MAC R 323.2310(15).

8. Notice Regarding Installation of New Pretreatment Facilities . Within 5 days after completing installation of new pretreatment facilities, the Permittee shall notify the POTW in writing of the time and date when it intends to commence operation of the new facilities, and the identity of the person who will conduct any tests to be performed. The pretreatment facilities shall not be placed in regular operation until adequate tests have been conducted to establish that the discharges will comply with the requirements of this permit and other applicable laws and regulations. Upon prior written request by the POTW, the Permittee shall allow a representative of the POTW to observe the tests at the time they are conducted. The cost of the tests shall be paid by the Permittee.

9. Other applicable reporting and notification requirements . The Permittee shall comply with other applicable reporting and notice requirements as provided by this permit, the Sewer Use Ordinance, or any other applicable laws or regulations, including, without limitation, the reporting and notice requirements in connection with resampling where a violation is indicated (Part 2, Section C), accidental discharge (Part 5, Section B), upset (Part 6, Section B), and bypass (Part 7, Section B), and any other reports or notice requirements determined necessary by the POTW to assess and assure compliance with the requirements of the Sewer Use Ordinance.

B. Requirements Applicable to All Reports and Notifications . All reports and notifications submitted by the Permittee to the POTW as required by this permit shall meet the following requirements:

1. All reports required by this permit shall be based upon data obtained through appropriate sampling and analysis performed during the period covered by the report. The data shall be representative of conditions occurring during the applicable reporting period.

2. If the Permittee monitors any pollutant or sampling parameter more frequently than required by this permit, using test procedures prescribed in 40 CFR Part 136,

as amended, (or otherwise approved by EPA or as specified in this permit), the results of such additional monitoring shall be included in any calculations of actual daily maximum, monthly average, or instantaneous pollutant discharge, and these results, along with the increased monitoring frequency, shall be included in all reports and notifications submitted to the POTW pursuant to this permit.

3. The POTW may require that reports, notifications, and other required documents and data be submitted in a standardized format, as specified by the POTW.

4. If the POTW instead of the Permittee collects all of the information, including flow data, required for a report required by sections 106-151 or 106-152 of the Sewer Use Ordinance, the POTW may in its discretion waive the requirement that the report be submitted by the Permittee.

5. The reports, notifications, and other documents and data required to be submitted or maintained by this permit and the Sewer Use Ordinance shall be subject to all of the provisions as specified by MAC R 323.2310(13).

6. Failure to provide the notifications and reports required by this permit constitutes a violation of this permit and the Sewer Use Ordinance. Providing the required notifications and reports shall not relieve the Permittee of any expense, loss, damage, or other liability which may be incurred as a result of damage to the POTW, fish kills, or any other damage to person or property; nor shall such notification or report relieve the Permittee of any fines, penalties, or other liability which may be imposed by applicable laws or regulations. Further, the reporting and notification requirements required by this permit shall not be construed to authorize a discharge which exceeds a discharge prohibition or limitation under this permit or other applicable laws or regulations.

7. All written reports and notifications required by this permit shall be signed and certified as follows:

   a. Required Signatures. The reports and notifications shall be signed by an "authorized representative" of the User as defined in section 106-23 of the Sewer Use Ordinance.

   b. Required Certification. The reports and notifications shall include the following certification statement:

      "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my

knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

8. All written reports and notifications required by this permit shall be submitted to the POTW at the following address:

Bay City Wastewater Treatment Plant
Attn: IPP Coordinator
2905 North Water Street
Bay City, Michigan 48708

9. All non-written or oral notifications required by this permit shall be made by contacting the POTW at the following telephone number: 517-893-5121.

PART 5. ACCIDENTAL DISCHARGE

A. Accidental Discharge Requirements . The Permittee shall meet and maintain compliance at all times with the minimum requirements for preparing for, responding to, and reporting, accidental discharges to the POTW as provided by Division 9 of the Sewer Use Ordinance, and any additional or more restrictive requirements provided by this permit, a slug control plan, or other applicable laws and regulations.

B. Accidental Discharge Notice and Report .

1. Upon the occurrence of any accidental discharge of any substance, pollutant or wastewater prohibited by this permit, or the occurrence of any slug load or spill that may enter the POTW, the Permittee shall *immediately* (regardless of the time of day) notify the POTW of the incident by telephone at 517-893-5121. The notification shall include all available information regarding the date, time and location of the discharge, its volume, duration, constituents, loading and concentrations, corrective actions taken and required, and other available information as necessary to determine what impact the discharge may have on the POTW.

2. Within 5 days of an accidental discharge, the Permittee shall submit to the POTW a detailed written report. The report shall specify the same and any additional available information regarding the accidental discharge, slug load or spill as required by Section (B)(1), above. The report shall also specify the cause of the incident; the exact dates and times of noncompliance and, if the noncompliance is continuing, the time by which compliance is reasonably expected to occur; the impact on the Permittee's compliance status; the measures that have been or will be taken by the Permittee to prevent similar future incidents from occurring.

PART 6. UPSET .

A. Affirmative Defense . An upset constitutes an affirmative defense to an action brought for noncompliance with categorical pretreatment standards if *all* of the requirements of Section (B), below, are met by the Permittee. In any enforcement proceeding, the Permittee shall have the burden of proof by clear and convincing evidence to establish the occurrence of an upset and that the noncompliance in question was attributable to the upset event. Even if the Permittee establishes the upset defense for a particular noncompliance event, the Permittee shall nevertheless be liable for surcharges for exceeding applicable discharge limitations as a result of the upset as provided by this permit and the Sewer Use Ordinance.

B. Conditions Necessary to Demonstrate Upset . To establish the upset affirmative defense, the Permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence, all of the following:

1. An upset occurred and the Permittee can identify the cause(s) of the upset;

2. The facility was at the time being operated in a prudent and workmanlike manner and in compliance with all applicable operation and maintenance procedures;

3. The Permittee submitted the following information to the POTW within 24 hours of becoming aware of the upset (if this information is provided orally, a written report must be provided by the Permittee within 5 days of becoming aware of the upset):

   a. A description of the discharge and cause of non-compliance;

   b. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the non-compliance is expected to continue; and

   c. The steps being taken and/or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

C. Permittee Responsibility in Case of Upset . If an upset occurs, the Permittee must halt, reduce or otherwise control its production and all discharges, as necessary to comply with categorical pretreatment standards and other applicable limits, until the cause of the noncompliance is corrected. (See also , Part 10, Section (C), "Duty to Halt or Reduce Activity.")

PART 7. BYPASS

A. Bypass Prohibited . Except as provided by Section (D) of this Part, the bypass of industrial wastes from any portion of the Permittee's facility is prohibited unless:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime; and

3. The Permittee provided notice as required under Section (B) of this Part.

B. Required Notices .

1. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it must submit prior notice of the bypass to the POTW. Such notice shall be submitted to the POTW as soon as the Permittee becomes aware of the need for the bypass, and if possible, at least 10 days before the date of the bypass.

2. Unanticipated bypass. Within 24 hours from the time the Permittee becomes aware of an unanticipated bypass that exceeds applicable pretreatment standards, the Permittee must submit oral notice of the bypass to the POTW. A written report must also be provided to the POTW within 5 days of the time the Permittee becomes aware of the bypass. The written report shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times, and, if the bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the bypass. The WWTP Superintendent may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

C. POTW Approved Bypass . The WWTP Superintendent may approve an anticipated bypass, after considering its adverse effects, if the Superintendent determines that it meets the conditions set forth in Section (A)(1), (2) and (3), above. It shall be a violation of this permit and the Sewer Use Ordinance for the Permittee to allow an anticipated bypass to occur without the prior approval of the Superintendent.

D. Bypasses Not Violating Applicable Pretreatment Standards or Requirements .The Permittee may allow a bypass to occur that does not cause or result in noncompliance with this permit, the Sewer Use Ordinance, or applicable state or federal laws or regulations, but only if the bypass is for essential maintenance to assure efficient operation of the Permittee's facility. Such bypasses are not subject to the provisions of Sections (A), (B) and (C) of this Part. However, this section shall not be construed to authorize a discharge which exceeds a discharge prohibition or limitation under this

permit or other applicable laws or regulations; nor to relieve the Permittee for any expense, loss, damage, or liability which may be incurred as a result of the bypass, such as damage to the POTW, fish kills, or any other damage to person or property; nor to relieve the Permittee of any fines, penalties or other liability which may be imposed by applicable laws or regulations as a result of the bypass.

PART 8. MODIFICATION, SUSPENSION, REVOCATION, REISSUANCE, EXPIRATION, CONTINUATION AND/OR TRANSFER

A. Permit Modification This permit may be modified by the POTW for any reason determined necessary by the POTW to assure compliance with the requirements of the Sewer Use Ordinance and other applicable laws and regulations, including, without limitation, any of the following reasons:

1. To incorporate any new or revised local, state or federal pretreatment standards or requirements, or other applicable requirements of law or regulation.

2. Material or substantial changes or additions to the Permittee's operations, processes, or the character or quality of discharge which were not considered in drafting or issuing the existing permit.

3. A change in any condition in either the Permittee's discharge, facility, production or operations, or in the POTW, that requires either a temporary or permanent reduction or elimination of the Permittee's discharge to assure compliance with applicable laws, regulations or the POTW's NPDES permit.

4. Information indicating that the discharge as authorized by the existing permit poses a threat to the POTW's collection or treatment systems, POTW personnel or the receiving waters.

5. Violation of any terms or conditions of the permit.

6. Misrepresentation or failure to disclose fully all relevant facts in the permit application or in any required report or notification.

7. Revision of, or a grant of variance from, categorical standards pursuant to 40 CFR 403.13.

8. To correct typographical or other errors in the permit.

9. To reflect transfer of the facility ownership or operation to a new owner or operator.

10. To add or revise a compliance schedule for the Permittee.

11. To reflect changes or revisions in the POTW's NPDES permit.

12. To ensure POTW compliance with applicable sludge management requirements promulgated by EPA.

13. To incorporate any new or revised requirements resulting from reevaluation of the POTW's local limits.

14. To incorporate a request for modification by the Permittee, as determined appropriate by the POTW and provided the request does not create a violation of any applicable requirement, standard, law, rule or regulation.

The Permittee shall be informed by the POTW of any changes in the permit at least 30 days prior to the effective date of the change, unless a shorter time is determined necessary by the POTW to meet applicable laws or to protect human health or the environment.

B. Permit Suspension and Revocation . This permit may be suspended (for a specified period) or permanently revoked by the POTW for any reason determined necessary by the POTW to assure compliance with the requirements of the Sewer Use Ordinance, the POTW's NPDES permit, or other applicable laws and regulations, including, without limitation, any of the following reasons:

1. Falsifying self-monitoring reports.

2. Tampering with monitoring equipment.

3. Failure to allow reasonable access to the Permittee's premises and records by representatives of the POTW for purposes authorized by this chapter, including, without limitation, inspection or monitoring.

4. Failure to meet effluent limitations.

5. Failure to pay fines or penalties.

6. Failure to pay sewer charges.

7. Failure to pay permit fees.

8. Failure to meet compliance schedules.

9. Failure to comply with any term or condition of the permit, the Sewer Use Ordinance, or any final judicial order entered with respect thereto.

10. Failure to comply with any reporting or notice requirement.

11. Failure to disclose fully all relevant facts in the permit application or during the permit issuance process, or misrepresentation of any relevant fact at any time.

12. A determination by the POTW that the discharge permitted by the permit has a reasonable potential to endanger human health or the environment and the threat can be abated only by suspension or revocation of the permit.

Upon suspension or revocation of a permit, the Permittee shall immediately terminate its discharge to the POTW and shall not thereafter recommence discharge without further authorization from the POTW as provided by the Sewer Use Ordinance.

C. Permit Reissuance . To apply for reissuance of this permit, the Permittee must submit a complete permit application to the POTW at least 180 days prior to the expiration date of the this permit.

D. Permit Expiration; Continuation of Expired Permits .

1. This permit shall expire on the date indicated on page 1 of this permit. Except as provided by Section (D)(2) of this Part, upon expiration of this permit the Permittee shall immediately terminate its discharge to the POTW and shall not thereafter recommence discharge without further authorization from the POTW as provided by the Sewer Use Ordinance.

2. This permit shall continue to be effective (and the Permittee may continue its discharge to the POTW) after the date of expiration until it is reissued only if:

   a. The Permittee has submitted a complete permit application at least 180 days prior to the expiration date of the Permittee's existing permit; and

   b. The failure to reissue the permit, prior to expiration of the previous permit, is not due to any act or failure to act on the part of the Permittee.

E. Limitations on Permit Transfer . This permit was issued to the Permittee for discharge from a specific facility and operation and shall not be assigned or transferred or sold to a new or different owner, operator, user, discharger, facility or premises, or to a new or changed facility or operation, without the prior written approval of the WWTP Superintendent. If the transfer of the permit is approved, any succeeding transferee Permittee must also comply with the terms and conditions of this permit. The Superintendent may approve the transfer of this permit only if all of the following conditions are met:

1. The transferor (Permittee) shall give at least 90 days advance notice to the POTW of the proposed transfer of the permit (unless a shorter notice period is approved

by the Superintendent in advance). The notice shall include a written certification signed by the proposed transferee which (a) states that the transferee has no present intent to change the facility's operations and processes; (b) identifies the specific date on which the transfer is to occur; (c) acknowledges that the transferee has read and fully understands all terms and conditions of the permit; and (d) acknowledges that the transferee accepts all of the terms and conditions of the permit as written and accepts full responsibility for complying with the existing permit if the transfer is approved.

2. As of the date of the proposed transfer, there are no unpaid charges, fines, penalties or fees of any kind due to the POTW or the City from the transferor or the transferee related to use of the POTW.

3. Except as to the identity of the new Permittee (the transferee), the application materials for the permit to be transferred as originally filed by the transferor, as well as the terms and conditions of the permit itself, are completely accurate with respect to, and fully applicable to, the discharge, facilities, and activities of the transferee.

If the transfer of this permit is approved, the POTW shall make the necessary minor modifications to the permit to show the transferee as the new Permittee, and a copy of the permit shall be provided to the transferee for signature and certification by the transferee as provided by section 106-160 of the Sewer Use Ordinance.

F. Permit Not Stayed . Except as otherwise expressly provided by the Sewer Use Ordinance, no action taken or request filed by the Permittee shall operate to stay the effect of this permit or of any provision, term or condition of this permit, including, without limitation, a request for permit modification, reissuance, or transfer, or a notification of planned changes or anticipated noncompliance.

PART 9. RECORDS RETENTION .

The Permittee shall retain and preserve records and information related to matters regulated by this permit in accordance with the Division 13 of the Sewer Use Ordinance.

PART 10 . OPERATION AND MAINTENANCE OF POLLUTION CONTROLS .

A. Provision of Necessary Pretreatment Facilities . The Permittee shall provide all necessary wastewater treatment as required to comply with all applicable pretreatment standards and requirements within the time limitations specified by this permit or other applicable law or regulation. All facilities required to pretreat wastewater shall be provided, operated, and maintained at the Permittee's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the POTW for

review, and shall be acceptable to the POTW before construction of the facility. The review of such plans and operating procedures does not in any way relieve the Permittee from the responsibility of modifying the facility as necessary to produce an effluent acceptable to the POTW under the provisions of this permit. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be approved by the POTW prior to the Permittee's initiation of the changes. (The Permittee shall notify the POTW regarding the installation of new pretreatment facilities as provided by section 106-157 of the Sewer Use Ordinance.)

B. Proper Operation and Maintenance . The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to comply with the requirements of this permit. Proper operation and maintenance includes, without limitation, effective performance, adequate funding, adequate operator staffing, and adequate quality assurance/quality control (QA/QC) procedures for sampling and analysis.

C. Removed Substances . Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

D. Duty to Halt or Reduce Activity . Upon reduction of efficiency of operation, or loss, or failure of all or part of the Permittee's pretreatment equipment or facility, the Permittee shall, to the extent necessary to maintain compliance with categorical pretreatment standards and other applicable standards, requirements, and limits, control its production and all discharges until operation of the equipment or facility is restored or an alternative method of treatment is provided. This requirement applies in situations, including, without limitation, where the primary source of power for the pretreatment equipment or facility is reduced, lost, or fails. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

E. Duty to Mitigate . The Permittee shall take all reasonable steps to minimize or correct any adverse impact to the POTW or the environment resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

F. Duty to Pretreat Prior to Discharge to POTW . Except as otherwise expressly required by this permit, by the Sewer Use Ordinance, or other applicable law or regulation, the prohibitions and limitations provided by this permit shall apply at the point where wastewater and pollutants are discharged or caused to be discharged into the POTW and any required pretreatment shall, at a minimum, be completed before that point of discharge is reached.

PART 11. INSPECTION, SURVEILLANCE AND MONITORING

A. In General. The POTW is authorized to carry out all inspection, surveillance, sampling and monitoring activities and procedures, as necessary to determine, independent of information supplied by the Permittee or any other persons, compliance or noncompliance with applicable pretreatment standards and requirements, with this permit, the Sewer Use Ordinance, and other applicable laws and regulations. This authority includes, without limitation, the authority:

1. To verify the completeness, accuracy and representativeness of self-monitoring data submitted by or on behalf of the Permittee.

2. To determine compliance with the requirements of this permit or the Sewer Use Ordinance.

3. To support enforcement actions taken by the POTW against non-compliant Permittees.

4. To determine if the Permittee has corrected problems identified in previous inspections.

5. To identify whether or to what degree the Permittee influences the quality of the POTW's influent, effluent and sludge quality.

6. To evaluate the impacts of the POTW's influent on its treatment processes and receiving stream.

7. To evaluate the need for revised local limits.

8. To maintain current data on the Permittee.

9. To assess the adequacy of the Permittee's self-monitoring program and wastewater discharge permit.

10. To provide a basis for establishing sampling and monitoring requirements for the Permittee.

11. To evaluate the adequacy of the Permittee's operation and maintenance activities on its pretreatment system.

12. To assess the potential for spills and/or slug discharge control measures, and evaluate the effectiveness of spill and slug discharge control measures.

13. To gather information for industrial user permit development.

14. To evaluate compliance with existing enforcement actions.

15. To require the Permittee to submit one or more representative samples of the wastewater discharged or that the Permittee proposes to discharge into the POTW.

B. Right of Entry . The WWTP Superintendent and other authorized representatives of the city bearing proper credentials and identification are authorized to enter the Permittee's premises to conduct inspection, surveillance and monitoring activities as necessary to determine compliance with this permit and the Sewer Use Ordinance, and in that regard shall have, without limitation, the following minimum authority:

1. To enter into any premises of the Permittee in which a discharge source, treatment system or activity is located or in which records are required to be kept as provided by this permit or the Sewer Use Ordinance, for the purpose of inspecting, observing, measuring, sampling and testing the wastewater discharge, removing samples of wastewater for analysis, and inspecting and making copies of required records.

2. To set up and maintain on the Permittee's property such devices as are necessary to conduct sampling, inspection, compliance monitoring and/or metering operations, or to require the Permittee to do so, at the Permittee's sole expense.

3. To randomly sample and analyze the effluent from the Permittee and conduct surveillance activities to identify occasional and continuing noncompliance with applicable standards and requirements.

4. To inspect any production, manufacturing, fabrication, or storage area where pollutants, subject to regulation under this permit or the Sewer Use Ordinance, could originate, be stored, or be discharged to the POTW.

5. To enter all private properties through which the city or other governmental agency holds an easement for the purposes of, but not limited to, inspection, observation, measurement, sampling, repair, and maintenance of any portion of the POTW or wastewater transmission facilities lying within the easement.

City representatives entering a user's premises for purposes authorized by this Ordinance shall comply with the user's plant safety requirements regarding such matters as entry into confined spaces, use of safety glasses, and hearing protection requirements, as requested by the user.

C. Access Without Delay Required . The Permittee shall allow the POTW ready access at all reasonable times to all parts of the Permittee's facility where wastewater governed by this permit or the Sewer Use Ordinance is created, handled, conveyed, treated or discharged, or where any production, manufacturing, fabrication, or storage area where pollutants regulated by this permit or the Sewer Use Ordinance could originate, be stored, or be

discharged to the POTW, or where wastewater records are kept, for the purposes of inspection, sampling, records examination, or in the performance of any of the POTW's duties. If the Permittee has security measures in force that would require proper identification and clearance before entry into the premises by the POTW, the Permittee shall make necessary arrangements in advance with its security guards so that upon presentation of suitable identification, authorized representatives of the POTW (or authorized state or federal personnel) will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

D. Refusal to Allow Entry . If the Permittee refuses to permit access to an authorized POTW representative or to permit the representative to obtain, take, and remove samples or make copies of documents or undertake other authorized inspection, surveillance and monitoring activities as provided by this permit or the Sewer Use Ordinance, the WWTP Superintendent may order the termination of the discharge of wastewater to the POTW; order the Permittee to permit access within a time certain; issue the Permittee a notice of violation of this section; or take other appropriate action as provided by this permit or the Sewer Use Ordinance and other applicable laws and regulations.

E. Duty to Provide Information . The Permittee shall furnish to the POTW any available information which the POTW requests to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also, upon request, furnish to the POTW copies of any records required to be kept by this permit. The information and records requested by the POTW shall be provided by the Permittee to the POTW within 24 hours of the request, unless an alternative time frame is specified by the POTW when making the request or unless the POTW allows additional time for the Permittee to submit the requested information based on a showing by the Permittee of good cause for any delay. The Permittee's failure to submit the requested information to the POTW within 24 hours (or within any alternate time period approved by the POTW as provided by this section) constitutes a violation of this permit.

PART 12 . VIOLATIONS AND ENFORCEMENT .

A. Duty to Comply . The Permittee must comply with all standards, requirements and conditions of this permit, the Sewer Use Ordinance, any notice, order, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance, and state and federal laws and regulations. Failure to comply shall be grounds for enforcement action or proceedings, including, without limitation, those provided by this Part of the permit.

B. Civil Administrative Fines . If the Permittee has violated, or continues to violate, any provision of this permit or the Sewer Use Ordinance, or any notice, order, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance, the Permittee shall be subject to a civil administrative fine of up to $500.00

per violation, per day, as provided by the Sewer Use Ordinance. The civil administrative fine may be assessed in addition to any other charge, fee, surcharge, penalty or fine authorized or levied under this permit or the Sewer Ordinance. Civil administrative fines assessed by the POTW which have not been paid in full by the Permittee within 30 days of receipt of the notice of assessment shall be added to the Permittee's next scheduled service bill and shall be paid and collected along with other rates, charges, fines or penalties.

C. Judicial Relief . The POTW may commence a civil action for appropriate judicial relief (including, without limitation, imposition of a permanent or temporary injunction, recovery of damages, fines, penalties, costs, surcharges, and such other relief as a court may order) for a violation of any provision of this permit or the Sewer Use Ordinance, or any notice, order, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance.

D. Municipal Civil Infractions . If the Permittee violates any provision of this permit, the Sewer Use Ordinance, or any notice, order, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance, the Permittee shall (except as provided by Part 12, Section E) be responsible for a municipal civil infraction, subject to payment of a civil fine of not less than $1,000.00 per day for each infraction and not more than $10,000.00 per day for each infraction, plus costs and other sanctions, as provided by Section 106-277(a) of the Sewer Use Ordinance. Further, repeat offenses shall be subject to increased fines of not less than $2,500.00 plus costs and other sanctions for a first repeat offense, and not less than $5,000.00 plus costs and other sanctions for a second or any subsequent repeat offense as provided by Section 106-277 (b) of the Sewer Use Ordinance.

E. Criminal Penalties; Imprisonment . If the Permittee (1) at the time of a violation knew or should have known that a pollutant or substance was discharged contrary to any provision of this permit or the Sewer Use Ordinance, or contrary to any notice, order, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance; or (2) intentionally makes a false statement, representation, or certification in an application for, or form pertaining to a permit, or in a notice, report, or record required by this permit or the Sewer Use Ordinance, or in any other correspondence or communication, written or oral, with the POTW regarding matters regulated by this permit or the Sewer Use Ordinance; or (3) intentionally falsifies, tampers with, or renders inaccurate any sampling or monitoring device or record required to be maintained by this permit or the Sewer Use Ordinance; or (4) commits any other act that is punishable under state law by imprisonment for more than 90 days; shall, upon conviction, be guilty of a misdemeanor punishable by a fine of $500.00 per violation, per day, or imprisonment for up to 90 days, or both in the discretion of the court, as provided by Section 106-278 of the Sewer Use Ordinance.

F. Remedies Cumulative The imposition of a single penalty, fine, order, damage, or surcharge upon the Permittee for a violation of any provision of this permit or the Sewer

Use Ordinance, or any notice, order, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance, shall not preclude the imposition by the POTW or a court of competent jurisdiction of a combination of any or all of those sanctions and remedies, or additional sanctions and remedies, with respect to the same violation, consistent with applicable limitations of state and federal laws or regulations. A criminal citation and prosecution of a criminal action against the Permittee shall not be dependent upon and need not be held in abeyance during any civil, judicial, or city administrative proceeding, conference, or hearing regarding the Permittee.

G. Separate Violations . Each day on which a violation occurs or continues is a separate and distinct violation for which applicable remedies may be imposed.

H. Number of Violations . The number of violations resulting from noncompliance with applicable discharge prohibitions or effluent limitations shall be determined as follows:

1. Applicable concentration limitations and mass (or loading) limitations shall be treated as separate limitations, and the Permittee may be liable and penalized separately for exceeding any of those limitations for a single pollutant or sampling parameter.

2. Each violation of a daily maximum limit for a single pollutant or sampling parameter shall constitute a single violation for each day on which the violation occurs or continues.

3. Each violation of an instantaneous maximum limit for a single pollutant or sampling parameter shall constitute a single violation for each such exceedence, and there may be multiple violations for each day on which such a violation occurs or continues.

4. Each violation of a monthly average limit for a single pollutant or sampling parameter shall constitute a violation for each day of the month during which the violation occurred, regardless of the number of days on which samples were actually taken. (For example, in a month with 31 days, a violation of the monthly average limit for that month constitutes 31 violations for each pollutant parameter for which the monthly average limit was exceeded during the month.)

5. If a wastewater discharge permit regulates more than one outfall, each outfall shall be considered separately in computing the number of violations as provided by this section.

I. Reimbursement of POTW . If the Permittee violates any provision of this permit or of the Sewer Use Ordinance, or discharges or causes a discharge that produces a deposit or obstruction or otherwise damages or impairs the POTW, or causes or contributes to a violation of any federal, state or local law governing the POTW, the Permittee shall be liable to and shall fully reimburse the city for all expenses, costs, losses or damages

(direct or indirect) payable or incurred by the POTW or the city as a result of any such discharge, violation, exceedence or noncompliance. The costs that must be reimbursed to the city shall include, without limitation, all of the following:

1. All costs incurred by the POTW and the city in responding to the violation or discharge, including, expenses for any cleaning, repair or replacement work, and the costs of sampling, monitoring, and treatment, as a result of the discharge, violation, exceedence or noncompliance.

2. All costs to the POTW and the city of monitoring, surveillance, and enforcement in connection with investigating, verifying, and prosecuting any discharge, violation, exceedence or noncompliance.

3. The full amount of any fines, assessments, penalties, and claims, including natural resource damages, levied against the POTW or the city by any governmental agency or third party as a result of a violation of the POTW's NPDES permit (or other applicable law or regulation) that is caused by or contributed to by any discharge, violation, exceedence or noncompliance.

4. The full value of any city staff time (including any required overtime), consultant and engineering fees, and actual attorney fees and defense costs (including the city attorney and any special legal counsel), associated with responding to, investigating, verifying, and prosecuting any discharge, violation, exceedence or noncompliance or otherwise enforcing the requirements of this chapter.

The city is authorized to correct any violation of this chapter or damage or impairment to the POTW caused by a discharge and to bill the person causing the violation or discharge for the amounts to be reimbursed to the city. The costs reimbursable under this section shall be in addition to fees, amounts or other costs and expenses required to be paid by users under other sections of this permit. In determining the amounts to be reimbursed to the city, the POTW may consider factors such as, but not limited to, those listed in section 106-282 of the Sewer Use Ordinance. The failure by the Permittee to pay any amounts required to be reimbursed to the POTW or the city as provided by this section shall constitute an additional violation of this permit.

J. Public Nuisance . A violation of this permit, the Sewer Use Ordinance, or of any order, notice or agreement issued or entered into under the Sewer Use Ordinance, is deemed to be a public nuisance and shall be subject to abatement on that basis.

PART 13. FEES .

It is a purpose of this permit and of the Sewer Use Ordinance to provide for the recovery from users of the city's wastewater disposal system of all costs incurred by the city for the administration and implementation by the city of the industrial pretreatment program (IPP) established by the Sewer Use Ordinance. Sewer use fees and charges, including, without

limitation, permit application fees, IPP fees, and other sewer related charges shall be established, paid and collected as provided by Division 20 and other applicable provisions of the Sewer Use Ordinance.

PART 14. ADDITIONAL CONDITIONS

A. Definitions. Except as otherwise specifically defined by this permit, all terms used in this permit shall be defined as provided by the Sewer Use Ordinance.

B. Most Restrictive Standards or Requirements Control. In all cases, the most stringent or restrictive standard or requirement applicable to the Permittee's discharge shall control, whether established by this permit, the Sewer Use Ordinance, any notice, order, permit, decision or determination promulgated, issued or made by the POTW under the Sewer Use Ordinance, state laws or regulations, including the POTW's NPDES permit, or federal laws or regulations. Further, if state or federal laws or regulations provide for standards and requirements not covered by this permit or the Sewer Use Ordinance that are otherwise applicable to the Permittee's discharge, those standards and requirements shall apply to the Permittee in addition to those required by this permit or the Sewer Use Ordinance, and the most restrictive of those additional standards or requirements shall control and shall be complied with by the Permittee within the time period required by the law or regulation.

C. Incorporation By Reference. Unless otherwise expressly provided by this permit, specific provisions of the Sewer Use Ordinance referred to in this permit are incorporated by reference in this permit as if set forth fully herein.

D. Effect of Issuance of Permit. The issuance of this permit does not convey to the Permittee any property or contractual rights or privileges of any kind whatsoever, nor does it authorize any injury to private or public property or any invasion of personal rights, nor any violation of local, state or federal laws or regulations.

E. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART 15. CERTIFICATION

This permit and the following certification shall be signed by an "authorized representative" of the Permittee (as defined by section 106-23 of the Sewer Use Ordinance) prior to commencing any discharge under this permit:

I certify that I have read, understand, and agree to be bound by all of the provisions, standards, requirements and conditions of this permit. Further, I agree to fully comply with all applicable requirements of the Sewer Use Ordinance and other applicable state and federal pretreatment laws and regulations.

11-16-12
Date

Grant R Trigg
Signature of Authorized Representative

Grant R Trigg
Name (type or print)

Mich Cleanup Manager
Title