



Corrective Measures Proposal

**Pontiac Centerpoint Campus Validation Center
Pontiac, Michigan**

RACER Trust

October 19, 2022

Executive Summary

GHD Services Inc. (formally Conestoga-Rovers and Associates (CRA)) is submitting this Corrective Measures Proposal (CMP) for the Revitalizing Auto Communities Environmental Response (RACER) Trust Pontiac Centerpoint Campus Validation Center (PCC Validation) Site located at 1 Concourse Drive in Pontiac, Michigan, 48341 (historical address was 200 South Boulevard West in the City of Pontiac, Oakland County, Michigan) as an update to the Draft CMPs submitted to the United States Environmental Protection Agency (U.S. EPA) for review in 2013 (Draft 2013 CMP) and 2019 (Draft 2019 CMP).

This updated CMP includes a summary of activities conducted from 2014 through 2022 and revises the Draft 2013 and 2019 CMPs based on this information. In 2015, the Site was purchased and has been in the process of being redeveloped since that time. The Site is currently operating as a mixed Nonresidential use facility targeted at auto enthusiasts. Below is a short summary of the interim measures and work completed from 2014 through 2022:

- In an abundance of caution, storm sewers near the residual LNAPL area were bulk headed in 2014 to prevent the sewers from becoming a preferential migration pathway.
- The 2014 and 2015 annual groundwater sampling events were completed.
- In May and June 2015, all monitoring wells on-site were abandoned to facilitate Site redevelopment.
- On September 24, 2015, a notification of self-implemented removal of soil containing PCBs was sent to U.S. EPA. On October 9, 2015, soils with PCB concentrations exceeding one hundred (100) parts per million (PPM) were excavated and transported off-site for disposal in an authorized landfill. Following excavation and transportation of PCB impacted soil, the current Site owner (M1) placed an approximately two-foot-thick clay cap over the excavated area. From April through August 2018, four soil sampling events were completed and delineated the extent of soils containing greater than one (1) PPM PCBs (Figure 10).
- In 2018, a select set of wells were re-installed (MW-02-07, MW-10-07, MW-33-07, MW-38-07, MW-64-08, and MW-85-12) and three quarterly groundwater sampling events were completed.
- In 2019, SME on behalf of M1 submitted a memo to request approval under 40 CFR 761.61(c) for work related to PCBs.
- In 2019, several monitoring wells were re-installed (MW-21-07, MW-68-08, MW-79I/D-12 and MW-87-12) and four quarterly groundwater monitoring events were completed.
- In 2020, four quarterly groundwater monitoring events were completed.
- In 2021, three quarterly groundwater monitoring events were completed.
- Reinstallation of six monitoring wells (MW-48-22R, MW-74-22R, MW-74D-22R, MW-88-22R, MW-90-22R, and MW-94-22R) was conducted in April 2022.
- The reinstalled monitoring wells were sampled as part of the April 2022 annual groundwater sampling event.
- In July 2022, the reinstalled monitoring wells were sampled during the second quarter and are scheduled to be for two additional quarterly events in October 2022 and January 2023.

Summary of Proposed Corrected Measures:

Based on the available information and the information presented in this report the Corrective Measures listed below are proposed. It is noted that implementation of proposed future corrective measures is dependent upon the availability of funds pursuant to the Settlement Agreement to complete those measures.

Site Wide Use, Groundwater, Soil and Soil Vapor Management Controls

- Declaration of Restrictive Covenant (DRC) - Land and resource use restrictions are currently in place but will be modified by recording an Amended and Restated DRC (Revised DRC) on the property deed.

- DRC – Land use on-site will continue to be restricted to Nonresidential uses.
- DRC - Extraction wells and other devices to withdraw groundwater at the Site and use of groundwater from the Site will be prohibited.
- DRC – Soil vapor management will be required prior to building or occupying structures on-site. Management will include assessing the potential for vapor intrusion and/or installing a presumptive mitigation system prior to building or occupying a structure on-site.
- DRC – Contaminated soil management will be required if excavated or otherwise disturbed. This includes samples collected at TP1-07 and SB17-13 which had exceedances of Nonresidential DCC.
- DRC – No contaminated soils, if any, may be relocated on the Property except as provided for under Part 201, Section 20120c, § MCL 324.20120c.
- DRC – No hazardous substances shall be treated, stored, disposed, or released in a manner that would require a permit under RCRA, except pursuant to a plan or permit approved in writing by U.S. EPA or Michigan Department of Environment, Great Lakes and Energy (EGLE) and RACER Trust.
- Monitoring Program –, Monitoring of existing wells will provide data for confirmation of the groundwater quality and associated stability.
- Follow up to verify that the Site owner is complying with the DRC.

PCB -Impacted Soil Measures

- The PCB Restriction Area of the Site (Figure 10 and 11) was capped by the Site owner by at least 12 inches of asphalt pavement, cement concrete, imported engineering backfill, or topsoil during redevelopment.
- DRC – Excavation and installation of subsurface sewers or other utilities/structures are prohibited within the PCB Restriction Area, unless the activity is approved in writing in advance by U.S. EPA or EGLE, and RACER Trust and follow up to verify that the Site owner is complying with the DRC, including CAP maintenance.
- LNAPL Measures
- Monitoring Program –Monitoring of LNAPL in existing wells in the vicinity of AOI 28, if present, will provide data for confirmation of stability and limited dissolved phase impacts.
- DRC – Notification of presence of residual LNAPL and all excavation and installation of subsurface sewers or other utilities/structures are prohibited within the LNAPL Restriction Area and follow up to verify that Site owner is complying with the DRC, including CAP maintenance.

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List of Acronyms

ASTM	American Society for Testing and Materials
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
CBD	Central Business District
CCR	Current Conditions Report
CRA	Conestoga Rovers & Associates (Currently GHD)
Csat	Soil Saturation Concentration Screening Level
DCC	Direct Contact Criteria
DSWD	Detroit Water and Sewerage Department
DWPC	Drinking Water Protection Criteria
DWC	Drinking Water Criteria
ELPO	Electrophoretic Deposition of Paint
ENCORE	Environmental Corporate Remediation
EPCRA	Emergency Planning and Community Right to Know Act
ERTK	Employee right to know
ESA	Environmental Site Assessment
FESL	Flammability and Explosivity Screening Level
FRDS	Federal Reporting Data System
FOIA	Freedom of Information Act
GCPC	Groundwater Contact Protection Criteria
GHD	GHD Services, Inc.
GMC	General Motors Corporation
GSIC	Groundwater Surface Water Interface Criteria
GSIPC	Groundwater Surface Water Interface Protection Criteria
GTTR	Grand Traverse Railroad
GVIIC	Groundwater Volatilization to Indoor Air Inhalation Criteria
LIF	laser induced fluorescence
LBP	lead based paint
LNAPL	light non aqueous phase liquid
LUST	leaky underground storage tank
MDEQ	Michigan Department of Environmental Quality
MI	Michigan

MLC	Motors Liquidation Company
NWI	National Wetland Inventory
OCPC	Oakland County Planning Commission
PAOC	Potential Area of Concern
PAOR	Potential Area of Release
PCBs	polychlorinated biphenyls
PID	Photoionization detector
PNAs	polynuclear aromatic hydrocarbons
PSIC	Particulate Soil Inhalation Criteria
PVC	Pontiac Validation Center
PWS	Public Water Supply
RACER	Revitalizing Auto Communities Environmental Response
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
Settlement Agreement	Environmental Response Trust Consent Decree and Settlement Agreement entered by the U.S. Bankruptcy Court for the Southern District of New York on March 29, 2011, in the case of In re Motors Liquidation Company, etc. 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 RACER Trust.
SARA	Superfund Amendments and Reauthorization Act
SVIIC	Soil Volatilization to Indoor Air Inhalation Criteria
SWMU	solid waste management unit
SVOCs	semi volatile organic compounds
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank
VOCs	volatile organic compounds
VSIC	Infinite Source Volatile Soil Inhalation Criteria
WMA	waste management area
WWTP	wastewater treatment plant

1. Introduction

GHD Services Inc. (G–D - formerly Conestoga Rovers & Associates [CRA]) has prepared this Resource Conservation and Recovery Act (RCRA) Corrective Measures Proposal (CMP) to fulfill provisions under Section VI.19 of the 3008(h) Administrative Order on Consent (AOC), docket number RCRA 05 2011 0022, for the Revitalizing Auto Communities Environmental Response (RACER) Trust Pontiac Centerpoint Campus Validation Center (PCC Validation) Site located at 1 Concourse Drive, Pontiac, Oakland County, Michigan, 48341. The address changed from 200 South Boulevard West, Pontiac, Oakland County, Michigan during Site redevelopment. The Site Location is presented on Figure 1. The Site's United States Environmental Protection Agency (U.S. EPA) Identification Number is MID 980 568 836.

This CMP updates the 2013 and 2019 draft CMPs with data and information obtained from 2014 through 2022. The updated data and information include soil, groundwater, and soil gas sampling data and various remedial activities. The purpose of the field work completed from 2014 through 2022 was to remediate and delineate PCBs in soils, determine if VOC impacts in soil gas were migrating off-site along the southern boundary, address a potential LNAPL preferential migration pathway and confirm stability of any groundwater concentrations after Site redevelopment. In 2014, the Site was sold by RACER Trust and redeveloped as a Nonresidential use. The Site is currently operating as a mixed Nonresidential use facility targeted at auto enthusiasts. The current Site plan includes or will include more than 20 multi-unit car condominium storage buildings, a member club house, event center, restaurant, commercial strip center, retail building, auto dealership, and office buildings/pads.

Currently, the Site is active; therefore, the assumption in the 2013 RCRA EI CA725 Report and 2013 CMP that Site risk is limited to a vacant property has been re-examined to reflect current and potential future Nonresidential property use. However, RACER understands that its responsibility is to address conditions prior to the 2014 sale of the Site and post-2014 exposure pathways that become complete due to current owner activities will be addressed by the owner. The updated Site address is now referenced as 1 Concourse Drive in Pontiac, Michigan, 48341.

The CMP describes the proposed Corrective Measures for areas of the Site that are not acceptable for unrestricted use, and the rationale for their selection.

GHD merged with Conestoga-Rovers & Associates (CRA) in July 2014, and CRA changed its name to GHD in July 2015. Reports that were submitted by CRA to U.S. EPA or the Michigan Department of Environmental Quality (MDEQ) still identify CRA in the list of references in Section 7, but GHD is used in the text of this report. In addition, in April 2019, MDEQ changed its name to the Department of Environment, Great Lakes and Energy (EGLE). Reports that were submitted prior to April 2019 still identify MDEQ in the list of references in Section 7 but EGLE is used in the text of this report.

1.1 Screening Criteria

Based on the intended land use (Nonresidential), and site-specific characteristics described in previous reports (i.e., 2013 RCRA EI CA725/750 Reports and 2013 CMP), the following Part 201 Generic Nonresidential Cleanup Criteria are applicable for the Site:

- Soil:
 - Volatile Soil Inhalation Criteria (VSIC)
 - Particulate Soil Inhalation Criteria (PSIC)
 - Direct Contact Criteria (DCC)
 - Soil Saturation Concentration Screening (C_{sat})
 - TSCA Levels for PCBs
- Groundwater:

- Water Solubility
- Flammability/Explosivity Screening Level (FESL)

Prior reports, such as the CCR and CA725/CA750, also included comparison to the following criteria, which have since been eliminated by EGLE: Groundwater Contact Protection Criteria (GCPC), Groundwater Contact Criteria (GCC), and Acute Inhalation Screening Level (AISL).

As identified in the draft CCR (CRA, 2011a), addendum to the CCR (CRA, 2011b) and EI CA725/CA750 (CRA, 2013a and b), the groundwater-surface water interface (GSI) pathway was evaluated for the Site and the conclusion was reached that the GSI pathway does not apply at the Site. The conclusion was based on the distance to the nearest water body (the Clinton River which is located approximately 0.75 miles north of the Site), and bulkheading and monitoring of potential Site exit points. Therefore, the GSI exposure pathway for on-site soil and groundwater impacts is not an applicable pathway.

Drinking water criteria (DWC) and drinking water protection criteria (DWPC) are not applicable since groundwater on the Site is not used as a municipal water supply source or for any other potable or non-potable purposes. Additionally, current and proposed future land use restrictions include a site-wide deed restriction to prevent use of groundwater. This site-wide groundwater use prohibition effectively prevents complete exposure pathways to on-site receptors for the DWC and DWPC.

Current and proposed land use restrictions also include limiting Site use to Nonresidential uses and require vapor intrusion assessments and/or vapor intrusion mitigation prior to construction for any new buildings. These restrictions prevent complete exposure pathways to on-site receptors for the soil volatilization to indoor air criteria (SVIIC), groundwater volatilization to indoor air criteria (GVIIC), and site-specific volatilization to indoor air pathway (VIAP) screening levels.

1.2 Constituents of Concern

Based on the data from current and historic investigations the following are considered constituents of concern:

Soil

Soil was encountered with constituents detected above applicable Part 201 criteria at Off-site/AOI 1, AOI 12, and AOI 20/22. The AOI locations are presented in Figure 2.

- Off-site/AOI 1 had impacts in soil along the ROW to the north of the Site. Benzene was detected at TMW4I-12 (8 feet bgs) above EGLE Drinking Water Protection Criteria (DWPC). DWPC is an applicable criteria since it was detected off-site.
- AOI 12 had impacts in soil at TP1-07 located north of former Building 30 at a depth of 10 feet bgs. Soil analytical results show that Anthracene, Benzo(a) anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Indeno (1,2,3 cd) pyrene and Pyrene were detected at TP 1 at concentrations exceeding DCC.
- AOI 2 had impacts in soil at SB17-13 located north of the former Building 25 at former Plant 4. Soil analytical results show that lead was detected at SB17-13 at concentrations exceeding DCC. It should be noted that sampling at SB17-13 was completed during SME's 2013 investigation completed on behalf of the buyer of the Site.
- AOI 20/22 has PCB impacts in soil; however, PCB impacts exceeding 100 PPM have been removed and a 2-foot clay cap was installed over the excavation area. In 2018, PCB soil impacts were vertically and horizontally delineated to 1.0 PPM.
- AOI 2 historical data comparison to current site specific VIAP indicated exceedances are present. However, current and proposed land use restrictions include limiting Site use to Nonresidential uses and require vapor intrusion assessments and/or vapor intrusion mitigation prior to construction for any new buildings. These exceedances have been delineated via soil and/or soil gas sampling and present minimal risk with the restrictions in place. Therefore, no additional investigations or corrective measures are warranted.

Groundwater

Based on the most recent and historical groundwater data, constituents in groundwater do not exceed applicable EGLE Cleanup Criteria. However, historical volatile organic compounds (VOC), semi-volatile organic compounds (SVOC) and metal exceedances of EGLE Residential and Nonresidential Drinking Water Criteria (DWC) and groundwater surface water interface (GSI) was associated with the following AOIs: Off-site/AOI-1, AOI-2, AOI-5, AOI-26 and AOI-28. Groundwater with elevated VOCs (but below applicable criteria) at monitoring wells MW74-08 and MW91-12 is known as the “Southern VOC Area”. Additional groundwater monitoring is on-going and replacement monitoring wells in the Southern VOC Area and AOI-2 and AOI-5 were installed in April 2022.

Soil Gas

Soil gas monitoring completed at the southern property boundary documented that soil gas is not migrating off-site from the Southern VOC Area. Additional investigation and corrective measures are not warranted.

LNAPL

LNAPL (AOI-28) was encountered at monitoring wells MW69-08 and MW84-12 and an LIF survey was conducted to delineate the vertical and horizontal extent. From April 2008 through March 2012 quarterly LNAPL recovery (i.e., bailing), was conducted at MW69-08. The recovery events removed a total of 8.59 gallons of LNAPL. Attempts to remove LNAPL after 2012 were not productive. The LNAPL is delineated on-site, stable, not expanding and not readily recoverable. Additional groundwater monitoring for LNAPL presence and potential dissolved constituents from the LNAPL is on-going and included installation of replacement monitoring wells in the vicinity of AOI-28. Revised memo LNAPL Evaluation in the Former Plant 3 Area was submitted to U.S. EPA on July 30, 2021 (GHD 2021g).

1.3 Areas with Proposed Corrective Measures

The areas for which Corrective Measures are proposed include:

1. Site-wide
2. Off-site
3. AOI 1 – Historical Operations – Former Plant 1
4. AOI 2 – Historical Operations – Former Plants 3, 4, 5
5. AOI 5 – USTs – Former Plant 3
6. AOI 12 – Bare Soil Areas
7. AOI 20 – Former Transformers Substations, and Large Capacitors
8. AOI 22 – Paint Mix Rooms
9. AOI 26 – Release to Sewers
10. AOI 28 – LNAPL Plume

U.S. EPA, in consultation with RACER Trust, will select final Corrective Measures for the Site after a public comment period. This CMP references more detailed information that can be found in the Draft Current Conditions Report (CRA 2011), Supplemental Current Conditions Report, (CRA 2012a), Sampling and Analysis Plan and Fundamental Quality Assurance Project Plan, (CRA 2012b), RCRA EI CA725 Report (CRA 2013a), RCRA EI CA750 Report (CRA 2013b), Evaluation of Select Historical Analytical Results (GHD 2021f), LNAPL Evaluation in the Former Plant 3 Area (GHD 2021g), Revised Vapor Intrusion Conceptual Site Model (GHD 2022b), Revised Annual Groundwater Report (GHD 2022d), and in other documents submitted to the U.S. EPA during the RCRA Corrective Action process.

The remainder of this CMP is organized into the following sections:

- Section 2 – Site Background, describes the physical characteristics of the Site and summarizes the investigations and remedial activities.

- Section 3 – Summary of Corrective Measures Alternatives, presents and describes the potential corrective measures alternatives
- Section 4 – Evaluation of Corrective Measures Alternatives, presents the evaluation of the corrective measures alternatives, including a description of the evaluation criteria
- Section 5 – Proposed Corrective Measures, identifies the proposed corrective measures
- Section 6 – Schedule, presents the proposed schedule for implementation of this CMP
- Section 7 – References, list documents used in preparation of this CMP

2. Background

This section presents information on Site characteristics, including location, land use, surface water hydrology, geology and hydrology, water supply, and summarizes past investigations.

2.1 Site Location

The Site is located at 1 Concourse Drive in Pontiac, Michigan, 48341, Oakland County, Michigan. Historical addresses associated with the Site have included 200 South Boulevard West, 1200 South Boulevard West, 275 Franklin Street, 45399 Woodward Avenue, 600 and 660 South Saginaw Street, and (Lots 49 to 120 of the Woodward Estates Subdivision) located at the southeast corner of Howland Street and South Boulevard. A Site location map is presented on Figure 1 and a current Site plan is presented on Figure 3.

2.2 Land Use

The Site is currently being used for mixed Nonresidential uses and is comprised of asphalt paved parking areas, landscaped areas, various automobile storage units, maintenance and entertainment buildings, and a test track. Future development is planned for the southeast portion of the Site. It is noted that during RACER Trust's ownership of the Site, land cover was generally concrete, asphalt or gravel and the Site was vacant. A Site location map is presented on Figure 1 and a current Site plan is presented on Figure 3. Table 1 defines relevant exposure pathways based on various land use scenarios.

The Site's future use is expected to remain Nonresidential. A Declaration of Restrictive Covenant (DRC) was recorded on the deed for the property in 2014 and restricts the land use to Nonresidential. An Amended and Restated DRC (Revised DRC) is a component of the proposed corrective measures and the Revised DRC will also restrict land use to Nonresidential.

2.3 Surface Water Bodies

No surface water bodies are present at the Site. The closest surface water bodies to the Site are the Clinton River and Crystal Lake, which are located approximately 2,100 feet to the west of the Site. These surface water bodies are part of the Clinton River Watershed, which ultimately migrates east over a minimum distance of 26 miles towards the St. Clair River and becomes part of the Great Lakes water system.

2.4 Geology and Hydrogeology

2.4.1 Site Geology and Hydrogeology

Groundwater resources generally exists within two separate units in Oakland County, including the glacial drift and the bedrock units. Marshall Sandstone is the main bedrock water bearing unit in Oakland County (Aichele, 2005).

However, the primary water source for Pontiac area is from the Great Lakes Water Authority (GLWA – formerly the Detroit Water and Sewerage Department (DWSD)) (Aichele, 2000), whose source water is Lake Huron and the Detroit River.

2.4.2 Site Geology

The Site overburden geology consists of three principal units: fill material, clay/silt glacial deposit with sand layers, and regionally extensive clay unit. Fill material is a generic term referring to reworked native soils and imported soils resulting from construction and reworking of the land over time. Fill and debris were encountered at the Site starting at the surface to a maximum depth of approximately 20 feet in some areas. Redevelopment of the Site since 2014 has resulted in more fill being placed. Clay/silt glacial deposits were encountered below the fill material, extending to the depth of investigation (approximately 60 feet below ground surface [bgs]). Stratigraphically isolated and discontinuous sand layers were encountered within this clay/silt glacial deposit. The sand layers occur at various depths and range in thickness from 0.25 feet to a maximum thickness of 20 feet at BH9-07 (near the northern portion of the Site). The clay/silt glacial deposits with intermittent sand seams extends across the Site and generally overlays a regionally extensive clay unit present to the maximum depth investigated.

Details related to the overburden geology including subsurface stratigraphic data and geologic cross sections are provided on Figures 4 through 7. As stated in Ferris et al., 2003, a less permeable regionally extensive clay unit straddled by glacial outwash deposits is present at an elevation of approximately 890 feet above mean sea level (AMSL). Similarly, shown in Figure 6 – Cross Section AA-AA', a laterally continuous silty clay unit is encountered at 62 feet bgs, which equates to 893 feet ASML. This suggests that the clay unit encountered during the investigation is the same less permeable regionally extensive clay unit cited in Ferris et al., 2003.

2.4.2.1 Site Hydrogeological Settings

Groundwater is encountered at the Site from 1.5 to 15.5 feet bgs within the upper unit which is primarily comprised of sand and fill material with interbedded clay. Groundwater in this upper unit is not interconnected throughout the Site. A saturated lower unit is encountered from approximately 39 feet bgs to approximately 60 feet bgs and consists of poorly graded gravelly sand and silty sand. Historically, groundwater contours show a north or northwest generalized flow pattern; however, the wells are not all within a contiguous saturated unit. Historic groundwater elevations in the upper units ranged from about 955 feet above mean sea level (AMSL) at the extreme southeast part of the Site to about 935 feet AMSL at the extreme northern portion of the Site. Although not measured, the hydraulic conductivity of the sand layers is expected to be 1×10^{-3} cm/sec based on the textural nature of these layers (Freeze and Cherry, 1979).

Vertical Groundwater Flow

Vertical hydraulic conductivity values of the fine-grained material collected at the Site were calculated by the Flexible Wall Permeameter (Constant Head Method ASTM D 5084) and range from 1.4×10^{-7} to 1.5×10^{-8} centimeters per second (cm/sec) these values are typical for this type of glacial environment. The clay materials provide a very good aquitard to minimize downward migration of groundwater.

2.5 Water Supply

Groundwater in the area near or on the Site is not used as a municipal water supply source or for any other potable or non-potable purposes. Local drinking water is distributed by the Oakland County Water Resources Commission (OCWRC). OCWRC obtains water from GLWA. The source water for GLWA is Lake Huron and the Detroit River. There is not expected to be any future use of groundwater at the property, consistent with the current use. The 2014 DRC prohibits use of groundwater at the Site. The proposed Revised DRC that is a component of the proposed corrective measures also prohibits use of groundwater at the Site. Based on the EGLE on-line Water Well Viewer database, the nearest private well is approximately 0.75 miles from the Site and is screened deeper than 90 feet bgs. A small area of the southeastern portion of the Site is located in a designated Type 1 Provisional Wellhead Protection Area. In addition, there is a state-wide regulation prohibiting the installation of a well for potable use within the

uppermost 25 feet bgs. The Site is included in the August 2013, City of Pontiac Water Well Restriction Ordinance, which among other provisions, prohibits installation of a water well.

There are no production wells currently on Site. A well search was requested by U.S. EPA on January 15, 2014, during a meeting at GHD's office. The well search was completed to determine the number of wells in the vicinity of the Site as a consideration in RCRA Corrective Action being completed for the Site. Based on the well search completed by GHD and documented in the September 12, 2014, Water Well Search Memorandum (CRA, 2014c) there are no water wells in the immediate vicinity of the Site. The closest down gradient water wells are/were test wells located approximately ½ mile west of the Site. Based on the distance to water wells in the area and the local hydrogeology, potentially impacted groundwater from the Site will not migrate to the locations of water wells within 2 miles of the Site.

In addition, there was no visual evidence of water wells identified during the drive-by visual search of surrounding properties. An updated review of the water wells located within a 0.5-mile radius of the Site was included in the 2021 Annual Groundwater Report (GHD, 2021b). That report noted one household well, screened between 122.0 and 130.0 ft bgs, is located approximately 0.45 miles southeast of the Site. Geology identified in this well consists primarily of clay to 42 feet bgs. A review of well records for household wells located just outside of the 0.5-Mile radius was completed. These household wells are screened at least 100 feet bgs and have a clay presence above the screened unit. Additionally, the southeast corner of the Site lies within a Type 1 Provisional Wellhead Protection Area (WHPA). According to EGLE's Water Well Viewer, two wells are the basis for this WHPA and they are located approximately 6,600 feet southeast of the Site boundary. Wells for WHPA were installed to depths ranging from 127 to 228 feet bgs. Based on the distance and geology of the area, it is not expected that groundwater from the Site has a pathway to migrate laterally or vertically to the saturated geologic unit that supplies the household well or the WHPA wells.

2.6 Summary of Investigation

A summary of investigations from 2006 through 2013 was submitted as part of the 2013 CMP and will not be described in detail in this Section. However, the following Section provides a short summary of events from 2006 through 2013. In addition, Sections 2.8 through 2.15 provide details of soil and groundwater investigations, sewer bulk heading, PCB remediation and other field work completed from 2014 through 2022, respectively.

2.7 2006 through 2013

GHD completed a Phase I Environmental Site Assessment (ESA) of the Site in 2006. A detailed Site history and summary of historical field investigations (prior to 2007) are provided in the Phase I ESA Report (CRA, 2006). Between October 2007 and April 2008, a Phase II ESA was performed by CRA to further investigate the findings of the 2006 Phase I ESA. CRA also investigated an area of fill located in the north-central portion of the Site as part of the Phase II ESA. The investigations, methods and analytical results were presented and discussed in the August 29, 2011, Draft Current Conditions Report (2011 CCR) (CRA, 2011a) and December 12, 2011, Supplemental CCR (CRA, 2011b).

Based on the information presented in the 2011 CCR and 2011 Supplemental CCR, nine of the 28 Areas of Interest (AOIs) were investigated following the U.S. EPA approved Sampling and Analysis Plan and Fundamental Quality Assurance Project Plan dated August 20, 2012 (2012 SAP/QAPP) (CRA, 2012). A Phase III Environmental Site Assessment (ESA) was completed in August 2012 and a Supplemental Phase III ESA was completed in December 2012. The investigations, methods and analytical results were presented and discussed in the January 25, 2013, RCRA EI CA725 Report (CRA, 2013a).

On January 24, 2013, two monitoring wells were installed off-site in the right-of-way (ROW) located along the north side of Rapid and Franklin Street. A groundwater monitoring event was completed in February 2013 and included sampling 26 monitoring wells (including the two recently installed wells). The groundwater monitoring event was completed at the request of the U.S. EPA to provide more recent data to support the 2013 RCRA EI CA750 determination. The investigations, methods and analytical results were presented and discussed in the March 2013 (updated September 20, 2013) EI CA750 Report (CRA, 2013b).

From July 10 through July 20, 2013, an additional field investigation was conducted at the request of the U.S. EPA to sample monitoring well MW38-07 for analysis of semi-volatile organic compounds (SVOCs); and install, develop and sample monitoring well MW93I-13 for analysis volatile organic compounds (VOCs). The purpose of re-sampling monitoring well MW38-07 was to confirm historic SVOC impacts. The purpose of installation and sampling of monitoring well MW93I-13 was to delineate the off-site VOC impacts in groundwater. The investigations, methods and analytical results were presented and discussed in the September 20, 2013, addendum to the RCRA CA EI750 Report (CRA, 2013b).

2.8 2014

On July 9, 2014, storm sewer lines near the residual LNAPL area were bulkheaded. Bulkheading storm sewer lines was first discussed during the July 1, 2013, conference call and the scope of work (SOW) was submitted to U.S. EPA on January 15, 2014, updated in April 2014 and approved in May 2014 by the U.S. EPA. Bulkheading was conducted to prevent impacts from potentially discharging to a surface water of the State via storm sewer lines. Upon completion of the bulkheading, there is no connected storm sewer present within the residual LNAPL area or the Southern dissolved VOC area with concentrations above GSI Criteria that could allow venting of impacts to a surface water body. Bulkheading activities were presented and discussed in the September 12, 2014, Storm Sewer Bulkhead Completion Memorandum (GHD, 2014b).

A well search was requested by U.S. EPA on January 15, 2014, during a meeting at GHD's office. The well search and drive by visual search of surrounding properties was completed to determine the number of wells in the vicinity of the Site in support of RCRA Corrective Action being completed for the Site. On July 21, 2014, GHD visited the Oakland County Environmental Health Department and requested (via FOIA) well logs from an area within a 2-mile radius of the Site. The results of the well search indicated no water wells in the immediate vicinity of the Site. The well search results were presented and discussed in the September 12, 2014, Water Well Search Memorandum (GHD, 2014c), and the 2021 Annual Groundwater Report (GHD 2021a).

The July 25, 2014, Sampling and Analysis Plan (SAP) (GHD 2014a) was prepared, submitted and approved by U.S. EPA. Per the SAP, the 2014 annual groundwater sampling event was completed from July 29 through July 31, 2014. Twenty (20) of the twenty-four (24) planned monitoring wells were sampled. Two wells (MW48-07 and MW88-12) were not able to be located and two had LNAPL (MW69-08 and MW84-12). The investigations, methods and analytical results were presented and discussed in the October 2014 Annual Groundwater Monitoring Report (GHD, 2014d).

2.9 2015

2.9.1 Groundwater Investigations

Per the January 13, 2015, Supplemental Sampling and Analysis Plan (SSAP) (GHD, 2015a) and U.S. EPA correspondence, two monitoring wells were installed at the request of the U.S. EPA to vertically and horizontally delineate the Southern dissolved VOC area impacts. MW74D-15 and MW94-15 were installed in April 2015. The two wells were included in the 2015 annual groundwater sampling scope of work. Locations of the monitoring wells are identified on Figure 8 and soil boring/well installation logs are included in the June 2015 Annual Groundwater Monitoring Report (GHD, 2015b).

Two rounds of sampling were conducted during 2015. The first round was conducted on April 5 and 6, 2015 and 21 of 23 monitoring wells planned to be sampled were sampled. Two wells (MW21-07 and MW94-15) had insufficient groundwater to collect a sample. The second round of sampling was conducted on May 13, 2015, and six of eight monitoring wells planned to be sampled were sampled. Two monitoring wells (MW10-07 and MW94-15) had insufficient groundwater to collect a sample. Two of the monitoring wells (MW69 08 and MW84 12) had LNAPL (as previously observed) and were not sampled. The investigations, methods and analytical results were presented and discussed in the June 2015 Annual Groundwater Monitoring Report (GHD, 2015b).

On May 26, 2015, CRA abandoned 19 monitoring wells (MW4-07, MW7-07, MW1107, MW28-07, MW13-07, MW15-07, MW17-07, MW19-07, MW20-07, MW27-07, MW34-07, MW35-07, MW37-07, MW40-07, MW43-07, MW63-08, MW64-08, MW78-08, and MW89-12) via pressure grouting the wells to within 5 feet of the surface. The flush mounted well covers were not removed at the time per M1's request to help with redevelopment of the Site. M1 removed the well covers as part of Site redevelopment.

On June 11 and 12, 2015, M1 abandoned the remaining 21 monitoring wells (MW2-07, MW10-07, MW21-07, MW33-07, MW38-07, MW48-07, MW68-07, MW69-07, MW74-07, MW74D-15, MW79 -12, MW82-12, MW83-12, MW84-12, MW85-12, MW86-12, MW87-12, MW88-12, MW90-12, MW91-12 and MW94-15) via pressure grouting the wells to within 5 feet of the surface. The flush mounted well covers were not removed at the time per M1's request to help with redevelopment of the Site. M1 removed the well covers as part of Site redevelopment.

2.9.2 Soil PCB Investigations and Remediation

This area is also referred to as AOI 20/22 and is associated with former transformers and/or substations historically located throughout the Site and/or potentially the paint mix room based on its proximity to the PCB impacted area. The PCB soil impacts were first discovered during a 2009 Phase II Environmental Site Assessment (ESA) at a depth of 12 to 14 feet (ft) below ground surface (bgs) at BH72-08 (located in the southern portion of former Plant 3). The PCB impacts at BH72-08 (12-14 ft bgs) were laterally delineated to below 1 PPM by soil samples collected from specific vertical intervals in 2012 from borings BH102-12, BH103-12, BH104-12 and BH105-12, and vertically delineated in a sample collected from 15-17 ft bgs from BH-106-12.

In 2014, SME collected soil samples near BH72-08 on behalf of the current property owner (M1 Concourse, LLC). Soil borings were completed near and around BH72-08 and PCBs were detected in certain soil samples above 100 PPM. SME conducted a second round of soil borings and sampling in 2015 to further characterize the impacts discovered in 2014. Although helpful, the characterization borings were inadequate to fully delineate impacts for purposes of excavation.

GHD submitted a work plan dated August 20, 2015, to U.S. EPA for pre-excavation sampling to fill data gaps from SME's 2015 investigation. U.S. EPA responded with an email dated August 26, 2015, with a request for additional sampling and suggested additional boring locations (which were added to the work plan). The additional fieldwork to fill data gaps was completed on August 31, 2015 and results were summarized and presented to U.S. EPA in an email dated September 11, 2015. On September 24, 2015, a notification for self-implemented removal of PCBs (excavation work) was sent to U.S. EPA for review. On September 25, 2015, U.S. EPA responded with a request for additional sampling and post-excavation soil sampling to verify adequate completion of the excavation work (which was added to the work plan). On October 9, 2015, PCB impacts exceeding 100 PPM were excavated, transported and disposed at the Wayne Disposal Facility located in Bellville, Michigan. Currently, PCB impacts exceeding 100 PPM have been laterally and vertically delineated and have been removed. The deepest excavation extended to approximately 10 ft bgs. Samples collected in the vicinity of the excavations indicated that PCB concentrations generally decreased significantly at depths below 10 ft bgs. PCB-impacted soil excavation activities are documented in a GHD Memo dated October 12, 2015.

See Figure 10 for a Site map that shows the approximate 2015 PCB-impacted soil excavation area.

2.10 2016

In 2016, no field work was conducted due to Site redevelopment.

2.11 2017

In 2017, no field work was conducted due to Site redevelopment.

2.12 2018

2.12.1 Groundwater Investigations

In May 2018, U.S. EPA approved the Interim Groundwater Monitoring Plan (March 2018 IGWMP) (GHD, 2018a). The IGWMP amended the Sampling and Analysis (SAP) submitted to U.S. EPA on July 25, 2014, and Supplemental SAP submitted to U.S. EPA on January 13, 2015.

From May 29, 2018 through June 04, 2018, GHD mobilized to the Site to reinstall the first phase of monitoring wells per the March 2018 IGWMP. A total of six monitoring wells (Figure 3) were installed and developed during this event (MW-02-07, MW 10 07, MW 33 07, MW 38 07, MW 64 08, and MW 85 12). Further description of the 2018 well installation is presented and discussed in the September 4, 2018 Well Installation and First Quarterly Event Sampling Results (GHD, 2018b).

From June 5 to June 6, 2018, GHD mobilized to the Site to complete the first quarterly groundwater sampling. Ten monitoring wells were sampled, which included the newly installed monitoring wells (MW12-07, MW10-07, MW33-07, MW38-07 (not enough water to provide needed sample volume), MW54-08, and MW85-12) and existing off-site monitoring wells (MW80-12, MW92S-13, MW92I-13, MW93I-13, and MW81-12). The investigations, methods and analytical results were presented and discussed in the September 4, 2018, Well Installation and First Quarterly Event Sampling Results (GHD, 2018b).

Third and fourth quarter 2018 sampling events were conducted on September 17 through September 18, 2018, and December 3 through December 4, 2018. During each quarterly event, ten monitoring wells were sampled, including the newly installed monitoring wells (MW12-07, MW10-07, MW33-07, MW38-07 (not enough water to provide needed sample volume), MW54-08, and MW85-12) and existing off-site monitoring wells (MW80-12, MW92S-13, MW92I-13, MW93I-13, and MW81-12). The investigations, methods and analytical results were presented and discussed in the February 18, 2019, Second and Third Quarter 2018 Sampling Results (GHD, 2018c).

2.9.2 Soil PCB Investigations

In 2018, soil sampling was conducted at the request of U.S. EPA to delineate PCBs to 1.0 PPM within AOI 20/22. Field investigations were conducted in four rounds (April 30, 2018, May 29, 2018, July 5, 2018, and August 10, 2018) following the methodology described in the U.S. EPA approved 2018 PCB Sampling and Analysis Plan (GHD, 2018d) and are summarized below:

- First round (April 20, 2018) of soil borings: GHD completed eight soil borings (BH-119-18 through BH-126-18).
- Second round (May 29, 2018) of soil borings: GHD completed five soil borings (BH-127-18 through BH-131-18) to delineate the April 20, 2018 exceedances.
- Third round (July 5, 2018) of soil borings: GHD completed five soil borings (BH-132-18 through BH-136-18) to delineate the May 29, 2018 exceedances.
- Fourth round (August 10, 2018) of soil borings: GHD completed two soil borings (BH-137-18 and BH-138-18) to delineate the July 5, 2018 exceedances.
- Results from the four rounds of investigation were submitted to U.S. EPA in the October 28, 2018, PCB Delineation Report (GHD, 2018e). In an email correspondence on December 10, 2018, U.S. EPA accepted the conclusion of the October 28, 2018, PCB Delineation Report that PCBs have been delineated to 1.0 PPM in soil within AOI 20/22. No further investigations in AOI 20/22 are anticipated at this time.
- The 2018 PCB sampling results confirmed that the clay cap extends over soil that may have PCB concentrations that exceed 25 PPM but are below 100 PP. See Figure 11 for a Site map with the 2018 PCB soil data and the approximate location of the clay cap.

2.13 2019

From March 19 through March 20, 2019, GHD mobilized to the Site to complete the first quarter 2019 groundwater sampling event (fourth event since groundwater sampling resumed in June 2018). Ten monitoring wells were sampled, which including monitoring wells (MW12-07, MW10-07, MW33-07, MW38-07 (not enough water to provide needed sample volume), MW54 08, and MW85 12) and off-site monitoring wells (MW80-12, MW92S-13, MW92I-13, MW93I-13, and MW81-12). The analytical results were consistent with or below historical data and there were no exceedances of EGLE Cleanup Criteria.

From May 21, 2019, through May 24, 2019, GHD mobilized to the Site to reinstall monitoring wells. Prior to installation of monitoring wells, U.S. EPA requested an additional monitoring well near monitoring well MW79-12 due to the presence of a long screen interval in abandoned MW79-12 and the potential for intermediate and deep saturated sand units. Therefore, monitoring wells MW79I-19 and MW79D-19 were installed to provide adequate characterization of the intermediate and deep saturated units. A total of five (5) monitoring wells (Figure 3) were installed and developed during this event (MW21-07, MW68-08, MW79I-19, MW79D-19 and MW87-12). The second quarter sampling event occurred June 25 through 27, 2019, during which 15 monitoring wells were sampled. The results for the March 2019 and June 2019 events were presented in the First and Second Quarter 2019 Sampling Results memorandum (GHD, 2019).

Third and fourth quarterly sampling events were conducted on September 27 and 30, 2019 and November 6 through 8, 2019. During the September 2019 and November 2019 quarterly events, 15 monitoring wells were sampled (MW02-07, MW10-07, MW33-07, MW38-07, MW64-08, MW68-08, MW79I-12, MW79D-12, MW80-12, MW81-12, MW85-12, MW87-12, MW92S-13, MW92I-13, and MW93I-13). MW21-07 was dry during both sampling events; therefore, could not be sampled. Results were consistent with or below historic data and were presented in the Third and Fourth Quarter 2019 Sampling Results memorandum (GHD, 2020a).

In October 2019, U.S. EPA approved SME's plan prepared on behalf of M1 to manage PCB impacted soil during redevelopment of Phase 4 at M1 Concourse. The approved document outlined procedures for earthwork, utility installation, construction, and capping activities in the PCB Restricted Area. The PCB Restriction Area will be capped by at least 12 inches of asphalt pavement, cement concrete, imported engineering backfill, or topsoil. Beneath the cap, a geotextile will be installed as a visual demarcation barrier for the underlying PCB impacted soil. Additional details can be found in SME's memo submitted to U.S. EPA provided in Appendix B and the subsequent U.S. EPA approval letter in Appendix C.

2.14 2020

The first and second Quarter 2020 Groundwater Sampling events were performed from March 3 through 6, 2020, and June 22 through 25, 2020. During the March and June 2020 quarterly events, 15 monitoring wells were sampled. Results were consistent with previous data results and presented in the First and Second Quarter 2020 Groundwater Sampling Results (GHD, 2020b)

Prior to the second quarter sampling event, a Request to Modify Groundwater Monitoring Plan was submitted to and partially approved by U.S. EPA (GHD, 2020c). The approved plan reduced site-wide monitoring to an annual frequency, with the exception of MW-72I-19 and MW79D-19, which continued to be monitored quarterly.

The third and fourth quarter 2020 groundwater sampling events were performed in September and December 2020. In accordance with the U.S. EPA approved reduced groundwater monitoring plan, two monitoring wells, MW-72I-19 and MW79D-19, were sampled during the events.

At U.S. EPA's request a soil vapor characterization investigation for a small portion of the southern Site boundary was completed in July 2020 to assess the potential for off-site volatilization to indoor air. Three soil gas points were installed and sampled. One location exceeded screening levels for Trichloroethylene (TCE), the results and proposal for a follow-up investigation were provided in Soil Gas Investigation Results – July 2020 Memorandum, provided to U.S. EPA in September 2020 (GHD, 2020d). In December 2020 a second soil vapor characterization investigation was

completed following approval from U.S. EPA. Five additional probes were installed, three of which were installed off-site in south right-of-way on South Boulevard West.

2.15 2021

The first quarter 2021 groundwater sampling event was completed in March 2021. In accordance with the U.S. EPA-approved reduced groundwater monitoring plan, two monitoring wells, MW-72I-19 and MW79D-19, were sampled for VOCs during the quarterly event. The annual, second quarter site-wide groundwater sampling event was completed in June 2021. The Annual Groundwater Report for the third quarter of 2020 through the second quarter of 2021 was submitted to U.S. EPA in October 2021 and was finalized in November 2021 (GHD, 2021a). The annual report proposed reducing the sampling frequency at monitoring wells MW-72I-19 and MW79D-19 from quarterly to annually, U.S. EPA approved this reduction in sampling via email on November 19, 2021.

The third quarter 2021 groundwater sampling event was completed in September 2021. In accordance with the U.S. EPA-approved reduced groundwater monitoring plan, two monitoring wells, MW-72I-19 and MW79D-19, were sampled for VOCs during the quarterly event. The September 2021 results were included in the annual sampling summary report dated July 13, 2022.

The results of the December 2020 soil gas investigation for a small portion of the southern Site boundary were summarized in the Soil Gas Investigation Results – December 2020 memorandum provided to U.S. EPA in February 2021 (GHD, 2021b). The memorandum proposed quarterly soil gas sampling until four consecutive rounds of sampling with no VOC exceedances occurred. U.S. EPA concurred with that proposal via email on February 11, 2021. The second of four quarterly soil gas sampling events was completed in March 2021. The results were presented in the Soil Gas Sampling – March 2021 Memorandum, provided to U.S. EPA in April 2021 (GHD, 2021c).

The third of four quarterly soil gas sampling events was scheduled for June 2021 but could not be completed until July 2021 due to excessive precipitation. The results were presented in the Soil Gas Sampling – ??March 2021?? memorandum, provided to U.S. EPA in September 2021 (GHD, 2021d). The fourth quarterly soil gas sampling event was completed in September 2021. The results were summarized in a draft Soil Gas Sampling – September 2021 memorandum (GHD, 2021e), initially provided to U.S. EPA in December 2021. Four quarterly soil gas sampling events have been completed without an exceedance. In 2021, an Evaluation of Select Historical Analytical Results was also completed. 11that memorandum compared the historical soil and groundwater results to the current Part 201 Generic Cleanup Criteria (GHD, 2021f). Prior reviews of the data utilized the criteria that was applicable at the time and did not include expanded unpromulgated volatilization to indoor air screening levels, as they were not developed at the time the data was collected. During this rescreening exercise, additional exceedances may have been identified within the AOIs not included in the Phase III efforts; however, those exceedances are addressed by the current or planned DRC for the Site and do not warrant further action.

2.16 2022

The Soil Gas Sampling – September 2021 memorandum was revised and resubmitted to U.S. EPA in U.S. EPA in February 2022 (GHD, 2022a). Four quarterly soil gas sampling events have been completed without an exceedance. Pursuant to U.S. EPA's request a Vapor Intrusion Conceptual Site Model for the small area of the southern Site boundary area was prepared and submitted to U.S. EPA on March 17, 2022. Following comments from U.S. EPA, a revised version was prepared and submitted to U.S. EPA on May 26, 2022 (GHD, 2022b). GHD provided a revised version of the VI CSM following additional comments from the U.S. EPA and submitted this revised version on September 20, 2022 (GHD 2022f). Based on the available soil gas data and information presented in the VI CSM, no additional soil gas sampling or evaluation are proposed at this time.

Monitoring well reinstallation activities of six replacement wells (MW-48-22R, MW-74-22R, MW-74D-22R, MW-88-22R, MW-90-22R, and MW-94-22R) was conducted in April 2022. Of these six replacement wells, two wells MW-90-22R and MW-94-22R were identified as dry after well completion activities. GHD continues to monitor these wells for presence of groundwater. The monitoring well reinstallation activities were documented in the 2022 Groundwater Annual Report provided to the U.S. EPA on July 13, 2022 (GHD 2022c).

The annual groundwater sampling event was conducted in April 2022. This event included the sampling of 20 monitoring wells, which included the 6 replacement wells installed earlier in April 2022. The results were presented in the 2022 Annual Groundwater Report provided to the U.S. EPA on July 13, 2022 (GHD 2022c). Following comments from U.S. EPA, GHD provided a revised version to U.S. EPA on September 8, 2022 (GHD 2022d).

A limited quarterly sampling event that included the replacement wells was completed in July 2022. The results were presented in the Groundwater Sampling Results July 2022 Memo provided to the U.S. EPA on September 14, 2022 (GHD 2022e). The next limited quarterly event is scheduled for October 2022. A fourth and final quarterly event is scheduled for January 2023.

3. Summary of Corrective Measures Alternatives

The presence of impacted soil and groundwater at the Site has been identified based on a comparison of the Site investigations and characterization data for soil and groundwater with applicable Part 201 criteria. Current exposure to on-site contaminated soil, LNAPL and contaminated groundwater is limited to potential exposure to Site personnel, users, visitors and trespassers. Based on completed investigations and interim measures and current and proposed deed restrictions, the concentrations of constituents in on-site and off-site soil, LNAPL, and on-site and off-site groundwater do not present significant exposures.

Soil and groundwater contamination does however, remain present at levels that do not allow unrestricted residential use of the Property. Public health will be protected by compliance with the Land Use or Resource Use Restrictions set forth below. Current and appropriate future restrictions on the Site will ensure that use will be protective of the public health, safety, welfare and the environment. A Summary of AOIs included in the CMP is presented in Table 2. An overview of the corrective measures alternatives evaluated is presented in Table 3.

3.1 Site-Wide Management Controls

The following alternatives were evaluated for use as site-wide management controls, to be applied in conjunction with the soil, groundwater, and LNAPL corrective measures. Alternative 1 would be implemented by recording a Revised DRC on the Site's deed. See Table 4 for an evaluation of Site-wide Controls and Monitoring. See Figure 9 for a Site map with proposed deed restrictions.

Alternative 1: Engineering Controls and Institutional Control/Land Use Restrictions – Current and Revised DRC – It is expected that future land use at the Site will remain consistent with the current use (Nonresidential). The 2014 DRC recorded on the deed for the property restricts land use to Nonresidential. To prevent a change in land use, that restriction would be maintained and included in a proposed Revised DRC. The existing and proposed land use restrictions for site wide management controls are described below:

- **A portion of the Site depicted in Figure 4 has residual LNAPL present. Within the LNAPL Restriction Area, as defined in the proposed Revised DRC, all excavation and installation of subsurface sewers or other utilities/structures are prohibited without approval from U.S. EPA or EGLE, and RACER Trust.**
- In addition, the portion of the Site depicted in Figure 10 has PCB remediation waste present. The PCB Restriction Area and cap shall be maintained by the Owner per U.S. EPA's October 28, 2019 risk-based disposal approval per TSCA, 40 CFR Part 761.61(a)(8) and the proposed Revised DRC.
- Contaminants in soil at concentrations exceeding the DCC exist on Site at AOI 2, AOI 12, and AOI 20/22, Contaminants in soil at concentrations exceeding the PSIC exist on-site at AOI 21. If contaminated soil is properly managed and handled during excavation, the soil will not pose a risk to human health. The 2014 DRC prohibits excavation of contaminated soils without proper management and health and safety techniques, and this prohibition will also be included in a proposed Revised DRC.

- Contaminants in groundwater at concentrations exceeding the DWC exist on-site. If the use of contaminated groundwater for drinking water is prevented, the groundwater will not pose a risk to human health. The 2014 DRC prohibits use of groundwater at the Site. To prevent groundwater use in the future, this prohibition will also be included in a proposed Revised DRC.
- Due to current regulatory uncertainties related to vapor intrusion criteria, assessment of possible soil vapor intrusion or presumptive installation of a vapor barrier or mitigation system prior to construction of any future buildings at the Site are appropriate. Contaminants in soil at concentrations exceeding the SVIIC and/or VIAP exist on-site at AOI 2/AOI 28. The 2014 DRC requires assessment or presumptive mitigation of potential soil vapor intrusion. To prevent unacceptable soil vapor intrusion risks, this requirement will also be included in a proposed Revised DRC.

Alternative 2: Engineering Controls, Institutional Control/Land Use Restrictions and Groundwater Monitoring

– Alternative two encompasses the engineering and institutional controls outlined in Alternative 1 in addition to groundwater monitoring at the Site. Groundwater sampling has shown relatively stable groundwater quality conditions throughout the Site. Active corrective measures do not seem necessary in the context of the bankruptcy Settlement Agreement and the availability of a reliable municipal source of potable water. In the absence of active corrective measures, it is proposed that groundwater monitoring be continued consistent with the groundwater monitoring program outlined in Section 5.0 to verify that contaminant concentrations and distribution are stable and/or decreasing if funds are available pursuant to the terms of the Settlement Agreement. Groundwater analytical results will be compared to the applicable EGLE Part 201 Generic Cleanup Criteria and Screening Levels with the exception of aluminum, iron and manganese, which will be compared to the Residential and Nonresidential Health-Based Drinking Water Values. Analytical results will be compared to drinking water criteria for the purposes of plume stability; however, an evaluation of the trends and concentrations will be conducted at each well to identify any adjustment in the monitoring scope or frequency.

3.2 Soil

Due to the size of the Site and the need to evaluate potential source areas, soil investigations were conducted on an AOI specific basis. The results of the investigations were summarized in the EI CA725 Report (CRA, 2013a) and the 2018 PCB Delineation Report (GHD, 2018e). Soil was encountered with constituents detected above applicable Part 201 criteria at AOI 1, AOI-2, AOI 12, and AOI 20/22. Below is a brief discussion for each impact at AOI 1, AOI-2, AOI 12 and AOI 20/22:

Off-site/AOI 1 had impacts in soil along the ROW to the north of the Site. Benzene was detected at TMW4I-12 (8 feet bgs) above DWPC; however, a corresponding groundwater sample from the same location did not exceed DWC. Since the Site and the surrounding area obtain potable water from the municipal drinking water system and do not use local groundwater as drinking water or industrial water supply it is unlikely the detected benzene concentration in soil will pose a potential for significant exposure.

AOI 2 had impacts in soil at SB17-13 located south of the former Building 30 at a depth of 1-2 feet bgs. Soil analytical results show that lead was detected at SB17-13 at concentrations exceeding Nonresidential DCC. This area has been redeveloped and is currently located under the racetrack. It is likely that the soil was removed and disposed during construction of the racetrack. In addition, nearby SME borings, SB11-13, SB16-13 and SB22-13 were non-detect or below Nonresidential DCC for lead.

AOI 12 had impacts in soil at TP1-07 located north of Building 30 at a depth of 10 feet bgs. Soil analytical results show that Anthracene, Benzo(a) anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Fluoranthene, Indeno (1,2,3 cd) pyrene and Pyrene were detected at TP1-07 at concentrations exceeding Nonresidential DCC. Soil impacts were delineated by samples to the north (BH98-12), east (BH99-12), south (BH100-12) and west (BH115-12). In addition, boring BH107-12, installed within 2 feet of TP 1, delineated the vertical extent of impacts.

AOI 21 exceeded the Soil Particulate Inhalation criteria for manganese at MW28-07 near the suspected former wastewater process line at a depth of 0 to 2 feet bgs. The area of exceedance is currently covered by racetrack and imported fill materials eliminating the particulate soil inhalation pathway.

AOI 20/22 has PCB impacts in soil; however, PCB impacts exceeding 100 PPM have been removed and PCB impacts have been vertically and horizontally delineated to 1.0 PPM. See Figure 10 for a Site map with PCB delineation boundaries to 1.0 PPM. Future Site deed restrictions will provide notification of the presence of PCB Remediation Waste and prohibit excavation and installation of subsurface sewers or other utilities/structures in the area. SME and M1 Concourse have completed U.S. EPA approved PCB management activities in this area during development. Activities included capping the PCB impacted area with a minimum of 12 inches of asphalt, concrete, backfill and topsoil. A copy of the SME memo detailing plans for the PCB impacted area is provided in Appendix B.

Based on the concentrations and delineated extent of impacts, completed interim measures and a Revised DRC to include Site-wide Management Controls, PCB-specific notification and restrictions implemented (AOI 20/22), and notification of soil sample locations where DCC and PSIC were exceeded (AOIs 2 & 12 and AOI 21, respectively), it is not necessary to identify other corrective measures alternatives for soil.

3.3 Groundwater

Due to the size of the Site and the need to evaluate potential source areas, the investigations of groundwater conditions were conducted on an AOI specific basis. The results of the investigations were summarized in the EI CA725 Report (CRA, 2013a), 2014 and 2015 Annual Reports (CRA, 2014d and 2015b) and subsequent groundwater monitoring reports described in Section 2.12 through 2.16.

Currently, groundwater does not exceed applicable Cleanup Criteria. However, historically, impacts were detected at Off-site/AOI-1, AOI-2, AOI-5, AOI-26 and AOI-28 that exceeded DWC and/or GSI. In addition, current data indicates no exceedances in groundwater off-site above the most restrictive EGLE Cleanup Criteria and there is only one household well, screened between 122.0 and 130.0 ft bgs, located approximately 0.45 miles southeast of the Site identified in the 0.5-mile radius of the well search conducted in 2021. Based on the distance and geology of the area, it is not expected that groundwater from the Site has a pathway to migrate laterally or vertically to the saturated geologic unit that supplies the household well or the WHPA wells. Therefore, off-site groundwater does not present a significant exposure to residents.

On-site groundwater does not pose a potential for significant exposure as it is not currently used for drinking water. With the Site-wide Management Controls implemented, there are no potential significant exposures to groundwater in the future. In addition, the soil gas investigation and monitoring that targeted a portion of the southern Site boundary did not identify exceedances of criteria and therefore soil gas from groundwater does not present a significant exposure to residents.

Workers performing construction that extends into the groundwater could be exposed to constituents in shallow groundwater in areas where the groundwater is within typical excavations depths. Potential routes of exposure would include dermal, contact and inhalation of vapor. However, the groundwater potentially migrating off-Site at the north end of the Site does not exceed EGLE Cleanup Criteria and therefore does not present a significant exposure to construction workers. Therefore, no potential significant exposures to groundwater off-site exist now or are expected to exist in the future.

Based on the above summary, it is not necessary to identify other corrective measures alternatives for groundwater other than the Site-wide Management Controls to be included in a Revised DRC and groundwater monitoring.

3.4 LNAPL

LNAPL was identified during the investigations at AOI 28. As a result of bulkheading completed in 2014 there is minimal risk of LNAPL expanding its footprint on-site or migrating off-site. In addition, the LNAPL was determined to have no risk of migration per the LNAPL Conceptual Site Model (LCSM) that is included in Appendix E of the CA725. A summary of previous LNAPL evaluations was prepared and documented in a memorandum Evaluation in the Former Plant 3 Area – Revised, August 2, 2021 (GHD, 2021g). This memorandum included an updated summary of completed LNAPL related response activities and an additional geologic cross section. Consistent with the LCSM the

following alternatives were evaluated to address LNAPL at AOI 28, in addition to the Site-wide Management Controls. See Table 5 for an evaluation of LNAPL corrective measures alternatives at AOI 28.

Alternative 1: Institutional Control/LNAPL Restriction Area – The 2014 DRC prohibits excavation and installation of subsurface sewers or other utilities/structures within the LNAPL Restriction Area. The LNAPL Restricted Area is presented on Figure 4. To prevent disturbance of residual LNAPL, this prohibition will also be included in a proposed Revised DRC.

Alternative 2: Excavation – *Excavation and off-site disposal at a licensed disposal facility was identified as a potential alternative. The soil within the LNAPL areas would be excavated, characterized, and transported off-site for proper disposal.*

Alternative 3: Multi-Phase Extraction – *LNAPL recovery would be implemented using multi-phase extraction (MPE) with pneumatic airlift and pneumatic fracturing.*

Alternative 4: LNAPL Monitoring – The LCSM, EI CA725 and EI CA750 documented that the LNAPL is not migrating/expanding, mobile, or recoverable, and there is no unacceptable risk from dissolution of LNAPL constituents as constituents in groundwater are below applicable criteria. In the absence of active corrective measures, LNAPL and groundwater monitoring completed in the vicinity of the LNAPL area can be implemented in the existing monitoring wells to verify the above conclusions.

4. Evaluation of Corrective Measures Alternatives

The evaluation of corrective measures alternatives identified in Section 3 considered the degree to which each potential corrective measure alternative satisfies the nine criteria outlined in the U.S. EPA document entitled "RCRA Corrective Action Plan" (U.S. EPA 1994). Three additional criteria have been added to evaluate the corrective measures alternatives (community acceptance, state acceptance, and sustainability). The RCRA Corrective Action evaluation criteria and the results of the evaluation for each of the potential corrective measures alternatives are presented in Table 4 (site-wide controls/monitoring), and Table 5 (LNAPL corrective measure alternatives).

4.1 Criteria for Evaluation of Corrective Measures Technologies

The RCRA Corrective Action evaluation criteria are listed below:

- Overall Protection: This criterion considers the ability of the remedial alternatives to protect both human health and the environment.
- Attainment of Media Cleanup Standards: This criterion considers the ability of the remedial alternatives to attain the cleanup standards for that specific media.
- Controlling the Sources of Releases: To the extent practicable, the remedial alternative must control the source of the release. This criterion considers the ability of the remedial alternatives to reduce or eliminate any further releases of hazardous substances that would pose a risk to human health and the environment.
- Compliance with Applicable Standards for Waste Management: This criterion considers the ability of the remedial alternatives to comply with applicable standards for waste management (i.e., hazardous waste storage and transportation regulations, emissions limitations, etc.).
- Long Term Reliability and Effectiveness: This criterion considers both the level of threat posed by hazardous constituents remaining in place and the adequacy of the remedial alternative and the risk associated with any treatment residuals compared to untreated waste.

- Reduction of Toxicity, Mobility or Volumes of Wastes: This criterion considers the ability of the remedial alternatives to reduce the toxicity, mobility, or volume of waste significantly and permanently.
- Short Term Effectiveness: This criterion evaluates the effects of the remedial alternatives on human health and the environment during their implementation period. It considers factors such as impacts from remedy construction, transportation, and air quality.
- Implementation: This criterion considers the technical and administrative feasibility of implementing the selected remedial alternative.
- Costs: This criterion considers the cost effectiveness of each alternative. Cost effectiveness is evaluated by comparing the costs proportional to the effectiveness achieved by the remedial alternative.
- Community Acceptance: This criterion evaluates the issues and concerns the local community may have regarding the alternatives. U.S. EPA encourages community involvement in remedial alternatives and community acceptance will be considered in the remedial alternative selection.
- State Acceptance: This criterion evaluates the technical and administrative issues and concerns the State may have regarding the alternatives. U.S. EPA encourages coordination with state agencies and state acceptance will be considered in the remedial alternative selection.
- Sustainability: This criterion considers the sustainability of each alternative with regard to energy requirements; air emissions; water requirements including impacts on water resources; land and ecosystem impacts; and material consumption and waste generation. The sustainability evaluation was used in conjunction with the core elements of the RCRA corrective action alternatives evaluation to identify corrective measures alternatives that would balance effectiveness and sustainability.

Tables 4 and 5 present the corrective measures alternatives evaluated and Appendix A presents the detailed cost evaluation.

5. Proposed Corrective Measures

Based on the evaluations presented in Tables 4 and 5, the proposed final corrective measures for the Site are summarized below. It is noted that implementation of proposed future corrective measures is dependent upon the availability of funds pursuant to the Settlement Agreement to complete those measures. Table 6 identifies proposed end points for the proposed corrective measures.

Site-wide (including AOIs Off-site/AOI-1, AOI-2, AOI-5, AOI-12, AOI 20/22, AOI-26 and AOI-28) – Alternative 2 – Engineering Controls, Institutional Control/Land Use Restrictions and Groundwater Monitoring

The more comprehensive Alternative 2 presented in Section 3.1, which includes engineering controls, land use restrictions and groundwater monitoring, is the proposed final site-wide corrective measure. Alternative 2 is reliable, easy to implement, protects public health, and is sustainable with minimal waste generation. Additional details for the site-wide corrective measures are provided below:

- Revised Declaration of Restrictive Covenant (DRC) – Land and resource use restrictions are currently in place but will be modified by recording a Revised DRC on the property deed.
- DRC - Land use on-site will continue to be restricted to Nonresidential uses.
- DRC - Extraction wells and other devices to withdraw groundwater at the Site and use of groundwater from the Site will continue to be prohibited.
- DRC – Vapor intrusion management will be required prior to building or occupying structures on-site. Management will include assessing the potential for vapor intrusion and/or installing a presumptive mitigation system prior to building or occupying a structure on-site.

- DRC – Contaminated soil management will be required if excavated or otherwise disturbed. This includes locations SB17-13 (AOI 2) and TP1-07 (AOI 12), where one soil sample result at each location exceeded Nonresidential DCC and it includes locations MW28-07 (AOI 21) where one soil sample exceeded the PSIC.
- DRC - No contaminated soils, if any, may be relocated on the Property except as provided for under Part 201, Section 20120c, § MCL 324.20120c.
- DRC – No hazardous substances shall be treated, stored, disposed, or released in a manner that would require a permit under RCRA, except pursuant to a plan or permit approved in writing by U.S. EPA or EGLE and RACER Trust.
- SME and M1 Concourse has completed U.S. EPA approved activities in the area of PCB impacted soil (AOI 20/22) during development into Nonresidential storage units. Activities included capping the PCB-impacted area with a minimum of 12 inches of asphalt, concrete, backfill and/or topsoil. A copy of the SME memo detailing plans for the PCB Restriction Area is provided in Appendix B and U.S. EPA's approval is provided in Appendix C.
- DRC – Notification and identification of the area containing PCB Remediation Waste (soil with PCB concentration greater than 1 PPM) and capped in a Revised DRC.
- DRC - All excavation and installation of subsurface sewers or other utilities/structures are prohibited within the PCB Remediation Waste Area.
- Monitoring Program -- Groundwater monitoring will provide data for confirmation of the groundwater quality and associated stability (Off-site/AOI-1, AOI-2, AOI-5, AOI-26 and AOI-28).

The existing wells to be sampled annually and their corresponding AOIs are listed in Table 7 and depicted in Figures 2 and 3. After well reinstallation is completed groundwater sampling will be conducted quarterly for one year which consists of four quarterly events. The need and/or scope of further monitoring will be evaluated, and a recommendation provided to U.S. EPA.

Prior to groundwater sample collection, static groundwater elevations are measured and recorded. Groundwater samples will be collected from the monitoring wells using low-flow sampling techniques with a peristaltic pump and dedicated tubing. Field parameters collected during purging included pH, temperature, conductivity, oxidation/reduction potential (ORP), dissolved oxygen (DO), and turbidity. Groundwater samples will be collected after the field parameters stabilize.

Groundwater samples will be analyzed using U.S. EPA Method 8260 for VOCs and/or Method 6020 for total and dissolved Aluminum, Lead, and Vanadium. Samples will be analyzed for dissolved parameters to allow for consideration of the impact of suspended solids on the results. Groundwater samples will be submitted under chain-of-custody protocols to an approved laboratory. Field and laboratory quality control samples will be collected and analyzed.

LNAPL Measures (AOIs 26 and 28) - Alternative 1 and Alternative 4 – LNAPL Restriction Area and LNAPL Monitoring Alternatives 2 and 3 from the LNAPL alternative corrective measures presented in Section 3.4, excavation and multi-phase extraction, were not selected as final proposed corrective measures. Both excavation and multi-phase extraction are cost prohibitive and difficult to implement due to existing Site conditions, including the presence of the racetrack and depth to groundwater. In addition, based on the characteristics of the LNAPL, it is not readily or cost-effectively recoverable.

Alternatives 1 and 4, the LNAPL restriction area and LNAPL monitoring are the final proposed corrective measures. These options are easy to implement, cost effective, and protect public health. Additional details for the LNAPL corrective measures are provided below:

- Monitoring Program -- Monitoring LNAPL in existing wells in the vicinity of AOI 28 (Figure 3) will provide data for confirmation of stability of the extent of measurable LNAPL and of the limited dissolved phase impacts.
- DRC – Notification and identification of the area containing residual LNAPL will be provided in a Revised DRC.
- DRC - All excavation and installation of subsurface sewers or other utilities/structures are prohibited within the LNAPL Restriction Area.

6. Schedule

Groundwater and LNAPL monitoring activities were in progress prior to 2015 and were re-started in 2018. Groundwater monitoring will continue in accordance with the program outlined in Section 5.0 if funds are available pursuant to the terms of the Settlement Agreement. The groundwater monitoring program may be adjusted with concurrence from U.S. EPA.

In addition, a draft Revised DRC will be provided to U.S. EPA after U.S. EPA issues a Final Decision for this Site and within thirty (30) days after RACER's receipt of the current Site owner's concurrence with the draft Revised DRC. Upon receipt of U.S. EPA's approval of the final form of the Revised DRC, signature of the approved Revised DRC will be obtained from the necessary parties and be recorded with the Oakland County Register of Deeds.

7. References

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CRA, Environmental Indicator (EI) Report Determination for Current Human Exposures (CA725), PCC Validation, Pontiac, Michigan, 2013a

CRA, Migration of Contaminated Groundwater (CA750), PCC Validation, Pontiac, Michigan, 2013b

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Ferris, J.G., Burt, E.M., Stramel, G.J., and Crosthwaite, E.G. 2003. Groundwater Resources of Southeastern Oakland County, Michigan. State of Michigan Department of Conservation Geological Survey Division

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GHD, PCB Excavation Memo, PCC-Validation, Pontiac, Michigan, 2015c

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GHD, First Quarterly Event Sampling Results, PCC-Validation, Pontiac, Michigan, 2018b

GHD, Second and Third Quarterly Event Sampling Results, PCC-Validation, Pontiac, Michigan, 2018c

GHD, PCB Sampling and Analysis Plan, PCC-Validation, Pontiac, Michigan, 2018d

GHD, PCB Delineation Report, PCC-Validation, Pontiac, Michigan, 2018e

GHD, First and Second Quarter 2019 Sampling Results, PCC-Validation, Pontiac, Michigan, 2019

GHD, Third and Fourth Quarter 2019 Sampling Results, PCC-Validation, Pontiac, Michigan, 2020a

GHD, First and Second Quarter 2020 Groundwater Sampling Results, PCC Validation, Pontiac, Michigan, 2020b

GHD, Request to Modify Groundwater Monitoring Plan, PCC Validation, Pontiac, Michigan, 2020c

GHD, Soil Gas Investigation Results – July 2020, PCC Validation, Pontiac, Michigan, 2020d

GHD, Annual Groundwater Report, PCC Validation, Pontiac, Michigan, 2021a

GHD, Soil Gas Investigation Results – December 2020, PCC Validation, Pontiac, Michigan, 2021b

GHD, Soil Gas Sampling – March 2021, PCC Validation, Pontiac, Michigan, 2021c

GHD, Soil Gas Sampling – July 2021, PCC Validation, Pontiac, Michigan, 2021d

GHD, Soil Gas Sampling – September 2021, PCC Validation, Pontiac, Michigan, 2021e

GHD, Evaluation of Select Historical Analytical Results, PCC Validation, Pontiac, Michigan, 2021f

GHD, LNAPL Evaluation in the Former Plant 3 Area – Revised, PCC Validation, Pontiac, Michigan, 2021g

GHD, Revised Soil Gas Sampling – February 2022, PCC Validation, Pontiac, Michigan, 2022a

GHD, Revised Vapor Intrusion Conceptual Site Model – May 2022, PCC Validation, Pontiac Michigan, 2022b

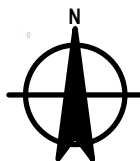
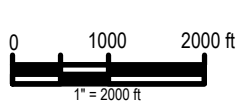
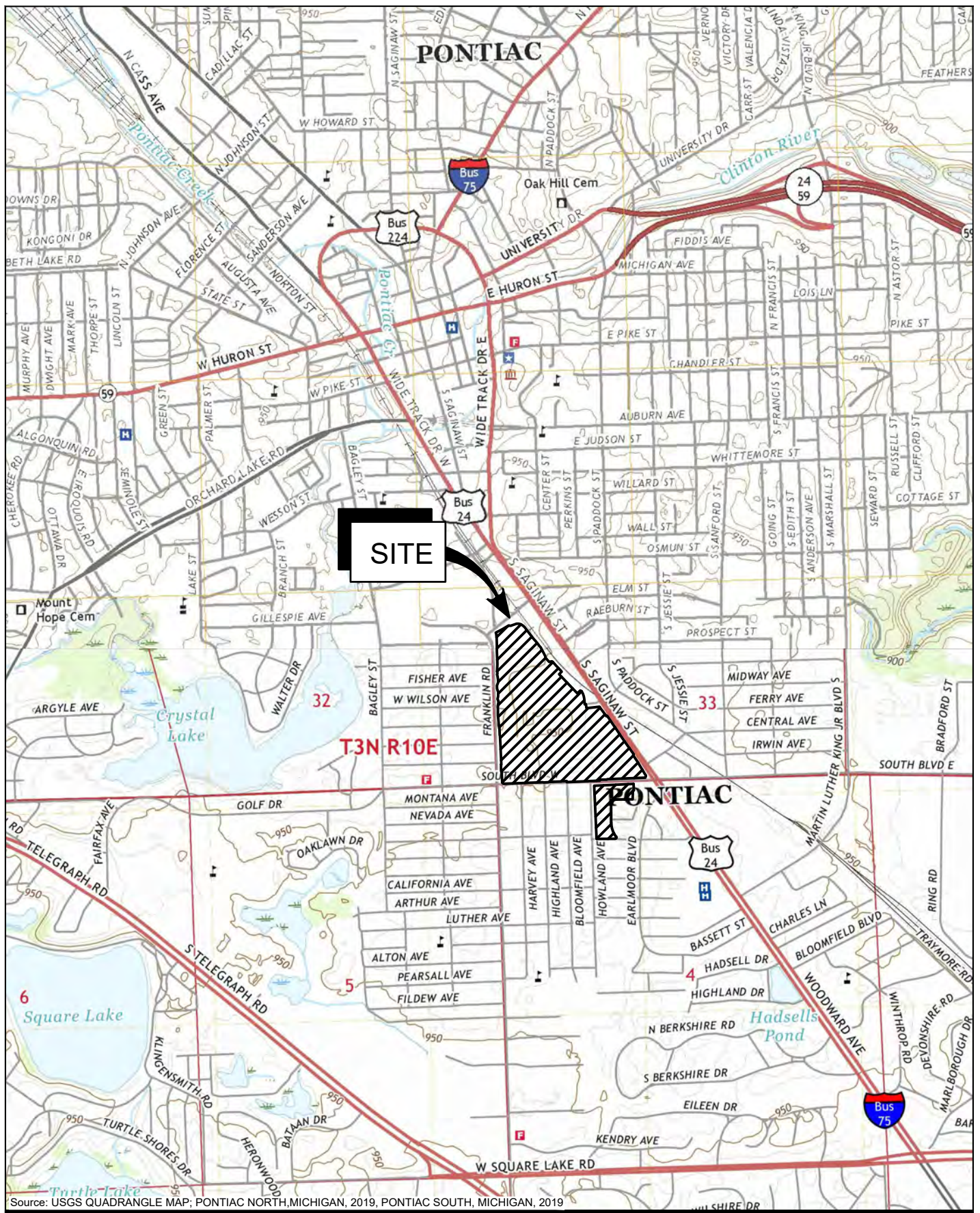
GHD, Annual Groundwater Report – July 2022, PCC Validation, Pontiac, Michigan, 2022c

GHD, Revised Annual Groundwater Report – September 2022, PCC Validation, Pontiac, Michigan, 2022d

GHD, Groundwater Sampling Results July 2022 – September 2022, PCC Validation Pontiac, Michigan, 2022e

GHD, Revised Vapor Intrusion Conceptual Site Model – September 2022, PCC Validation, Pontiac, Michigan, 2022f

Figures

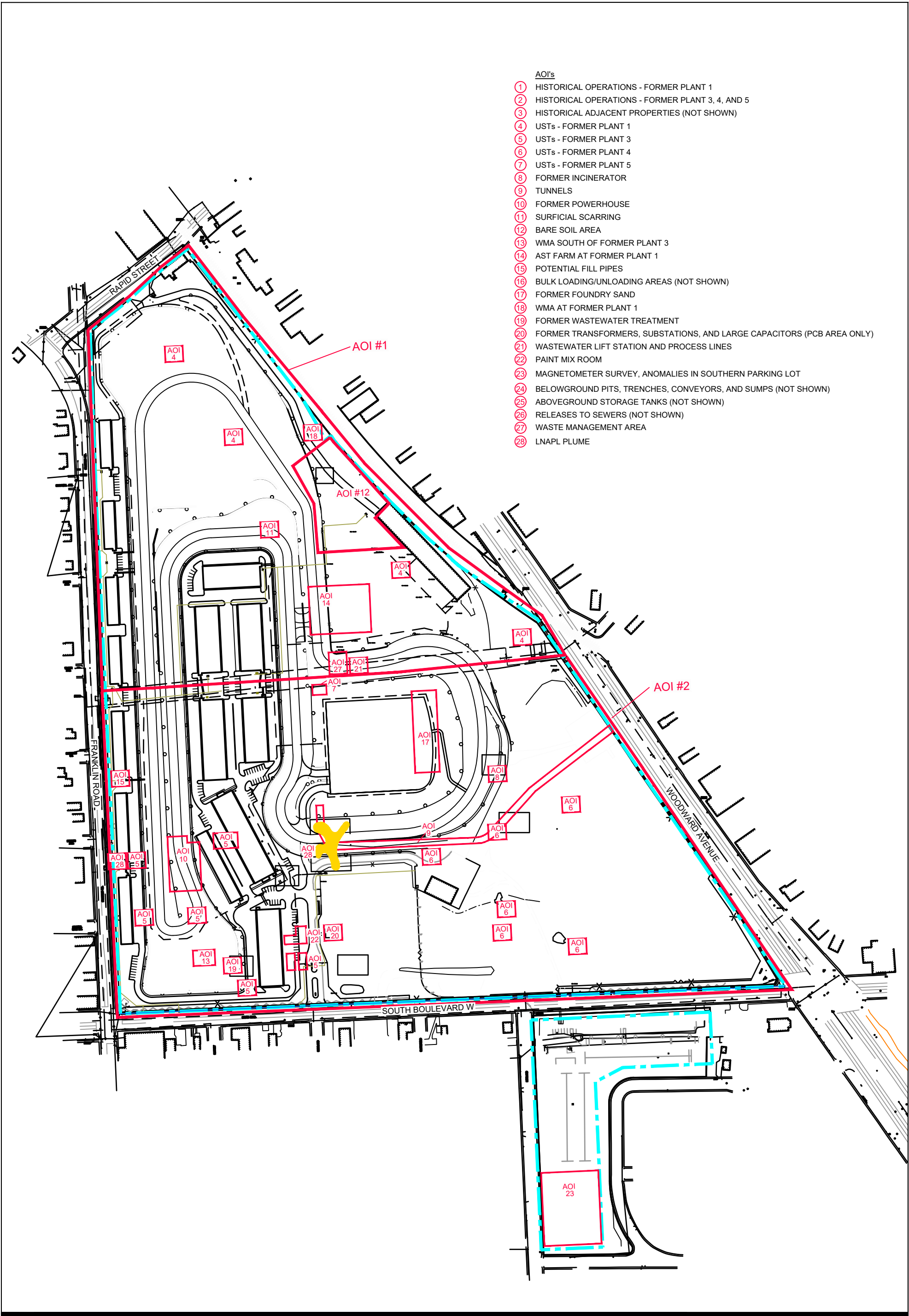


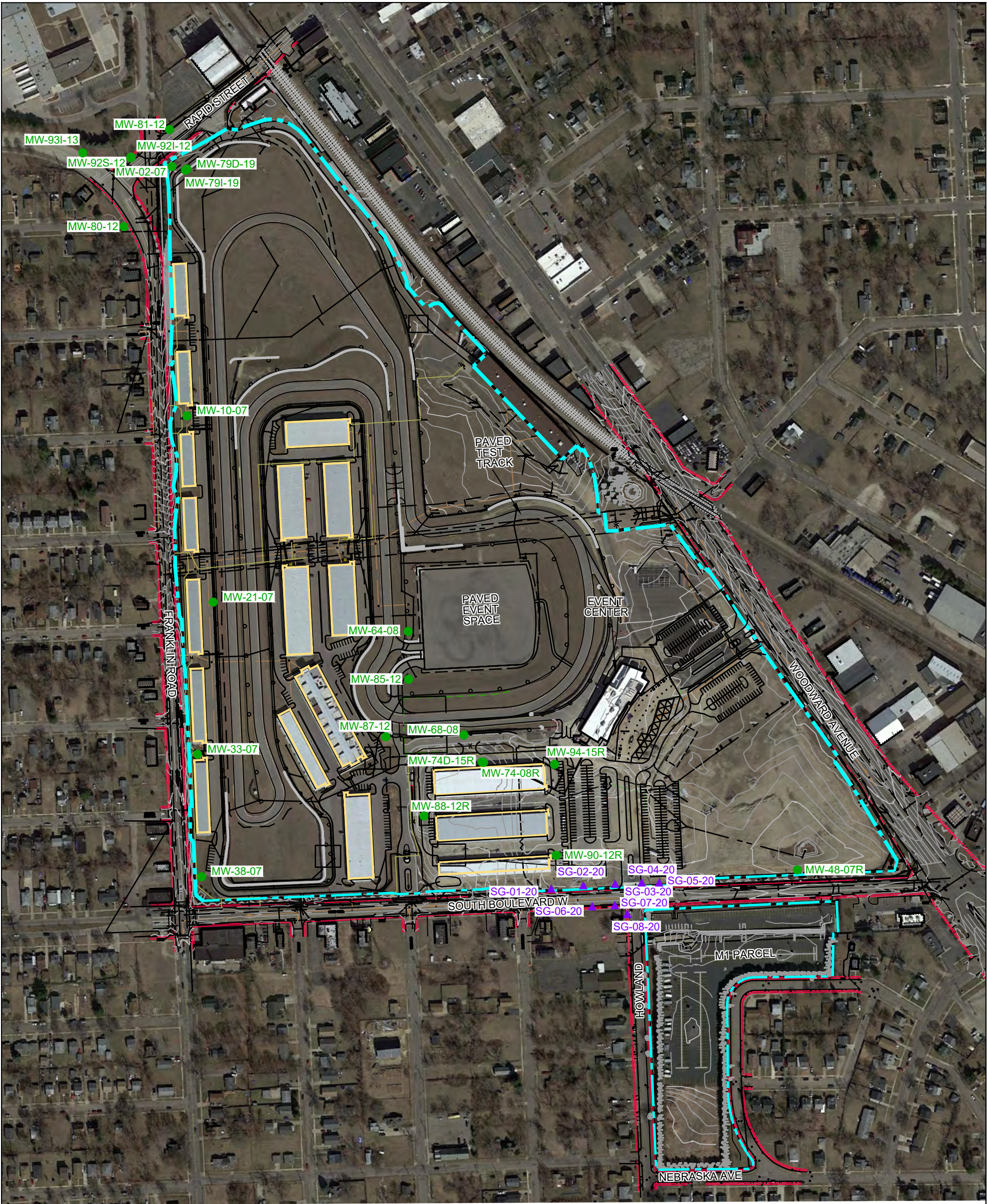
RACER
1 CONOURSE DRIVE
PONTIAC, MICHIGAN

Project No. 11223416
Date February 2022

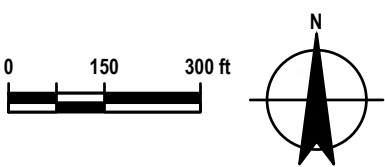
SITE LOCATION MAP

FIGURE 1





- LEGEND**
- APPROXIMATE PROPERTY BOUNDARY
 - RAILROAD
 - MW-80-12 ACTIVE MONITORING WELL LOCATION
 - ▲ SG-01-20 SOIL GAS PROBE LOCATION
 - PRIVATE NON-RESIDENTIAL GARAGES

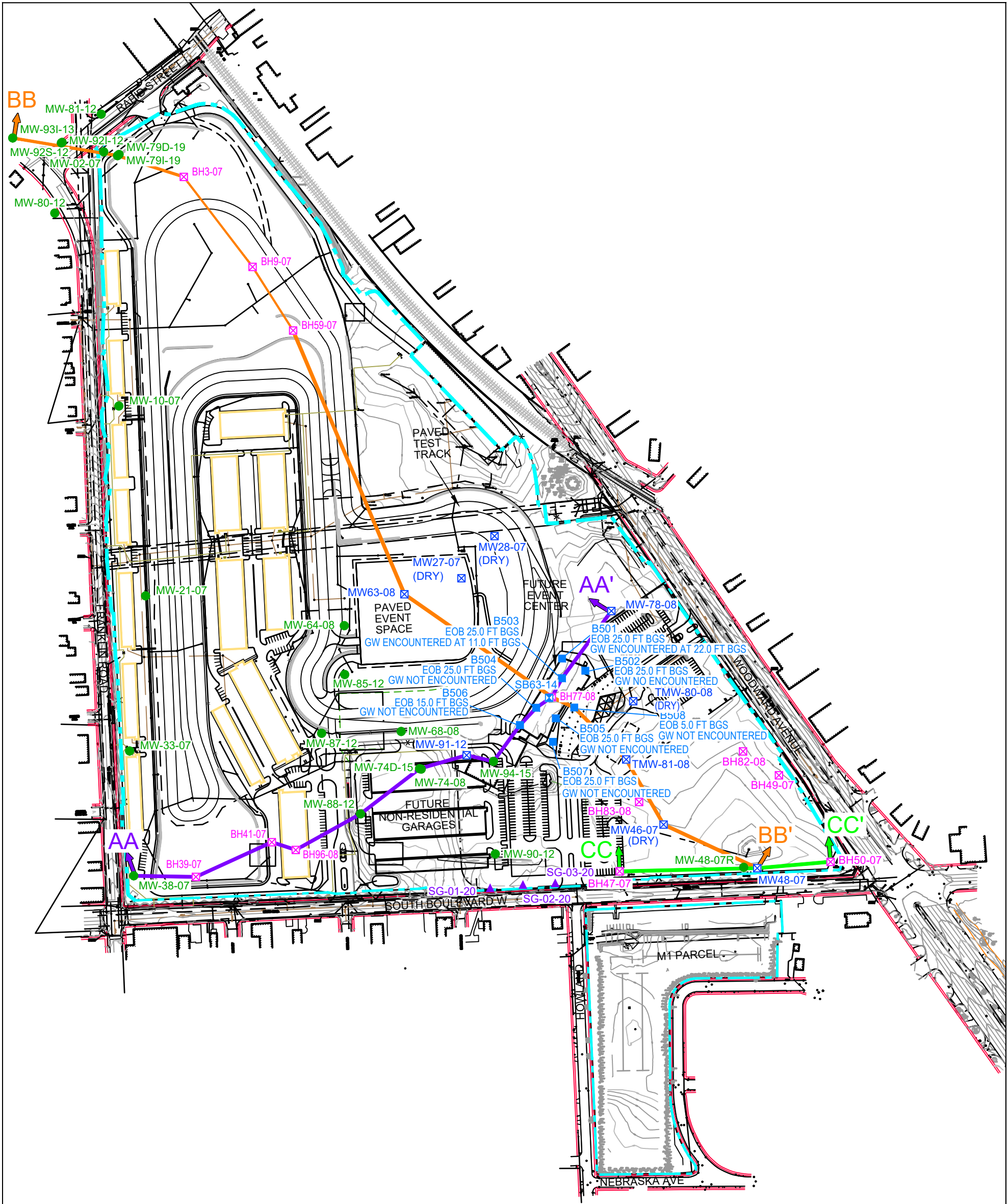


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PONTIAC, MICHIGAN

Project No. 11223416
Date October 2022

SITE PLAN WITH CURRENT
MONITORING LOCATIONS

FIGURE 3



LEGEND

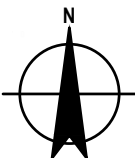
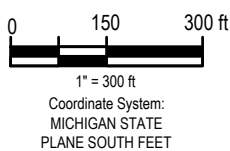
- APPROXIMATE PROPERTY BOUNDARY
- RAILROAD
- MW-80-12 ACTIVE MONITORING WELL LOCATION
- ▲ SG-01-20 SOIL GAS PROBE LOCATION
- ☒ TMW-81-08 FORMER PERMANENT OR TEMPORARY MONITORING WELL LOCATION
- ☒ SB3-14 SME GROUNDWATER SAMPLING LOCATION
- B501 SME APPROXIMATE 2020 GEOTECHNICAL BORING LOCATION
- PRIVATE NON-RESIDENTIAL GARAGES
- ☒ BH83-08 SOIL BORING WITH INSUFFICIENT WATER TO COLLECT GROUNDWATER SAMPLES



CROSS-SECTION LOCATION

NOTES:

- EOB END OF BORING
- BGS BELOW GROUND SURFACE
- GW GROUNDWATER

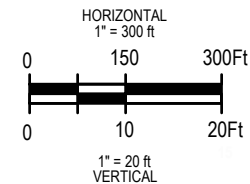
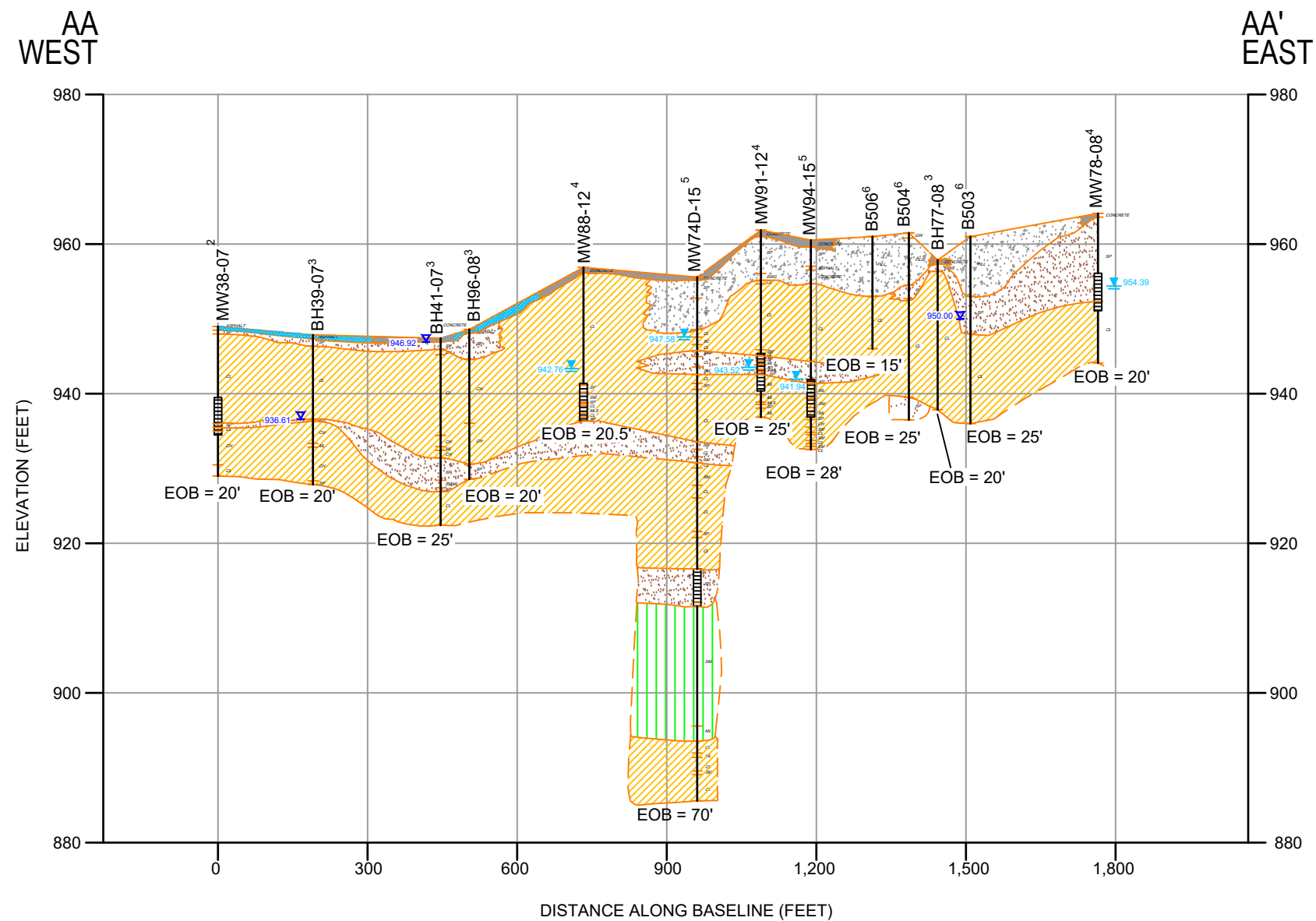


RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN

Project No. 11223416
Date August 2022

CROSS-SECTION LOCATION

FIGURE 4



RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN
PHASE III INVESTIGATION

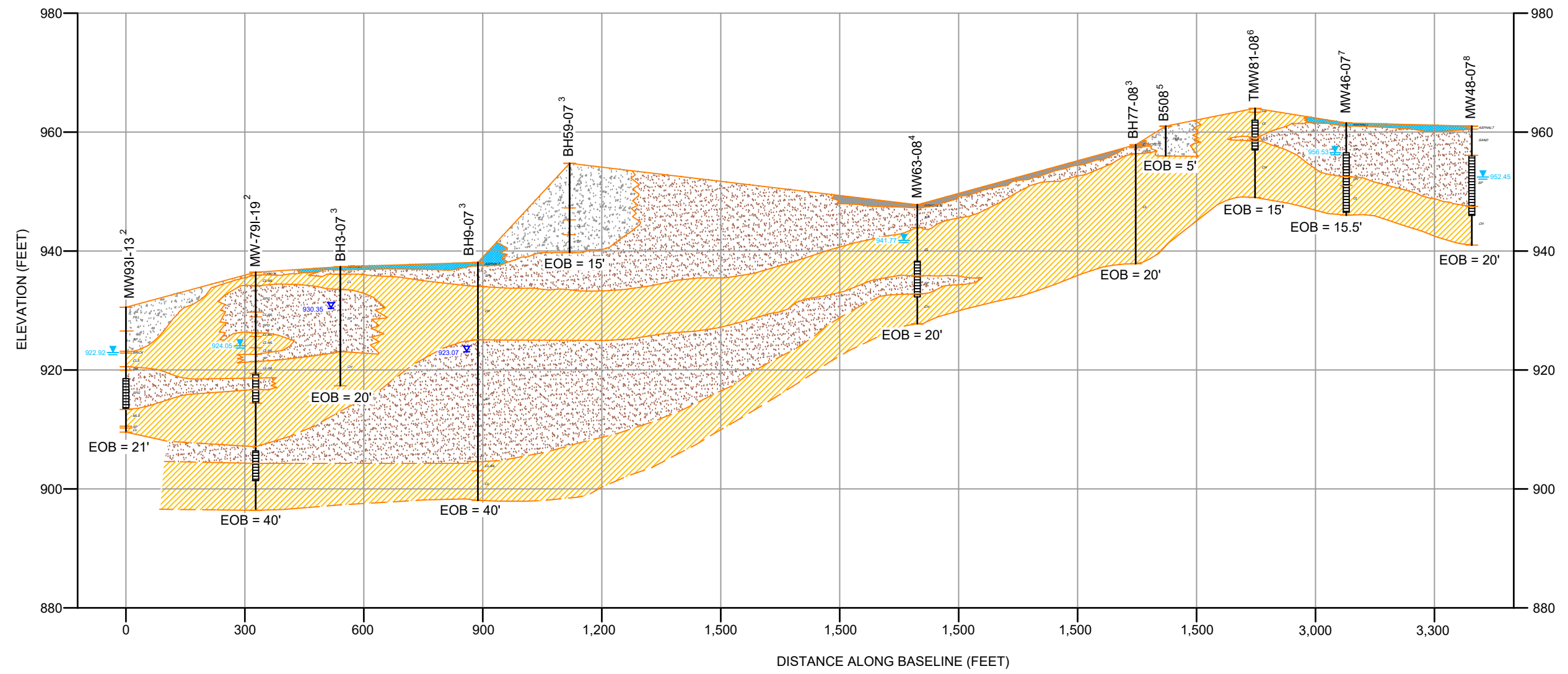
Project No. **11223416**
 Date **February 2022**

CROSS-SECTION AA-AA'

FIGURE 5

BB
NORTH

BB'
SOUTH



LEGEND

- CONCRETE
- ASPHALT
- SAND
- CLAY
- FILL
- SILT

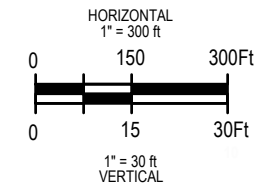
WELL ID
MW38-07

GROUND
— GROUND
— WELL
— SCREEN
INTERVAL

EOB = END OF BORING

GROUNDWATER LEVELS ON MONITORING WELLS
FIRST ENCOUNTERED WATER FOR SOIL BORINGS

- NOTES:
- IF NO WATER LEVEL IS INDICATED ON SOIL BORING, GROUNDWATER WAS NOT ENCOUNTERED DURING COMPLETION.
 - WELL WAS DRY DURING JUNE 2021 MONITORING EVENT.
 - SOIL BORING COMPLETED IN 2007 OR 2008.
 - WATER LEVEL RECORDED DURING MAY 2015 MONITORING EVENT.
 - SOIL BORING COMPLETED IN 2020.
 - TEMPORARY WELL INSTALLED IN 2008, REPORTED AS DRY DURING SAMPLING EVENT.
 - WATER LEVEL RECORDED DURING OCTOBER 2007 INSTALLATION.
 - WATER LEVEL RECORDED DURING MARCH 2013 MONITORING EVENT.

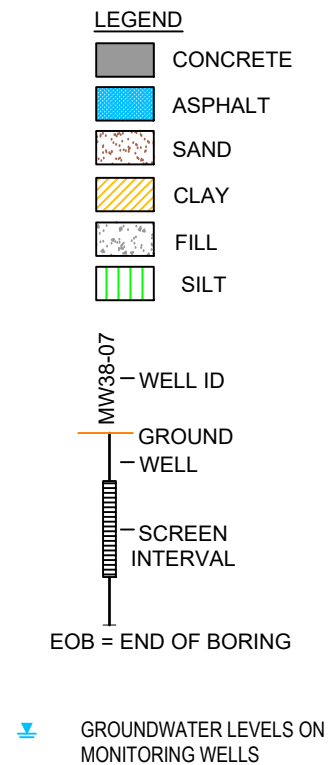
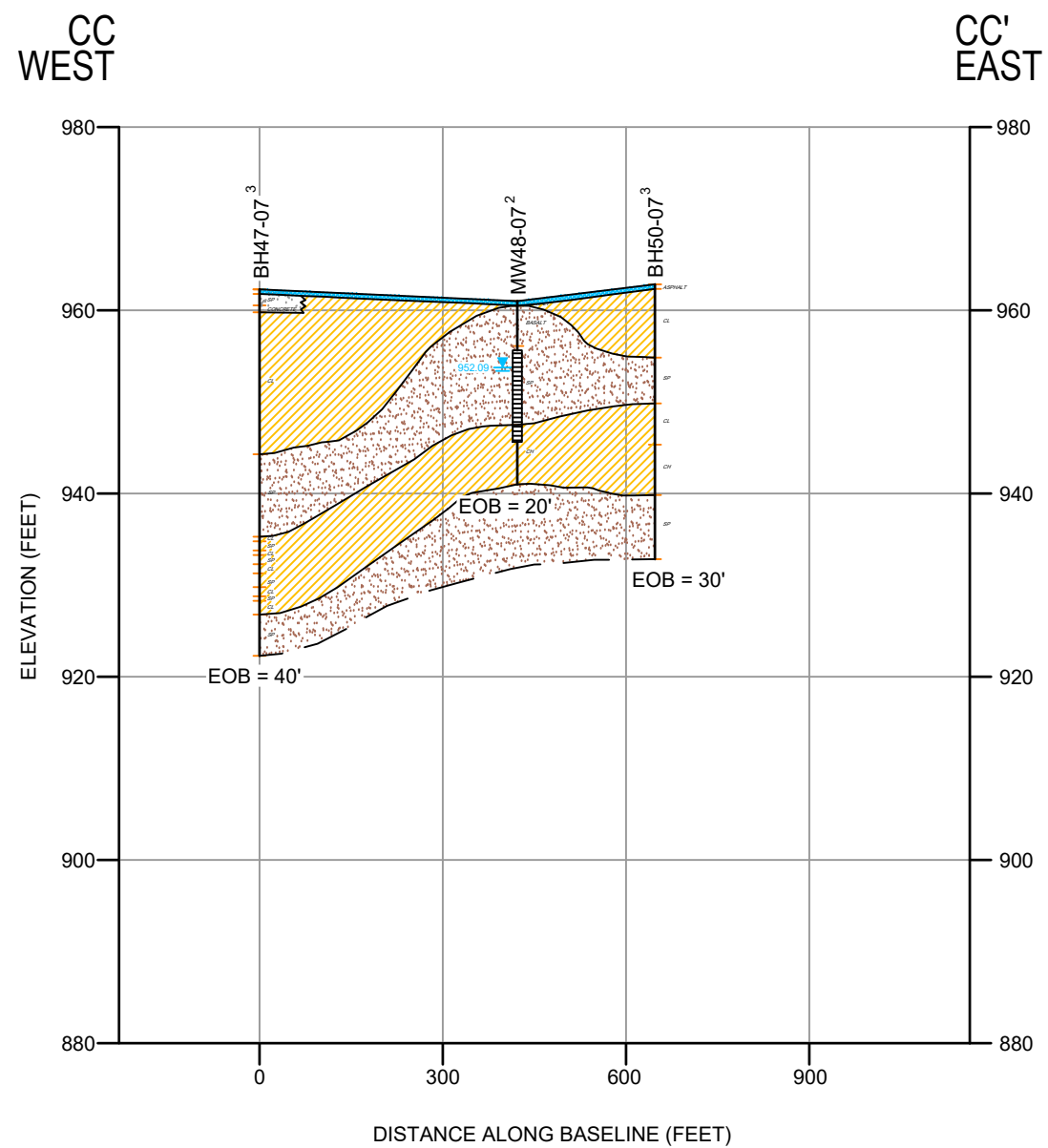


RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN
PHASE III INVESTIGATION

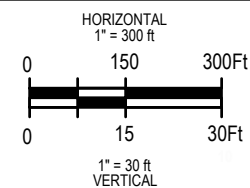
Project No. 11223416
Date February 2022

CROSS-SECTION BB-BB'

FIGURE 6



- NOTES:
- IF NO WATER LEVEL IS INDICATED ON SOIL BORING, GROUNDWATER WAS NOT ENCOUNTERED DURING COMPLETION.
 - WATER LEVEL RECORDED DURING MARCH 2013 MONITORING EVENT.
 - SOIL BORING COMPLETED IN 2007.

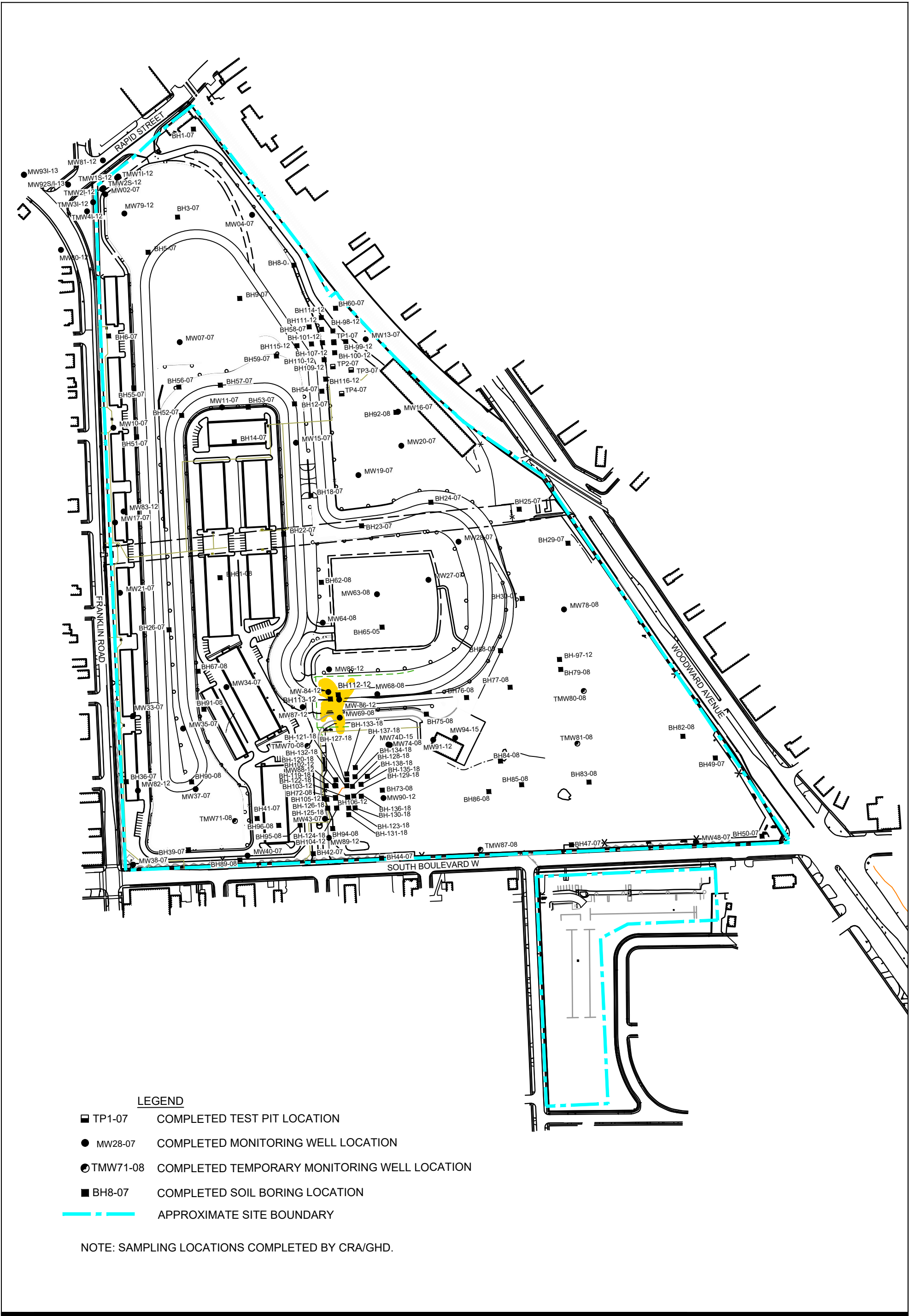


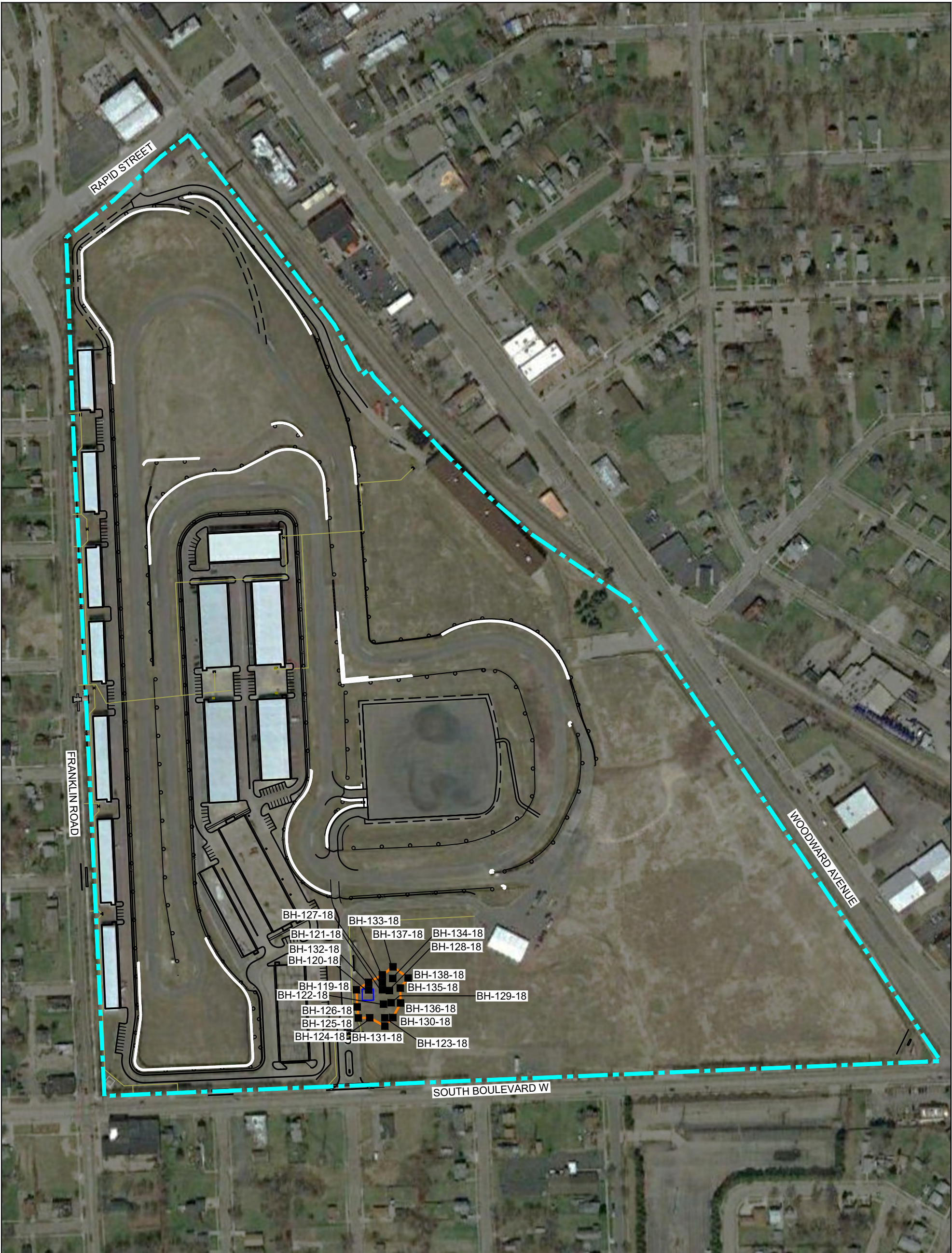
RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN
PHASE III INVESTIGATION

Project No. 11223416
Date February 2022

CROSS-SECTION CC-CC'

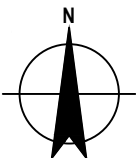
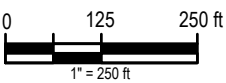
FIGURE 7





LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- RAILROAD
- BH127-18 SOIL BORING LOCATION
- 1 PPM PCB BOUNDARY
- APPROXIMATE 2015 PCB EXCAVATION BOUNDARY

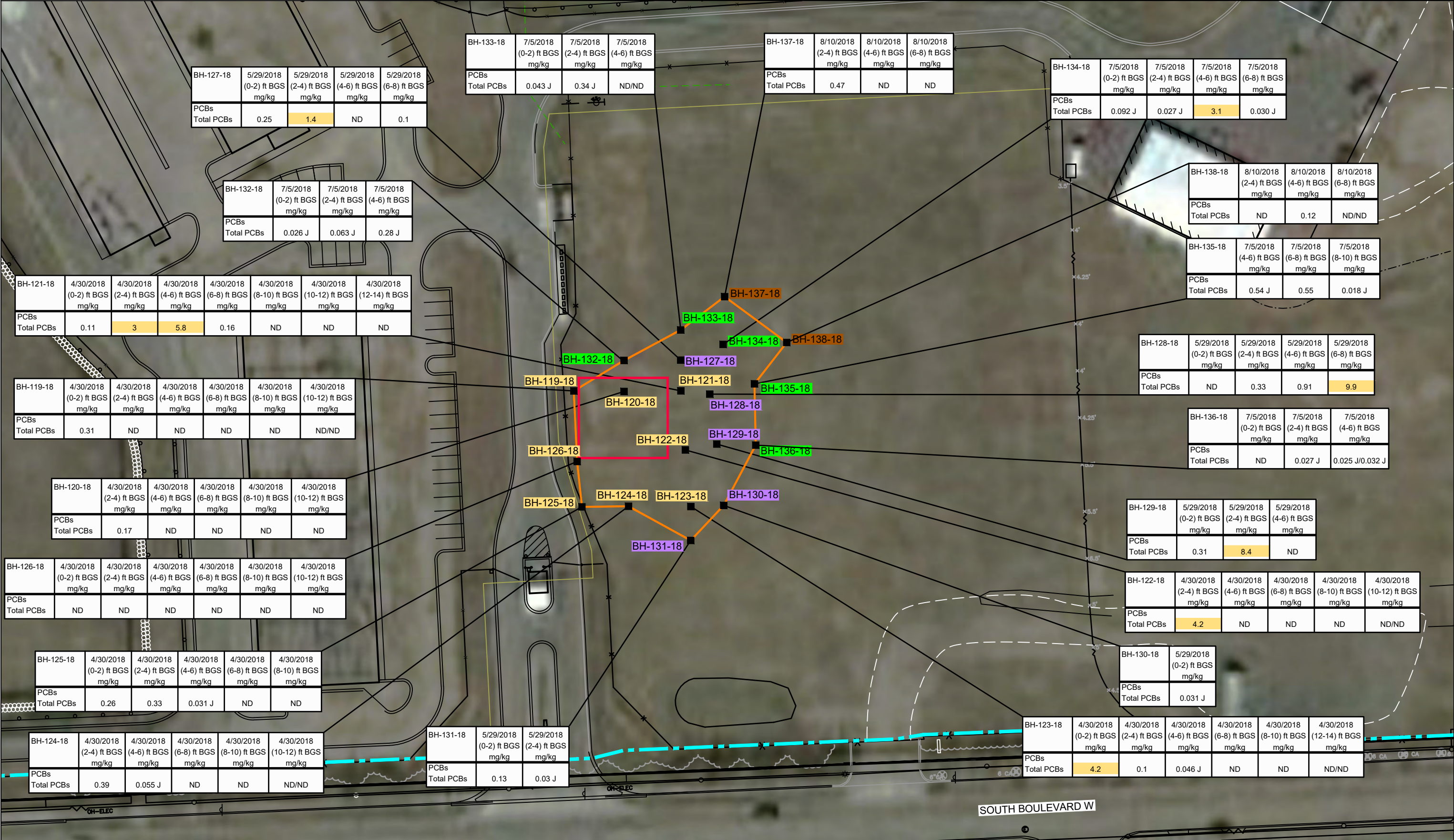


RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN

Project No. 11223416
Date February 2022

SITE MAP WITH
DELINEATION OF PCBs TO 1 PPM

FIGURE 10



Tables

TABLE 1
SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
PCC - VALIDATION
PONTIAC, MICHIGAN

On-Site

Receptor Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
Routine Workers/ Users	surface soil	ingestion and dermal contact	No	Yes	The facility was previously inactive with the former buildings removed to slabs. The Site is currently being utilized for nonresidential uses and is comprised of asphalt paved parking areas, landscaped areas, various automobile storage units, maintenance and entertainment buildings, and a test track. Future commercial development is planned for the southeast portion of the Site. Potential exposures in the future may occur at unpaved areas, areas where slab or pavement is removed, and indoors if vapors from soil or LNAPL migrate through building foundations. Ingestion, dermal, or particulate inhalation exposure of Site workers and users via surface and subsurface soil is not reasonably expected because soil above the applicable Part 201 criteria has been removed, covered, or will be covered with asphalt, concrete, backfill and/or topsoil. Potential future exposures to workers and Site users are mitigated through the current and proposed DRC, which prevents contaminated soil relocation and requires contaminated soil management if surface and subsurface soil is to be excavated or disturbed. Future vapor inhalation through building foundations is mitigated through the DRC, which requires assessment of the potential for vapor intrusion and/or installing a presumptive mitigation system prior to building or occupying a structure on site.
		inhalation of airborne particulates and vapors	No	Yes	
	subsurface soil	ingestion and dermal contact	No	Yes	
		inhalation of soil vapors	No	Yes	
		inhalation of vapors that migrate through building foundations	No	Yes	
	LNAPL	inhalation of LNAPL vapors	No	Yes	
	groundwater	ingestion and dermal contact	No	No	Exposure of workers via potable groundwater use is not expected because groundwater is not used as a drinking water supply at the Site or in the vicinity, and future potable groundwater use is not reasonably expected because the DRC prohibits installation of wells and use of groundwater at the site. Future exposure to workers and site users from vapor inhalation through building foundations is mitigated through the DRC, which requires assessment of the potential for vapor intrusion and/or installing a presumptive mitigation system prior to building or occupying a structure on site.
		inhalation of vapors that migrate through building foundations	No	Yes	
Construction Workers	surface and subsurface soil	ingestion and dermal contact, inhalation of airborne particulates and vapors	No	Yes	Current and future construction and Due Care activities follow a Site-specific Heath and Safety Plan. The current and proposed DRC prevents contaminated soil relocation and requires contaminated soil management if surface and subsurface soil is to be excavated or disturbed.
	LNAPL	ingestion of smear zone soil, dermal contact with LNAPL, and inhalation of LNAPL vapors	No	Yes	Current and future construction activities follow a Site-specific Heath and Safety Plan. Potential exposures to LNAPL and groundwater in the future are possible in excavations that extend into groundwater. Future exposure is mitigated by the DRC, which prohibits excavation and installation of subsurface sewers or other utilities/structures within the LNAPL Restriction Area and the prohibits installation of wells and use of groundwater at the Site.
	groundwater	ingestion, dermal contact, and inhalation of vapors	No	Yes	
Trespassers	surface soil	ingestion and dermal contact	No	Yes	Potential exposures may occur at unpaved areas and at areas where slab or pavement is removed. Exposure of trespassers via surface soil is not reasonably expected because surface soil above the applicable Part 201 criteria has been removed, covered, or will be covered with asphalt, concrete, backfill and/or topsoil. Additionally, current exposure of trespassers via surface soil is not reasonably expected because the Site is fully fenced and access is controlled by M1 Concourse. Future exposure of trespassers is mitigated by the DRC, which prevents contaminated soil relocation and requires contaminated soil management if surface and subsurface soil is to be excavated or disturbed.
		inhalation of airborne particulates and vapors	No	Yes	
	subsurface soil	ingestion and dermal contact	No	No	
		inhalation of soil vapors	No	Yes	
Off-Site					
Residents	surface soil	inhalation of airborne particulates and vapors	No	Yes	Potential airborne exposure to particulates and vapors from unpaved on-Site areas is possible but is not currently expected- because on-Site surface soil above the applicable Part 201 criteria has been removed, covered, or will be covered with asphalt, concrete, backfill and/or topsoil. Future exposure is mitigated by the DRC for the Site which prevents contaminated soil relocation and requires contaminated soil management if surface and subsurface soil is to be excavated or disturbed.
	groundwater	ingestion, dermal contact of potable well water from wellhead protection area	No	No	Current and future exposure is not expected due to Site/regional geology and hydrogeology, which prevents vertical migration of contaminants to screened interval of potable water wells in well head protection area.
		ingestion, dermal contact, and inhalation of vapors during household use	No	No	Current and future exposure of residents via potable groundwater use is not expected because Site geology and hydrologic conditions do not indicate a complete pathway to potable water sources, and future potable groundwater use is not reasonably expected.
		ingestion, dermal contact, and inhalation of vapors during non-potable use	No	No	Current and future exposure of residents via non-potable groundwater use is not expected because Site geology and hydrologic conditions do not indicate a complete pathway to non-potable water sources, and future non-potable groundwater use is not reasonably expected.
		inhalation of vapors that migrate through building foundations	No	Yes	Current site data does not indicate off-Site vapor intrusion concerns. Potential exposures may occur if vapors from VOC contaminated shallow groundwater migrate through foundations.
		inhalation of vapors that migrate through basement sumps	No	Yes	Current site data does not indicate off-Site vapor intrusion concerns. Potential exposure may occur if VOC contaminated shallow groundwater is encountered in basement sumps.
		homegrown produce	ingestion	No	No
	Construction Workers	groundwater	ingestion, dermal contact, and inhalation of vapors	No	Yes

TABLE 2
SUMMARY OF AOIs INCLUDED IN THE CORRECTIVE MEASURES PROPOSAL
PCC-VALIDATION
PONTIAC, MICHIGAN

Area ID	AOI Description	AOI History	Investigations/Remedial Activities	Laboratory Analysis Performed	COCs that Exceeded Applicable Part 201 Criteria		LNAPL Results
					Soil (1)	Groundwater (2)	
Site Wide	Entire property	Various sources, likely historical operations associated with AOIs	• Various investigations/remedial activities, as summarized in text and in the table below.	• Various laboratory analysis performed as summarized in text and in the table below.	Various PNAs, PCBs, and Metals	No Current Exceedance of Applicable Criteria Historical exceedances of VOC, SVOC, and metals in groundwater above Applicable Criteria.	Not Applicable
Off-Site	Located north of the northwestern property boundary along the right of way off Rapid Street	Various sources, likely historical operations associated with AOI-1	• 4 soil borings converted to monitoring wells installed north of the property boundary in the northern ROW along Rapid Street and Franklin Road • 6 soil borings converted to temporary monitoring wells installed in southern ROW along Rapid Street	• VOCs • SVOCs • PCBs • Inorganics	Benzene NOTE: All Part 201 Criteria applicable for off-Site impacts.	No Current Exceedance of Part 201 Criteria. NOTE: Trichloroethene, Vinyl Chloride, Aluminum, Iron and Manganese were detected off-Site in groundwater exceeding EGLE Cleanup Criteria. During multiple sampling events in 2018, 2019, 2020, and 2021 analytical results were non-detect or below all Part 201 EGLE Cleanup Criteria. NOTE: All Part 201 Criteria applicable for off-Site impacts. (3)	Not Applicable
AOI - 1	Historical Operations - Former Plant 1	Primary operations conducted at former Plant 1 included metal finishing operations (phosphating, pickling, plating, heat treating, and painting), stamping, grinding, machining, and polishing. Ancillary operations included hazardous and non hazardous waste accumulation, handling, and storage, as well as the use and storage of raw petroleum products and solvents in both above and belowground storage tanks and drums.	• 13 Soil borings placed within AOI -1 area • 6 Monitoring wells installed within AOI -1 area	• VOCs • SVOCs • PCBs • Inorganics	Benzene No Exceedance of Applicable Criteria	No Exceedance of Applicable Criteria on-Site and No Current Exceedance of Applicable Criteria Off-Site NOTE: Trichloroethene, Vinyl Chloride, Aluminum, Iron and Manganese were historically detected off-Site in groundwater exceeding EGLE Cleanup Criteria. During multiple sampling events in 2018 and 2019, analytical results in the off-Site wells were below or non-detect all EGLE Cleanup Criteria. Trichloroethene was detected above DWC during the June 2019 monitoring event at on-Site well, MW79i-19, but was below the applicable criteria for on-Site results. Concentrations were below the DWC in the following sampling events in 2019, 2020, and 2021. NOTE: All Part 201 Criteria applicable for off-Site impacts. (3)	Not Applicable
AOI-2	Historical Operations - Former Plants 3, 4 and 5	Primary operations conducted on this portion of the Site included degreasing, drop forging, metal finishing operations, casting, incinerating, stamping, grinding, and machining. Ancillary operations included hazardous and non-hazardous waste accumulation, handling, and storage, as well as the use and storage of raw petroleum products and solvents in both above and belowground storage tanks and drums.	• 22 Soil borings placed within AOI -2 area (Plus SME's 2013 investigation) • 9 Monitoring wells installed within AOI -2 area	• VOCs • SVOCs • PCBs • Inorganics	• lead NOTE: Soil was delineated to the north, east, south and west of historic impact. In addition, soil was vertically delineated in a nearby boring.	No Current Exceedance of Applicable Criteria. NOTE: Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene and Indeno(1,2,3 cd)pyrene were detected at MW74-08 at concentrations exceeding Applicable Criteria in groundwater in 2008. During multiple sampling events, the wells were re- sampled and analytical results were below applicable EGLE Cleanup Criteria.	Not Applicable
AOI-5	USTs - Former Plant 3	At least 14 historic USTs were present in the vicinity of former Plant 3.	• 8 Soil borings placed within AOI -5 area • 6 Monitoring wells installed within AOI -5 area	• VOCs • SVOCs • PCBs • Inorganics	No Exceedance of Applicable Criteria	No Current Exceedance of Applicable Criteria NOTE: Benzo(g,h,i)perylene, and Indeno(1,2,3 cd)pyrene were detected at MW37-07 at concentrations exceeding Applicable Criteria in groundwater in 2008. During multiple sampling events, the wells were re- sampled and analytical results were below applicable EGLE Cleanup Criteria.	Not Applicable
AOI-12	Bare Soil Area	Site personnel interviewed during the 2006 and 2009 Phase I ESAs indicated that this area was historically part of a thermal soil remediation effort.	This area was historically part of a thermal soil remediation effort. • 10 Soil borings placed within AOI -12 area • 4 test pits were excavated with AOI-12 area	• VOCs • SVOCs • PCBs • Inorganics	• Anthracene, Benzo(a) anthracene, • Benzo(a)pyrene, Benzo(b)fluoranthene, • Dibenz(a,h)anthracene, Fluoranthene, • Indeno(1,2,3 cd)pyrene and Pyrene NOTE: Soil was delineated to the north, east, south and west of historic impact.	NA (Groundwater not encountered)	Not Applicable
AOI-20*	Former Transformer Substations and Large Capacitors. Same location as AOI-22 Located in the southern portion of Former Plant 3.	Numerous transformers and/or substations were historically located throughout the Site	• 2009, 2015 and 2018 investigations. • Excavation of 100 ppm PCBs in 2015 • Delineation to 1 ppm PCBs in 2018	• PCBs	PCBs are present in soil exceeding TSCA levels.	No Exceedance of Applicable Criteria	Not Applicable
AOI -21	Wastewater Lift Station and Process Line.	Wastewater collection and process system that contained a variety of wastewater types.	• 2 Soil borings placed within AOI-21 • 1 Monitoring wells within AOI-21	• VOCs • SVOCs • PCBs • Inorganics	Manganese	Insufficient groundwater was present in the well at the time of sampling.	Not Applicable
AOI-22*	Paint Mix Rooms. Same location as AOI-20 Located in the southern portion of Former Plant 3.	Paint mixing was conducted in the basement of former Plant 3	• 7 Soil borings placed within AOI -22 area • 3 Monitoring wells installed within AOI -22 area	• VOCs • SVOCs • PCBs • Inorganics	No Exceedance of Applicable Criteria	No Exceedance of Applicable Criteria	Not Applicable
AOI-26	Releases to Sewers	Materials included acids, solvents, and petroleum products	• Sewers near LNAPL area were bulkheaded in 2014 • Storm sewer depths were measured • 2 Monitoring wells installed along the western boundary of the Site and represent potential Site exit points	• VOCs • SVOCs • PCBs • Inorganics	No Exceedance of Applicable Criteria	No Exceedance of Applicable Criteria	Not Applicable
AOI-28	Residual LNAPL	A middle distillate fuel type (e.g., diesel) that has undergone significant biological degradation	• An LIF survey was conducted to delineate the vertical and horizontal extent of the plume • From April 2008 through March 2012 quarterly LNAPL recovery was conducted • An LCSM was developed for the LNAPL Plume • 7 soil borings were placed within AOI-28 area • 2 soil borings were screened with fluorescent/ultraviolet light • 5 Monitoring wells installed within AOI -28 area • 2 Recovery/monitoring wells installed within AOI -28 area • Sewers near LNAPL area were bulkheaded	• VOCs • SVOCs • PCBs • Inorganics • Fingerprinting	No Exceedance of Applicable Criteria	No Exceedance of Applicable Criteria	The LCSM concluded that based on consideration of multiple lines of evidence, most notably the lack of measurable LNAPL in wells, LNAPL is not considered to be mobile, migrating or readily recoverable.

Notes:
(1) Applicable on-Site Michigan Part 201 soil screening criteria includes: Volatile Soil Inhalation Criteria (VSIC), Particulate Soil Inhalation Criteria (PSIC), Direct Contact Criteria (DCC), Soil Saturation Concentration Screening (Csat)
(2) Applicable on-Site Michigan Part 201 groundwater screening criteria includes: Water Solubility, Flammability/Explosivity Screening Level (FESL)
Note: Exceedances of volatilization to indoor air criteria (SVIIC), groundwater volatilization to indoor air criteria (GVIIC), groundwater to surface water interface (GSI) pathway, drinking water criteria (DWC) and drinking water protection criteria (DWPC) are not included as future land use restrictions proposed on-Site, as it include an on-Site deed restriction to prevent use of groundwater, limit future on-Site use to non residential uses and require vapor barriers and/or vapor intrusion assessments prior to construction for any new buildings.
(3) Residential and Non Residential Health Based Drinking Water Values are the applicable DWC for aluminum, iron and manganese in groundwater.
* AOI 20 and AOI 22 were investigated together because they are located in the same area.
LCSM - LNAPL Conceptual Site Model
EGLE - Department of Environment, Great Lakes and Energy

TABLE 3
SUMMARY OF REMEDIAL ALTERNATIVES
PCC-VALIDATION
PONTIAC, MICHIGAN

Corrective Measures Strategy	Description of the Remedial Strategy	Advantages of the Corrective Measures Strategy	Limitations of the Corrective Measures Strategy	Timeframe	Health and Safety Considerations	Feasible Technology for this Project?
Institutional Controls	This option would restrict land use to nonresidential uses, which is consistent with zoning and the current and potential future uses of the property. The deed restriction also will prohibit use of groundwater on the property, current and future owners require future buildings to complete a vapor intrusion assessment prior to construction and/or mitigate potential for vapor intrusion, manage contaminated soil, maintain a cap/cover over the PCB Restriction Area, to allow for High Occupancy use.	• Effective measures to protect public health • Effective mechanism to restrict land use and activity • Effective mechanism to inform future owners of Site conditions and restrictions	• Does not treat impact • Requires follow-up	Can be implemented in short-term and be effective over long-term	Minimal health and safety concerns	Feasible
Groundwater Monitoring	This option would allow the remaining COCs in groundwater to degrade naturally while monitoring the progress using the existing monitoring well network.	• Effective in monitoring to confirm conditions remain protective of human health and the environment	• Longer remedial timeframe than source treatment options • No active source treatment	Termination based on evidence of stability of COCs in groundwater, if funds are available pursuant to the terms of the Settlement Agreement.	Minimal health and safety concerns during monitoring	Feasible
LNAPL Excavation	This option would remove then transport and dispose of the impacted soil at a licensed landfill.	• Effective in removing impact • No ongoing operation and maintenance	• LNAPL not mobile, migrating, creating unacceptable dissolved phase impacts and not readily recoverable	2 months	Any excavation would require proper health and safety precautions per MIOSHA	Feasible
LNAPL Multi-phase Extraction	MPE involves the removal of liquid phase and soil vapor by the application of a vacuum. Liquid phase product is stored then disposed of; groundwater is treated then disposed; and soil vapor is treated then discharged to the environment.	• Effective in recovering fluids • Supplies oxygen to the subsurface to increase aerobic biodegradation • Best applied short term	• LNAPL not mobile, migrating, creating unacceptable dissolved phase impacts and not readily recoverable • Permitting would need to be considered • Groundwater discharge to POTW would be difficult to implement and treatment costs would be high • Leaves majority of LNAPL in ground	10 years	• Moderate health and safety concerns during construction and moderate during monitoring • Off gassing of soil vapor could be a health and safety concern	Not Feasible
Bulkhead Sewers	This option would prevent migration of LNAPL and impacted groundwater from migrating through sewers	• Effective in preventing impacts from potentially discharging to a surface water of the State via storm sewer lines	• No active source treatment	Completed in 2014	Minimal health and safety concerns	Feasible
Residual LNAPL Monitoring	This option would monitor for the presence LNAPL in wells in the vicinity of AOI 28, and provide data for confirmation of stability and limited dissolved phase impacts.	• Effective in monitoring to confirm conditions remain protective of human health and the environment	• No active source treatment	Termination based on evidence of stability of COCs in groundwater, if funds are available pursuant to the terms of the Settlement Agreement.	Minimal health and safety concerns during monitoring	Feasible

Notes:
LNAPL - light non-aqueous phase liquid
MIOSHA - Michigan Occupational Safety and Health Administration

TABLE 4
EVALUATION OF SITE-WIDE CONTROLS AND MONITORING
PCC-VALIDATION
PONTIAC, MICHIGAN

Options:	Engineering Controls and Institutional Control/Land Use Restrictions – DRC	
Protect Human Health and the Environment	By limiting the land, future construction and groundwater use on-site you can restrict the pathways by which humans and the environment would potentially become exposed to hazardous constituents on-Site. The DRC also requires that the cap over the PCB Restriction Area be maintained and requires vapor intrusion assessment/mitigation for any future buildings.	
Attainment of Media Cleanup Standards	This corrective measure allows for the natural attenuation of Site related constituents.	
Controlling the Sources of Releases	Sources no longer exist on-Site and/or are clearly defined.	
Compliance with Applicable Standards for Waste Management	No waste management is required by this corrective measure.	
Long-term Reliability and Effectiveness	This is a reliable and effective mechanism to restrict land and groundwater use on-Site and provide for proper management of contaminated soil or soil vapor while allowing for the natural attenuation of Site related constituents.	
Reduction of Toxicity, Mobility or Volumes of Wastes	• This option provides a means to eliminate pathways by which humans and the environment would potentially become exposed to hazardous constituents. • The volume, mobility, or toxicity of the impacted soil or groundwater is not reduced with this option.	
Short-term Effectiveness	This is a reliable mechanism which can be implemented in a relatively short period of time to restrict land and groundwater use on-Site, provide proper management of contaminated soil or soil vapor thereby prevent potential exposures.	
Implementability	This option would be easy to implement, as the institutional controls just need to be recorded with Oakland County.	
Costs:		Cost
	Deed Restrictions	\$ 4,500.00
	Surveying	\$ 4,000.00
	Total	\$ 8,500.00
Community Acceptance	Deed restrictions are likely acceptable to the community.	
State Acceptance (EGLE)	• EGLE readily accepts deed restrictions. • The institutional control for land use is consistent with zoning and the City's Master Plan. • Eliminates complete exposure pathways and risk.	
Sustainability	• No waste generation, energy requirements or air emissions. • Does not reduce the impact to land or groundwater.	

Notes:
DRC - Declaration of Restrictive Covenant
LNAPL - light non-aqueous phase liquid
COCs - Constituents of concern

Options:	Groundwater Monitoring		
Protect Human Health and the Environment	Provides a means to track hazardous concentrations in groundwater and allows for modification controls in the event that the level of risk changes.		
Attainment of Media Cleanup Standards	This corrective measure allows for the natural attenuation of Site related constituents.		
Controlling the Sources of Releases	Although only residual sources exist on-Site and/or are clearly defined, this option provides a means of monitoring the Site to confirm if migration of hazardous constituents is occurring and to what extent.		
Compliance with Applicable Standards for Waste Management	Minimal waste management is required by this corrective measure (monitoring well purge water).		
Long-term Reliability and Effectiveness	This is a reliable and effective mechanism to monitor groundwater quality concentrations and trends.		
Reduction of Toxicity, Mobility or Waste Volume	This option allows for the degradation and attenuation of COCs while monitoring potential mobility.		
Short-term Effectiveness	This method allows for short term monitoring of COCs; however, it does not provide any short term benefits to human health or the environment. Combining groundwater monitoring with a deed restriction will provide short-term effectiveness.		
Implementability	This option would be simple to implement, because the existing groundwater monitoring well network would be utilized.		
Costs:*	Item	Cost	
	Groundwater Reporting	\$ 10,000.00	
	Groundwater Monitoring	\$ 31,000.00	
	Total*	\$ 41,000.00	
Community Acceptance	Monitoring is likely acceptable to the community		
State Acceptance (EGLE)	EGLE accepts groundwater monitoring especially if it combined with deed restrictions		
Sustainability	• Minimal waste generation • Minimal energy requirements and air emissions		

TABLE 5
EVALUATION OF LNAPL CORRECTIVE MEASURES ALTERNATIVES AT AOI-28
PCC-VALIDATION
PONTIAC, MICHIGAN

Options:	LNAPL Monitoring	Options:	Excavation	Options:	Multi-phase Extraction																																						
Protect Human Health and the Environment	LNAPL does not currently pose a risk to human health. Monitoring in existing wells in the vicinity of the LNAPL area provides a means to track-potential dissolved phase impacts from LNAPL, monitor stability and implement additional controls in the event that the level of risk increases.	Protect Human Health and the Environment	LNAPL does not currently pose a risk to human health. The excavation of LNAPL compositional impacted soils would be effective in reducing the LNAPL and reduce future impacts to groundwater.	Protect Human Health and the Environment	LNAPL does not currently pose a risk to human health. The MPE is a recovery method that would be effective in reducing the volume of LNAPL and may reduce future compositional impacts to groundwater.																																						
Attainment of Media Cleanup Standards	This corrective measure allows for the degradation of Site related constituents.	Attainment of Media Cleanup Standards	This corrective measure allows for removal of impacted media to meet cleanup standards.	Attainment of Media Cleanup Standards	This corrective measure allows for removal of some impacted media to meet cleanup standards.																																						
Controlling the Sources of Releases	The LNAPL source no longer exists and the residually impacted area is clearly defined. This option provides a means of monitoring the Site to document if migration of hazardous constituents is occurring and to what extent.	Controlling the Sources of Releases	This option provides a means of removing the LNAPL and therefore eliminating the sources of releases.	Controlling the Sources of Releases	The LNAPL source no longer exists and the residually impacted area is clearly defined. This option provides a means of controlling the source by removing some LNAPL and impacted groundwater.																																						
Compliance with Applicable Standards for Waste Management	Minimal waste management is required by this corrective measure (monitoring well purge water).	Compliance with Applicable Standards for Waste Management	- A Waste Management Plan will be prepared for the Facility. All waste disposal will be managed in accordance with applicable standards. - Concrete, soil, groundwater and LNAPL will be transported off-Site for disposal.	Compliance with Applicable Standards for Waste Management	- A Waste Management Plan will be prepared for the Facility. All waste disposal will be managed in accordance with applicable standards. - Since both groundwater and LNAPL are recovered in a combined phase, processing through an on-Site oil/water separator would be required prior to disposal. - Separated LNAPL will be transported off-Site for disposal. - Groundwater would be processed through an on-Site wastewater treatment system (e.g., oil/water separation) prior to discharge to the storm sewer system under an NPDES permit.																																						
Long-term Reliability and Effectiveness	This is a reliable and effective mechanism to monitor groundwater quality and confirm whether migration of hazardous constituents is occurring and to what extent.	Long-term Reliability and Effectiveness	Excavation of LNAPL-impacted soils would provide an effective long-term remedy with a majority of the LNAPL being removed.	Long-term Reliability and Effectiveness	This would allow long-term operational flexibility based on any changing subsurface conditions (e.g. fluctuating groundwater levels) and would allow pumping at select extraction wells in targeted areas of the plume, as necessary, as the LNAPL mobilization and recovery rates decline after the initial years of operation.																																						
Reduction of Toxicity, Mobility or Waste Volume	This option allows for the degradation and attenuation of COCs while monitoring mobility.	Reduction of Toxicity, Mobility or Waste Volume	This option would both provide a reduction in LNAPL volume and the concentrations of dissolved phase constituents in the groundwater due to the groundwater and product recovered during implementation.	Reduction of Toxicity, Mobility or Waste Volume	This option would both provide a reduction in LNAPL volume and the concentrations of dissolved phase constituents in the groundwater due to the groundwater and product recovered by the systems.																																						
Short-term Effectiveness	This method allows for short term monitoring of COCs; however, it does not provide any short term benefits to human health or the environment. Combining LNAPL/groundwater monitoring with deed restrictions will provide short-term effectiveness	Short-term Effectiveness	This method provides the most effective short-term alternative due to the immediate removal of LNAPL.	Short-term Effectiveness	This method would provide good short-term effectiveness for preventing further migration of LNAPL and contaminated groundwater.																																						
Implementability	This option would be simple to implement, however, new LNAPL wells will be re-installed outside the race track as a precautionary measure.	Implementability	This option is difficult to implement due to the location of the race track directly over the LNAPL area. Due to the race track, total depth of the excavation and depth below groundwater, implementation is cost prohibitive.	Implementability	This option would be difficult to implement due to the depth and presnce of water. In addition, based on the characteristics of the LNAPL it is likely sorbed to soil and will not easily extract.																																						
	<table><tr><th>Item</th><th>Cost</th></tr><tr><td>Reporting</td><td>\$ 5,000.00</td></tr><tr><td>LNAPL Monitoring</td><td>\$ 20,000.00</td></tr><tr><td>Total (through 2023)</td><td>\$ 25,000.00</td></tr></table>	Item	Cost	Reporting	\$ 5,000.00	LNAPL Monitoring	\$ 20,000.00	Total (through 2023)	\$ 25,000.00		<table><tr><th>Item</th><th>Cost</th></tr><tr><td>Labor</td><td>\$ 138,043.00</td></tr><tr><td>Groundwater pumping filtration and treatment</td><td>\$ 750,000.00</td></tr><tr><td>Excavation & Trucking for Disposal</td><td>\$ 368,360.00</td></tr><tr><td>Disposal</td><td>\$ 368,360.00</td></tr><tr><td>Backfill Material Cost</td><td>\$ 618,000.00</td></tr><tr><td>Backfill Placement & Compaction</td><td>\$ 224,530.00</td></tr><tr><td>Other (Estimated cost to replace race track)</td><td>\$ 1,000,000.00</td></tr><tr><td>Total</td><td>\$ 3,467,293.00</td></tr></table>	Item	Cost	Labor	\$ 138,043.00	Groundwater pumping filtration and treatment	\$ 750,000.00	Excavation & Trucking for Disposal	\$ 368,360.00	Disposal	\$ 368,360.00	Backfill Material Cost	\$ 618,000.00	Backfill Placement & Compaction	\$ 224,530.00	Other (Estimated cost to replace race track)	\$ 1,000,000.00	Total	\$ 3,467,293.00		<table><tr><th>Item</th><th>Cost</th></tr><tr><td>Labor</td><td>\$ 1,228,555.30</td></tr><tr><td>Capital Costs</td><td>\$ 730,000.00</td></tr><tr><td>Operation and Maintenance Costs</td><td>\$ 785,000.00</td></tr><tr><td>Other (including installation of horizontal wells)</td><td>\$ 350,000.00</td></tr><tr><td>Total</td><td>\$ 3,093,555.30</td></tr></table>	Item	Cost	Labor	\$ 1,228,555.30	Capital Costs	\$ 730,000.00	Operation and Maintenance Costs	\$ 785,000.00	Other (including installation of horizontal wells)	\$ 350,000.00	Total	\$ 3,093,555.30
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Cost		Cost⁽¹⁾		am																																							
LNAPL monitoring costs assumes through 2023																																											
Options:	LNAPL Monitoring	Options:	Excavation	Options:	Multi-phase Extraction																																						
Community Acceptance	Monitoring is likely acceptable to the community	Community Acceptance	This option is anticipated to be acceptable to the surrounding community; however, it would likely not be acceptable to the current property owner due to the potential shutdown of the race track.	Community Acceptance	The MPE system is anticipated to be acceptable to the surrounding community. Future property owners or lessees would be aware of the requirements of any monitoring, operation or maintenance that may be in place as a result of implementing the corrective measures.																																						
State Acceptance (MI EGLE)	Should be acceptable when combined with deed restrictions.	State Acceptance (MI EGLE)	Excavation is anticipated to be acceptable to MI EGLE.	State Acceptance (MI EGLE)	The MPE system is anticipated to be acceptable to the MI EGLE; however, residual LNAPL will be left in place.																																						
Sustainability	- Minimal waste generation - Minimal energy requirements and air emissions	Sustainability	High waste generation. All LNAPL, soil and groundwater removed during excavation would be sent to an appropriate landfill or disposal facility.	Sustainability	Moderately high waste generation and energy requirements to run the system. Air emissions may require a permit.																																						

Notes:
LNAPL - light non-aqueous phase liquid
COCs - Constituents of concern

⁽¹⁾ Costs are approximate
LNAPL - light non-aqueous phase liquid
COCs - Constituents of concern
POTW - publicly owned treatment works
MPE - multi-phase extraction

TABLE 6
CORRECTIVE MEASURES END POINT TABLE
PCC-VALIDATION
PONTIAC, MICHIGAN

Area ID	AOI Description	MEDIA REQUIRING CORRECTIVE MEASURES	PROPOSED CORRECTIVE MEASURES	REMEDIATION/MONITORING END POINT	CONFIRMATION OF END POINT
Site-wide	All Site AOIs	PCB, SVOC, and Lead impacted soil. VOC, SVOC and metals impacted groundwater above Applicable Criteria. ³	Institutional and engineering controls to restrict Site ¹ and Groundwater Monitoring Plan to confirm dissolved concentrations remain stable or decreasing	File DRC with Oakland County Register of Deeds and confirm groundwater contaminant concentrations stable and/or decreasing concentrations will not cause unacceptable off-site exposures.	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA) and-monitoring of groundwater which demonstrate stable or decreasing concentrations of Site COCs, if funds are available pursuant to the terms of the Settlement Agreement.
Off-Site	Located north of the northwestern property boundary along the right of way off Rapid Street	Historically, VOC impacted groundwater (currently below all EGLE Cleanup Criteria)	Groundwater Monitoring Plan to confirm dissolved concentrations remain stable or decreasing.	Concentrations stable and/or decreasing and up gradient concentrations (at AOI 1) will not cause unacceptable off-Site exposure.	Semi-annual monitoring of groundwater which demonstrate stable or decreasing concentrations of Site COCs.
AOI - 1	Historical Operations - Former Plant 1	No exceedance of Applicable Criteria on-Site and historical VOC impacted groundwater (currently below all EGLE Cleanup Criteria) off-Site	Institutional controls to restrict Site ¹ and Groundwater Monitoring Plan as part of Site-wide controls to address the historical VOC exceedances .	File DRC with Oakland County Register of Deeds and confirm groundwater contaminant concentrations are stable and/or decreasing and will not cause unacceptable off-Site exposure.	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA) and monitoring of groundwater which demonstrate stable or decreasing concentrations of Site COCs, if funds are available pursuant to the terms of the Settlement Agreement.
AOI-2	Historical Operations - Former Plants 3, 4 and 5 (includes the southern VOC groundwater impacted area)	Lead impacted soil at SB17-13 ² exceeding DCC. Historical SVOC impacted groundwater (currently below all EGLE Cleanup Criteria).	Institutional controls to restrict Site ¹ and monitoring of existing wells as part of Site-wide controls to address the historical VOC exceedances.	File DRC with Oakland County Register of Deeds and confirm groundwater contaminant concentrations are stable and/or decreasing.	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA). Monitoring of groundwater which demonstrate stable or decreasing concentrations of Site COCs, if funds are available pursuant to the terms of the Settlement Agreement.
AOI-5	USTs - Former Plant 3	No Exceedance of Applicable Criteria	Institutional controls to restrict Site ¹	File DRC with Oakland County Register of Deeds	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA)
AOI-12	Bare Soil Area	SVOC impacted soil at TP1-07 exceeding DCC	Institutional controls to restrict Site ¹ .	File DRC with Oakland County Register of Deeds.	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA).
AOI-20*/AOI-22*	Paint Mix Rooms and Former Transformer Substations and Large Capacitors. Located in the southern portion of Former Plant 3.	PCB impacted soil within the PCB Area	Institutional controls to provide notification of presence of PCB remediation waste, removal of PCB impacted soil exceeding 100 ppm, and capping the PCB impacted area during redevelopment.	File DRC with Oakland County Register of Deeds. The PCB area will be capped and utilized as mixed nonresidential.	Implementation of DRC to provide notification of the presence of PCBs and restrict use of the area to nonresidential (Recorded copy of restrictive covenant received by U.S. EPA)
AOI 21	Wastewater Lift Station and Process Line	Manganese impacted soil at MW28-07 exceeding PSIC	Institutional controls to restrict Site ¹	File DRC with Oakland County Register of Deeds	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA)
AOI 26	Release to Sewers.	LNAPL	Institutional controls to restrict Site ¹	File DRC with Oakland County Register of Deeds and bulkhead sewers near AOI-28 (completed)	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA) and bulkhead sewers near AOI-28 (completed)
AOI-28	Residual LNAPL Restricted Area	LNAPL	Institutional controls to restrict Site ¹ , Monitoring of LNAPL in existing wells in the vicinity of AOI 28, if present, will provide data for confirmation of stability and limited dissolved phase impacts.	File DRC with Oakland County Register of Deeds and LNAPL extents are stable	Implementation of DRC (Recorded copy of restrictive covenant received by U.S. EPA) to provide notification of presence of residual LNAPL and groundwater elevation/product thickness measurements.

Notes:

¹ - Declaration of Restrictive Covenant (DRC) includes the following restrictions per Section 5.0 of the CMP text:

- DRC - Land use on-site will continue to be restricted to Non Residential uses.
- DRC - Extraction wells and other devises to withdraw groundwater at the Site and use of groundwater from the Site will be prohibited.
- DRC – Soil vapor management will be required prior to building or occupying structures on-site. Management will include assessing the potential for vapor intrusion and/or installing a presumptive mitigation system prior to building or occupying a structure on-site.
- DRC – Contaminated soil management will be required if excavated or otherwise disturbed. This includes areas associated with TP1-07 and SB17-13 which exceeds Nonresidential DC. Maintaining a cap over the PCB Restriction Area is also required.
- DRC - All excavation and installation of subsurface sewers or other utilities/structures are prohibited within the residual LNAPL Restriction Area

² - SB17-13 was completed and analyzed by SME in 2013.

³ - Applicable on-Site Michigan Part 201 soil screening criteria includes: Volatile Soil Inhalation Criteria (VSIC), Particulate Soil Inhalation Criteria (PSIC), Direct Contact Criteria (DCC), Soil Saturation Concentration Screening (Csat). Applicable on-Site Michigan Part 201 groundwater screening criteria includes: Water Solubility, Flammability/Explosivity Screening Level (FESL) . All Part 201 Criteria applicable for off-Site impacts.

LNAPL - Light Non-aqueous Phase Liquid
AOI - Area of Interest
bgs - below ground surface

Table 7

**Groundwater Monitoring Plan
RACER PCC- Validation
Pontiac, Michigan**

Sample Location	Area of Interest	Well Status	Date Installed	Analysis
MW-74-22R	AOI 2	Existing	4/8/2022	TCL VOCs
MW-74D-22R	AOI 2	Existing	4/6/2022	TCL VOCs
MW-88-22R	AOI 2	Existing	4/11/2022	TCL VOCs
MW-90-22R	AOI 2	Existing	4/14/2022	TCL VOCs
MW-48-22R	AOI 2	Existing	4/12/2022	TCL VOCs
MW-94-22R	AOI 2	Existing	4/8/2022	TCL VOCs
MW-02-07	AOI 1	Existing	6/4/2018	TCL VOCs
MW-79D-19	AOI 1	Existing	5/21/2019	TCL VOCs
MW-79I-19	AOI 1	Existing	5/21/2019	TCL VOCs
MW-80-12	AOI 1	Existing	8/28/2012	TCL VOCs
MW-81-12	AOI 1	Existing	8/28/2012	TCL VOCs
MW-92I-12	AOI 1	Existing	1/24/2013	TCL VOCs
MW-92S-12	AOI 1	Existing	1/24/2013	TCL VOCs
MW-93I-13	AOI 1	Existing	7/26/2013	TCL VOCs
MW-64-08	AOI 2	Existing	5/29/2018	TCL VOCs
MW-38-07	Sitewide	Existing	5/30/2018	Al, Pb, V (Total+Dissolved)
MW-10-07	Sitewide	Existing	6/1/2018	Al, Pb, V (Total+Dissolved)
MW-33-07	Sitewide	Existing	5/31/2018	Al, Pb, V (Total+Dissolved)
MW21-07	Sitewide	Existing	5/22/2019	Al, Pb, V (Total+Dissolved)
MW-68-08	AOI 26/28	Existing	5/24/2019	TCL VOCs
MW-85-12	AOI 26/28	Existing	5/29/2018	TCL VOCs
MW-87-12	AOI 26/28	Existing	5/22/2019	TCL VOCs

Footnotes:

MW - Monitoring well

TCL VOCS - Target Compound List Volatile Organic Compounds

AL, PB, V - Aluminum, lead, and vanadium

Appendices

Appendix A

**Detailed Cost Breakdowns: Site Wide
Controls and Monitoring**

**DETAILED COST BREAKDOWN
SITE WIDE CONTROLS AND MONITORING
PCC-VALIDATION
PONTIAC, MICHIGAN**

Corrective Measure Alternative	Approximate Quantity	Unit	Unit Price	Item Total
Deed Restriction - Land, Future Construction and Groundwater Use Restriction				
<i>This option would restrict land use to nonresidential uses, which is consistent with zoning and the current and potential future uses of the property. The deed restriction also will prohibit use of groundwater on the property, require future buildings to complete a vapor intrusion assessment prior to construction, manage contaminated soil and restrict select area to Low Occupancy.</i>				
Project Director (Principal F1)	4	hour	\$ 152.19	\$ 609
Project Manager (Geo/Hydro E2)	8	hour	\$ 139.04	\$ 1,112
Project Engineer (Eng C3)	5	hour	\$ 117.13	\$ 586
Project Coordinator (Geo B2)	12	hour	\$ 90.83	\$ 1,090
Draft/CADD D1	8	hour	\$ 82.07	\$ 657
Secretary/Word Processing D1	4	hour	\$ 51.39	\$ 206
Disbursements	-	LS	\$ 500.00	\$ 240.00
Legal Survey	-	LS	\$ 4,000.00	\$ 4,000.00
Total				\$ 8,500
Groundwater Reporting and Monitoring				
<i>Already in progress. This option would allow the remaining COCs in groundwater to degrade naturally while monitoring the progress using the existing monitoring well network.</i>				
Reporting				
Project Director (Principal F1)	6	hour	\$ 152.19	\$ 913
Project Manager (Geo/Hydro E2)	17	hour	\$ 139.04	\$ 2,364
Project Engineer (Eng C3)	8	hour	\$ 117.13	\$ 937
Draft/CADD D1	12	hour	\$ 82.07	\$ 985
Secretary/Word Processing D1	10	hour	\$ 51.39	\$ 514
Disbursements	-	LS	\$ 4,001.00	\$ 4,001.00
Groundwater Reporting Subtotal				\$ 9,714.00
Subtotal - Based on Three Years of Reporting¹				\$ 29,627.70
Monitoring				
Project Coordinator (Geo B3)	30	hour	\$ 90.83	\$ 2,725
Waste Coordinator (Engineer B2)	12	hour	\$ 90.83	\$ 1,090
Technician/Technologist B3	120	hour	\$ 68.92	\$ 8,270
Data Management/Validation	-	LS	\$ 4,051.00	\$ 4,051.00
Analytical	-	LS	\$ 15,000.00	\$ 15,000.00
Groundwater Monitoring Subtotal				\$ 31,136
Subtotal - Based on Three Years of Reporting¹				\$ 94,965
Groundwater Reporting and Monitoring Total¹				\$ 125,000

Note:

1 - Assumes an annual inflation rate of 2%.

Appendix B

**SME, Request for Approval Under 40 CFR
761.61I – M1 Concourse Phase 4
Development, September 18, 2019**



MEMORANDUM

TO: Mr. Peter Ramanauskas - USEPA

FROM: Mr. Jeff Lanier – SME

CC: Mr. Roger Zlotoff - M1 Concourse LLC

DATE: September 18, 2019

SUBJECT: Request for Approval Under 40 CFR 761.61(c)
M1 Concourse – Phase 4 Development
One Concourse Drive, Pontiac, Michigan
SME Project Number: 066864.01

SME prepared this document to request USEPA approval under 40 CFR 761.61c to implement measures to appropriately manage remaining polychlorinated biphenyls (PCBs) in soil during construction of Phase 4 at M1 Concourse development in Pontiac, Michigan. The site map and location of Phase 4 development is shown on the attached Overall Site Plan provided by Professional Engineering Associates (PEA). The proposed site development plan for Phase 4 and the area of PCB impacted soil ("PCB Restriction Area") is shown on the attached utility plan. This document summarizes the proposed M1 Concourse development plans, remaining PCB concentrations, and proposed measures to manage the remaining PCBs under the 40 CFR 761(c) application process.

Proposed Development Plans

M1 Concourse plans to redevelop the south-central area of the M1 Concourse development with three multi-unit garage storage buildings (#s 16, 17, and 18), paved parking and drives, and limited landscaping. Attached is a Site Plan. Construction activities to be performed in the PCB Restriction Area include grading, utility installation, a portion of Building #s 16 and 17 (foundations and floor slab), paving, and landscaping. The proposed land use is similar to other areas of M1 Concourse, individually owned automotive garages with paved parking and drives. The occupancy and use of the garage units is occasional. Residential use is not proposed or allowed at M1 Concourse.

Existing Conditions

Numerous environmental assessments have been performed to delineate the extent of PCB concentrations greater than 1 ppm. The attached summary figures, PCB Excavation Memo, and PCB Delineation Memo document the soil removal and remaining PCB concentrations in the PCB Restriction Area. In October 2015, RACER Trust and their consultant, GHD, excavated and disposed approximately 104 tons of PCB-impacted soils from the PCB Area. According to the attached report, soil with PCB concentrations of 100 ppm or greater was targeted and removed from the site. Following soil removal, GHD performed a delineation assessment to define the boundary of PCB concentrations greater than 1 ppm. The delineated boundary of the PCB Restriction Area is shown on the attached figures. Based on review of the assessment results to date, no PCB concentrations of 50 ppm or greater are known to remain within the PCB Restriction Area. The remaining PCB concentrations range from 1.5 to 40 ppm, and are present at approximately 8 to 14 feet below grade (BG). In 2015, a 30' by 30' by 2' thick clay cap was installed over the former boring location SB62-14.

Proposed Environmental Measures

M1 Concourse plans to implement necessary measures and controls as required by 40 CFR §761.61(c) and Section 20107a of NREPA. The following summarizes the proposed measures for the PCB Restriction Area:

Declaration of Restrictive Covenant (RC) Modifications – We recommend removing the Low Occupancy restriction language in the proposed RC modifications. Removal of this requirement is appropriate based on the proposed construction plans, remaining low levels of PCBs, and limited use of the area.

Earthwork – Limited soil excavation is planned in the PCB Restriction Area for grading, utility trenching, and building foundation and floor slab excavation. M1 Concourse LLC will evaluate and coordinate analytical data for soil to be excavated within the PCB Restriction Area. If PCB analytical results are not available for the soil to be excavated from the PCB Restriction Area, M1 Concourse LLC will collect additional soil samples using a direct-push boring rig. The purpose of the sampling is to confirm PCB levels are below 50 ppm and therefore can be disposed at a licensed Type II landfill pending USEPA approval. Excavated soil with PCB concentrations less than 50 ppm will be direct-loaded in trucks for transportation to a licensed Subtitle D landfill. If necessary, excavated soil from this area will be temporarily placed on, and covered by, plastic sheeting until appropriately loaded and transported to the licensed landfill. We are requesting USEPA approval to dispose the soil from the PCB Restriction Area in a Type II landfill per Subtitle D since no concentrations exceed 50 ppm.

Utility Engineering Controls – Portions of the storm sewer system and water main (hydrant) are located in the PCB Restriction Area. The utilities will be installed at depths ranging from 4 to 9 feet BG as shown on the attached Utility Profile sheet. M1 Concourse will install storm sewer pipes and structures with water-tight gaskets and external Mar-Mac wrap at each joint within the PCB Restriction Area. All new utilities in the PCB Restriction Area will be installed with clean imported backfill soil.

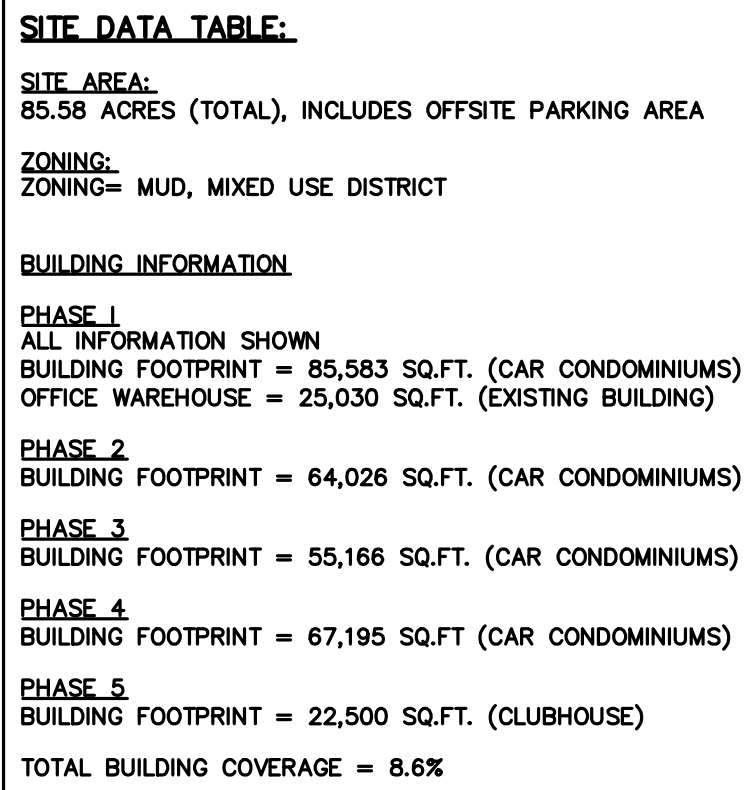
PCB Area Cap – M1 Concourse will cap the PCB Restriction Area with asphalt pavement, building floor slabs and foundations, and clean soil and grass. A minimum thickness of 12 inches of one of more of the following materials will be placed as final cover in the PCB Restriction Area: asphalt pavement, cement concrete, imported engineering backfill, and topsoil. Additionally, a polyethylene geotextile or similar material will be placed on the top surface of the remaining PCB impacted soils in areas not covered by pavement or buildings (e.g. landscaping and greenbelt). The geotextile will serve as a visual demarcation barrier for potential future landscaping and subsurface work.

Due Care Coordination – M1 Concourse will communicate the PCB concentrations and due care management protocols with future subsurface contractors for this phase of construction. The PCB Restriction Area will be surveyed and fenced to restrict access to unauthorized parties. SME will also be onsite to observe and document completed earthwork, utility engineering controls, construction, and capping activities.

M1 Concourse requests your review and approval of the above proposed measures for the PCB Restriction Area. Please feel free to call me with any questions or comments. Thank you for your assistance with this request.

ATTACHMENTS:

- Overall Site Plan
- Utility Plan for Phase 4
- Utility Profile for Storm Sewer
- PCB Results Figures
- PCB Excavation Memo
- PCB Delineation Memo



A map of the site location in Auburn, Maine. The map shows the intersection of Woodward Ave. (M-1) and South Blvd E. The site is located on Woodward Ave. between Franklin Rd and Square Lake Rd. Other streets shown include M-59, Auburn Ave, and Bailey St. A north arrow and a scale bar (1/4 mile) are also present.

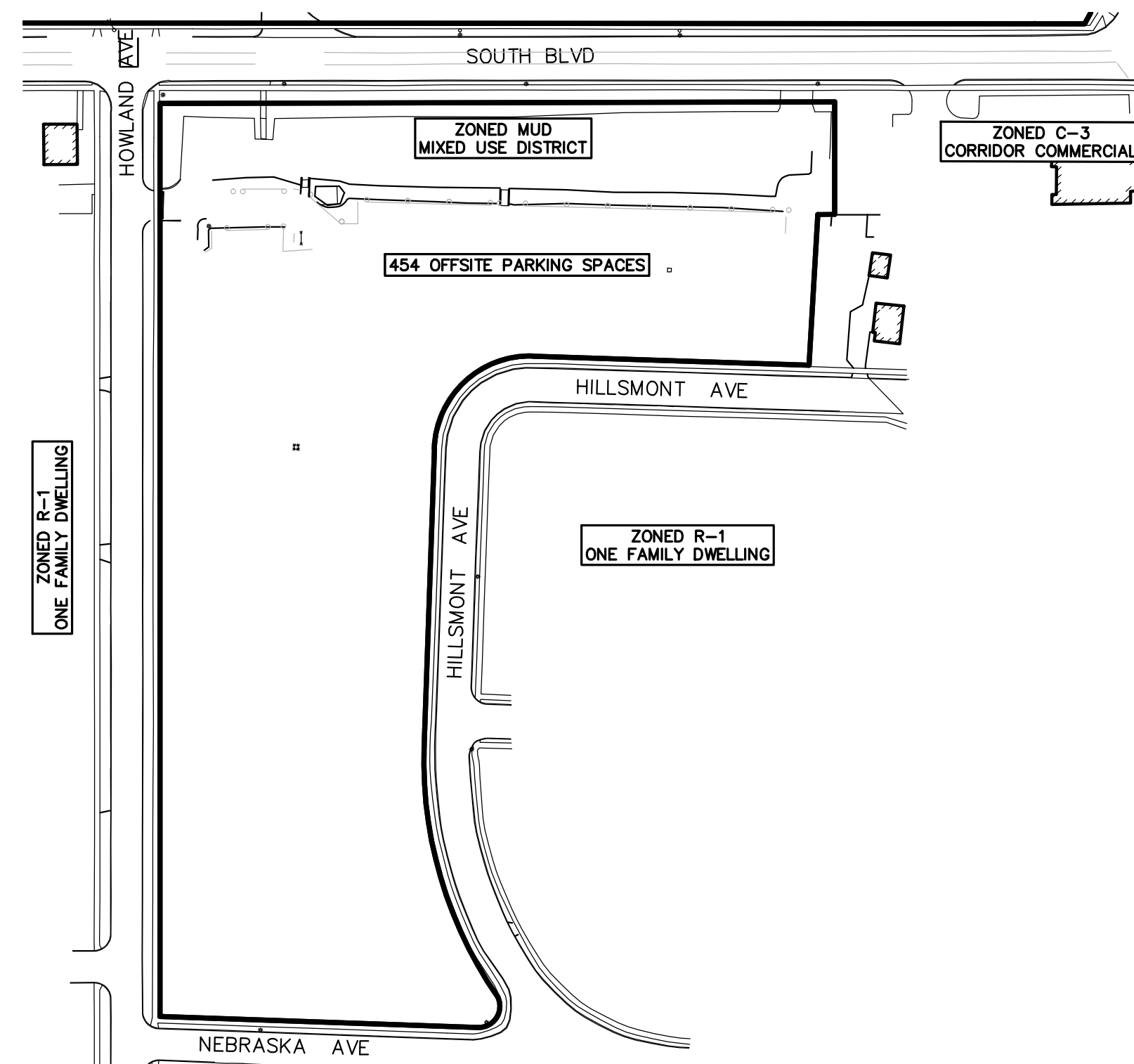
LOCATION MAP NTS



GRAPHIC SCALE



(IN FEET)
1 inch = 120 ft.

[illegible]

CAUTION!!
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CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN

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M1 CONCOURSE, LLC
280 DAINES STREET, SUITE 300
BIRMINGHAM, MICHIGAN 48009

OVERALL SITE PLAN

M1 CONCOURSE - PHASE B
45399 WOODWARD AVENUE
CITY OF PONTIAC, MICHIGAN

DSK	DN	DSK	SUR.	KTR	F
04/13/19, M1 CONCOURSE - 48/10mg/Construction/Phase 4A(C-3.1) (000000)					

ORIGINAL ISSUE DATE:
AUGUST 16, 2019

PEA JOB NO. 2013-139

SCALE: 1" = 120'

DRAWING NUMBER:

C-3.1

XREF: S:\PROJECTS\2013\2013139\DWG\TOPOBASE-PH4-13139.DWG
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XREF: S:\PROJECTS\2013\2013139\DWG\CONSTRUCTION\PHASE 4A\X-BASE-13139.DWG
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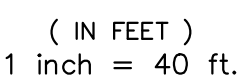
INITIAL WATERMAIN		
Car Condominiums (Buildings 16-18)		
Units	86	
Unit Factor	0.25 per unit	
REU	21.5	
Population (P) (3.2 PEOPLE/REU)	689 People	
Average Flow (150 GPCPD)	10,350 G.P.D.	
	0.16 C.F.S.	
	0.010 M.G.D.	
Design Max. Flow = (2*avg)	20,700 G.P.D.	
Peak Flow (G.D.P.)	0.032 C.F.S.	
Peak Flow (C.F.S.)	0.021 M.G.D.	
ULTIMATE WATERMAIN		
Car Condominiums (Buildings 16-18)		
Units	86	
Unit Factor	0.25 per unit	
REU	21.5	
Banquet Hall	10800 sf	
Unit Factor	0.5 per 1000/sf	
REU	5.4	
Restaurant	11000 sf	
Assume 12 seats per 1000 sf	132 seats	
Unit Factor	0.13 per seat	
REU	17.2	
Total REU	44.1	
Population (P) (3.2 PEOPLE/REU)	1411 People	
Average Flow (150 GPCPD)	21,150 G.P.D.	
	0.033 C.F.S.	
	0.021 M.G.D.	
Design Max. Flow = (2*avg)	42,300 G.P.D.	
Peak Flow (G.D.P.)	0.065 C.F.S.	
Peak Flow (C.F.S.)	0.042 M.G.D.	

STORM STRUCTURES			STORM STRUCTURES		
CB	2	(4' DIA./2' SUMP) RIM = 955.60 12" E 946.26 8" S 949.52 15" W 946.06	MH	13	(4' DIA./0' SUMP) RIM = 955.50 15" E 950.09 8" NE 948.06 12" NW 949.19 15" S 945.59
CB	3	(4' DIA./2' SUMP) RIM = 955.50 12" E 946.86 12" W 946.86	CB	15	(4' DIA./2' SUMP) RIM = 955.40 12" N 951.17
CB	4	(4' DIA./2' SUMP) RIM = 955.50 12" SE 948.15 12" W 947.35	EX	123	(4' DIA./2' SUMP) RIM = 951.54 15" E 945.52 12" S 947.02 18" W 944.32
CB	5	(4' DIA./2' SUMP) RIM = 954.80 12" S 948.99 12" NW 948.99	EX	153	(4' DIA./2' SUMP) RIM = 948.31 15" N 944.00 12" E 944.71 18" SW 942.31
CB	6	(4' DIA./2' SUMP) RIM = 954.70 12" S 950.13 12" N 950.13			
MH	8	(4' DIA./0' SUMP) RIM = 956.00 15" E 951.34 8" SE 949.11 8" NE 949.11 15" NW 948.64			
EX	10	(4' DIA./2' SUMP) RIM = 954.50 15" SE 947.50 12" N 947.32			
CB	12	(4' DIA./2' SUMP) RIM = 954.14 12" SE 949.93			

STORM CLEANOUTS		STORM CLEANOUTS	
9	C.O. in BOX RIM. 955.92 6" W 953.41	72	C.O. in BOX RIM. 956.30 8" E 950.48 8" W 950.48
14	C.O. in BOX RIM. 955.97 6" W 953.43	61	C.O. in BOX RIM. 956.30 8" E 950.49 8" W 950.49
40	C.O. in BOX RIM. 956.25 8" E 949.83 8" SW 948.48	52	C.O. in BOX RIM. 956.30 8" E 951.38 8" W 951.38
40	C.O. in BOX RIM. 956.29 8" E 949.83 8" W 951.53	62	C.O. in BOX RIM. 956.30 8" E 951.49 8" W 951.49
42	C.O. in BOX RIM. 956.29 8" E 951.53 8" W 951.53	73	C.O. in BOX RIM. 956.30 8" W 951.48
43	C.O. in BOX RIM. 956.29 8" W 952.40	53	C.O. in BOX RIM. 956.30 8" W 952.38
50	C.O. in BOX RIM. 956.30 8" E 949.38 8" SW 949.38	63	C.O. in BOX RIM. 956.30 8" W 952.49
71	C.O. in BOX RIM. 956.30 8" E 949.48 8" W 949.48	44	C.O. in BOX RIM. 956.31 8" E 950.07
60	C.O. in BOX RIM. 956.30 8" E 949.49 8" NW 949.49	41	C.O. in BOX RIM. 956.35 8" E 950.68 8" W 950.68
51	C.O. in BOX RIM. 956.30 8" E 950.38 8" W 950.38		

HYDRANTS	
a	HYDRANT ASSEMBLY F.G. = 955.24
b	HYDRANT ASSEMBLY F.G. = 956.45
c	HYDRANT ASSEMBLY F.G. = 956.19
g	HYDRANT ASSEMBLY F.G. = 959.29
h	HYDRANT ASSEMBLY F.G. = 960.08

WATER MAIN STRUCTURES	
d	8" GV IN WELL RIM = 959.13
e	8" GV IN WELL RIM = 955.23
f	8" GV IN WELL RIM = 959.31



CROSSING	CROSSING PIPE 1			CROSSING PIPE 2			Clearance	NOTES
1	15"	ST	B/P= 947.71	8"	WM	B/P= 946.21	1.50	DIP WATER MAIN
2	15"	ST	T/P= 947.10	8"	WM	B/P= 949.55	2.45	
3	8"	SAN	B/P= 951.74	8"	WM	T/P= 949.79	1.95	
4	12"	ST	T/P= 949.76	8"	SAN	B/P= 951.26	1.50	
5	12"	ST	B/P= 948.56	8"	WM	T/P= 947.06	1.50	DIP WATER MAIN
6	8"	SAN	B/P= 948.34	8"	WM	T/P= 946.84	1.50	DIP WATER MAIN
7	8"	SAN	T/P= 948.94	12"	ST	B/P= 955.01	6.06	
8	12"	ST	B/P= 950.57	8"	SAN	T/P= 949.01	1.55	
9	12"	ST	B/P= 954.65	8"	WM	T/P= 949.64	5.01	

SANITARY SEWER QUANTITIES:

6" PVC TRUSS PIPE	181 LF
8" PVC TRUSS PIPE	511 LF
CLEANOUT AND BOX	2 EA.
4' DIA. MANHOLE	3 EA.
TAP EXISTING MANHOLE	1 EA.

WATER MAIN QUANTITIES:

6" D.I.W.M. CLASS 54	42 LF
8" D.I.W.M. CLASS 54	1057 LF
8" GATE VALVE AND WELL	3 EA.
HYDRANT ASSEMBLY	5 EA.

STORM SEWER QUANTITIES:

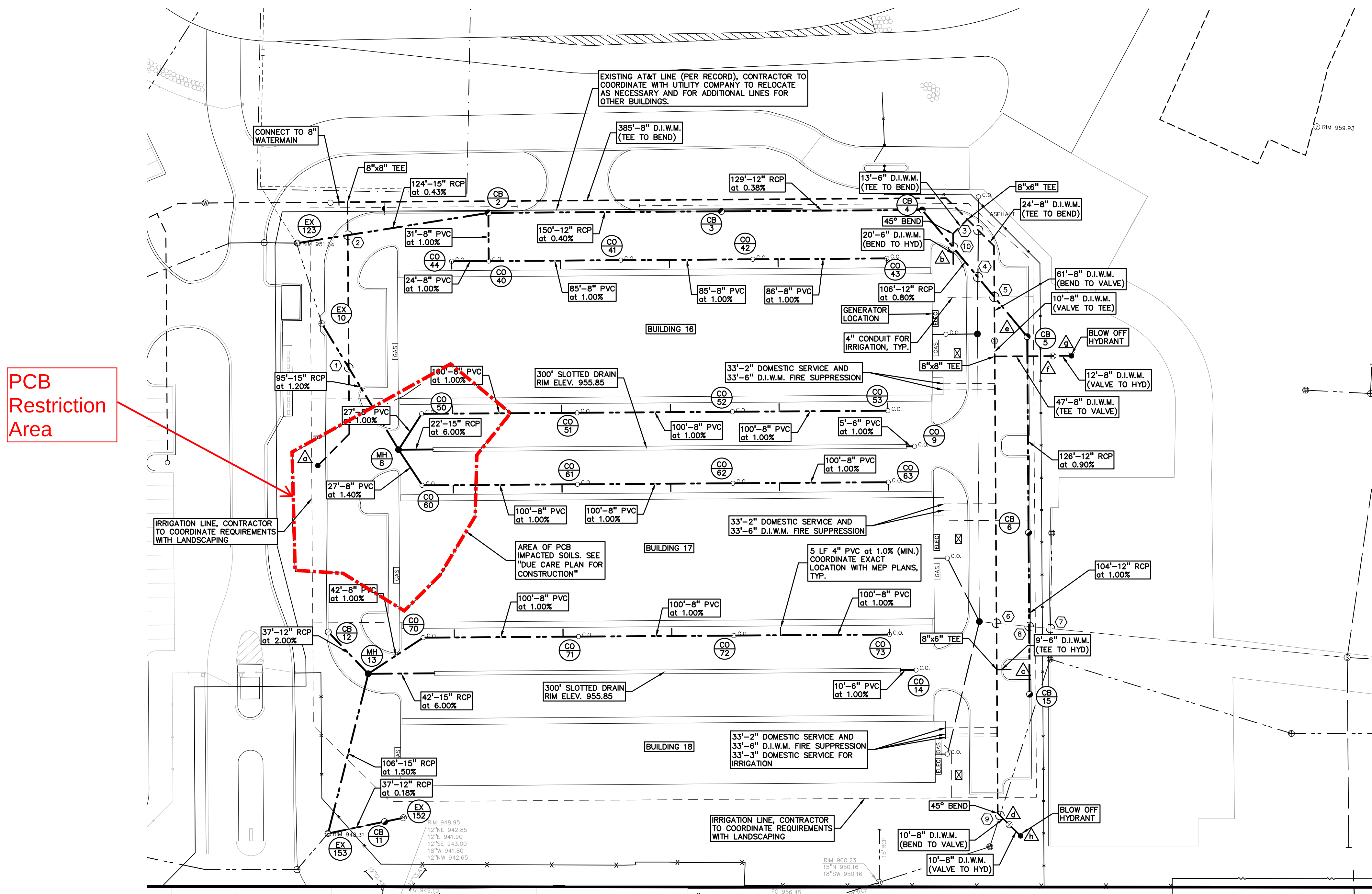
4" PVC PIPE	100 LF
6" PVC PIPE	15 LF
8" PVC PIPE	1307 LF
12" RCP CL-IV PIPE	701 LF
15" RCP CL-IV PIPE	389 LF
SLOTTED DRAIN	600 LF
4' DIA. CATCH BASIN	7 EA.
4' DIA. MANHOLE	2 EA.
CLEANOUT	19 EA.
TAP EXISTING CATCH BASIN	3 EA.

GENERAL UTILITY NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF PONTIAC AND OAKLAND COUNTY WATER RESOURCES COMMISSIONER.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES, WHICH MIGHT AFFECT THIS JOB.
3. ALL TRENCHES UNDER OR WITHIN THREE (3) FEET OR THE FORTY-FIVE (45) DEGREE ZONE OF INFLUENCE OF AN EXISTING AND/OR PROPOSED PAVEMENT, BUILDING PAD OR DRIVE APPROACH SHALL BE BACKFILLED WITH SAND COMPACTED TO AT LEAST NINETY-FIVE (95) PERCENT OF MAXIMUM UNIT WEIGHT (ASTM D-1557). ALL OTHER TRENCHES TO BE COMPACTED TO 90% OR BETTER.
4. WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER TO CENTER, AROUND PERIPHERY OF OPENING TO CREATE A PLANE OF WEAKNESS JUST BEFORE BREAKING SECTION OUT.
5. EXACT GRADES AND DEPTHS OF UTILITIES ARE TO BE CHECKED CLOSELY WITH THE FIELD ENGINEER PRIOR TO INSTALLATION.
6. REFER TO CITY OF PONTIAC AND OAKLAND COUNTY WRC STANDARD DETAIL SHEETS FOR ADDITIONAL INFORMATION.
7. UTILITY TRENCHES SHALL BE CONSTRUCTED IN A MANNER THAT PROHIBITS CONTAMINATION FROM MIGRATING OFFSITE. CONTRACTOR SHALL INSTALL MIGRATION DAMS ACROSS THE TRENCHES WHERE UTILITY TRENCHES MEET THE PROPERTY BOUNDARIES.
8. WATER TIGHT WRAP/SEALS SHALL BE INSTALLED ON ALL SEWERS JOINTS WHERE PERMANENT GROUNDWATER IS ENCOUNTERED. REFER TO "DUE CARE PLAN FOR CONSTRUCTION."

WATER MAIN NOTES:

1. ALL ON-SITE WATERMANS, FIRE SUPPRESSION LINES AND DOMESTIC LEADS ARE PRIVATE. THE PUBLIC/Private JURISDICTION DIVISION OCCURS BETWEEN THE RIGHT-OF-WAY AND THE METER VALVE, SEE DETAIL SHEET C-7.8.
2. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER (OCWRC).
3. EXPLORATORY EXCAVATION MAY BE NECESSARY TO VERIFY THE STUB SIZE OF WATER MAINS AT THE PROPOSED CONNECTIONS PRIOR TO FINAL APPROVALS. OCWRC WATER MAINTENANCE CAN AND WILL FIELD VERIFY THE VALVE SIZES BY EXPOSING THOSE VALVES.
4. REFER TO THE OCWRC WATER MAIN STANDARD DETAILS SHEETS FOR ADDITIONAL INFORMATION.
5. ANY NECESSARY CITY OF PONTIAC APPROVALS SHALL BE OBTAINED AS A CONDITION OF FINAL COUNTY APPROVAL.
6. OCWRC PERMIT IS REQUIRED.
7. OCWRC SERVICE CONNECTION PERMIT IS REQUIRED.
8. ALL PRIVATE GATE WELL LIDS SHALL SAY "PRIVATE" ONLY.
9. ALL HYDRANTS SHALL BE PAINTED "RED" IN COLOR TO INDICATE "PRIVATE".



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UTILITY PLAN

M1 CONCOURSE - PHASEE
 45398 WOODWARD AVENUE
 CITY OF PONTIAC, MICHIGAN

ORIGINAL ISSUE DATE:
AUGUST 20, 2019

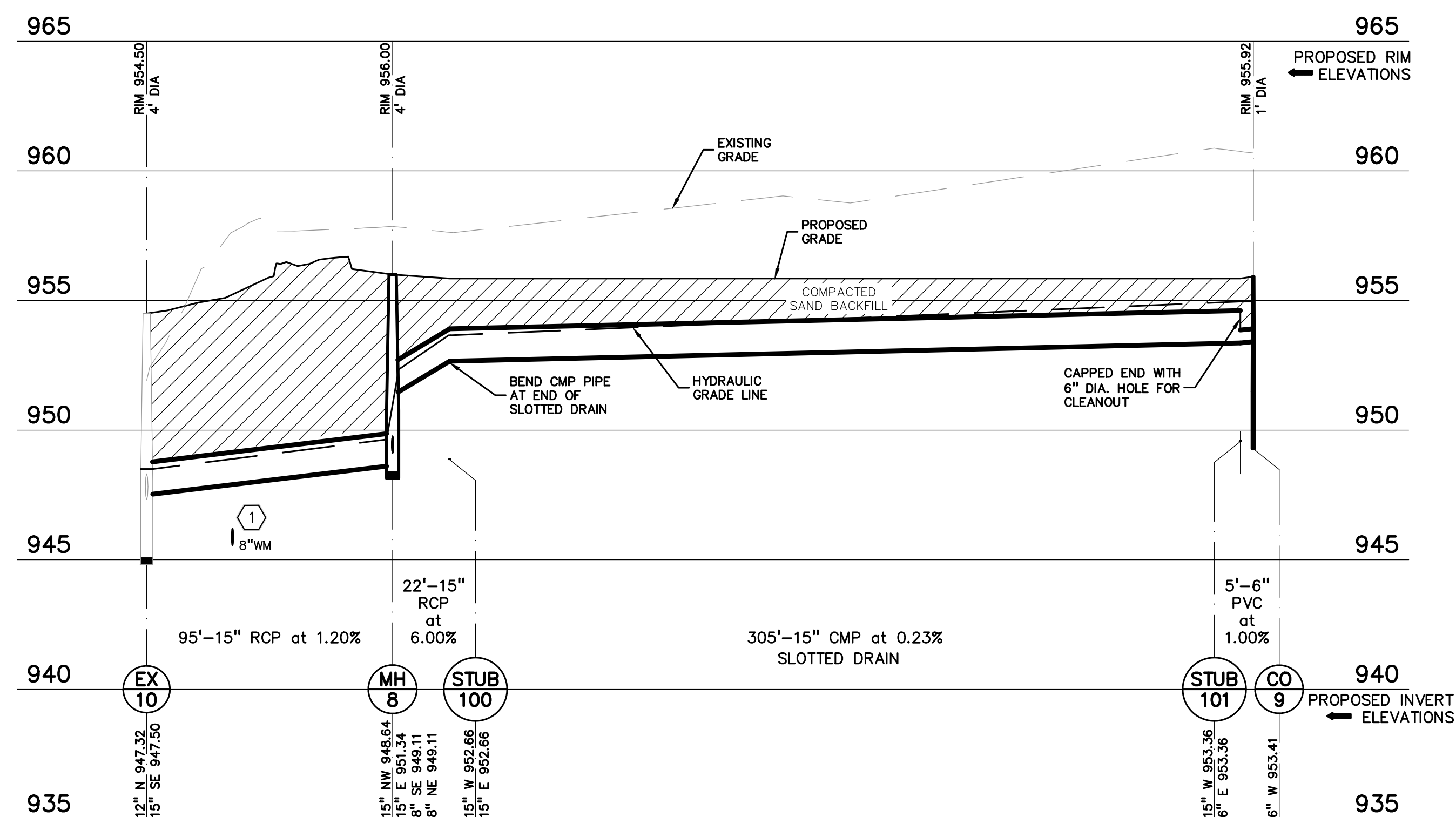
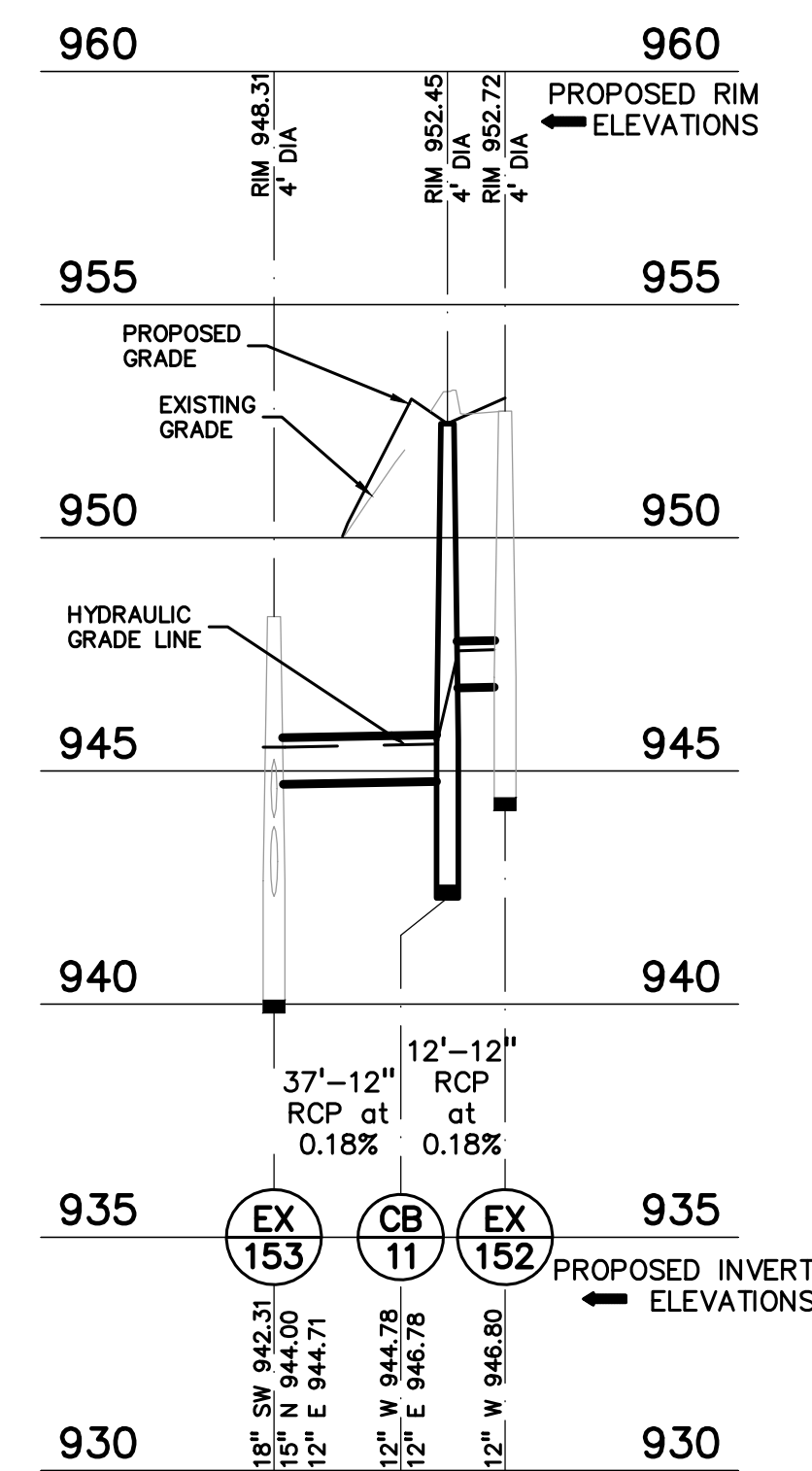
PEA JOB NO. 2013-139

SCALE: 1" = 40'

DRAWING NUMBER:

C-6.0

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XREF: S: PROJECTS\2013\2013139\DWG\CONSTRUCTION\PHASE 4A\X-TBLK-SP-13139.DWG

[illegible]

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ORIGINAL ISSUE DATE:
AUGUST 20, 2019

PEA JOB NO. 2013-139

SCALE: 1" = 50'

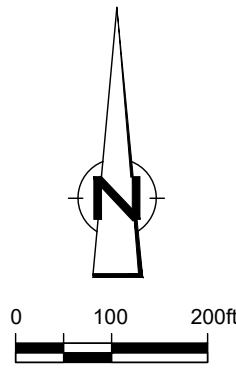
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C-6.1

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No	Revision	Date	Initial



- LEGEND
- TP1-07 COMPLETED TEST PIT LOCATION
 - MW28-07 COMPLETED MONITORING WELL LOCATION
 - TMW71-08 COMPLETED TEMPORARY MONITORING WELL LOCATION
 - BH8-07 COMPLETED SOIL BORING LOCATION
 - APPROXIMATE SITE BOUNDARY
 - EXISTING STRUCTURE
 - FORMER SITE STRUCTURE
 - M.H. MANHOLE
 - C.B. CATCH BASIN

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

SITE PLAN IDENTIFYING THE SOUTHERN PORTION OF FORMER PLANT 3

PCC-VALIDATION

PONTIAC, MICHIGAN

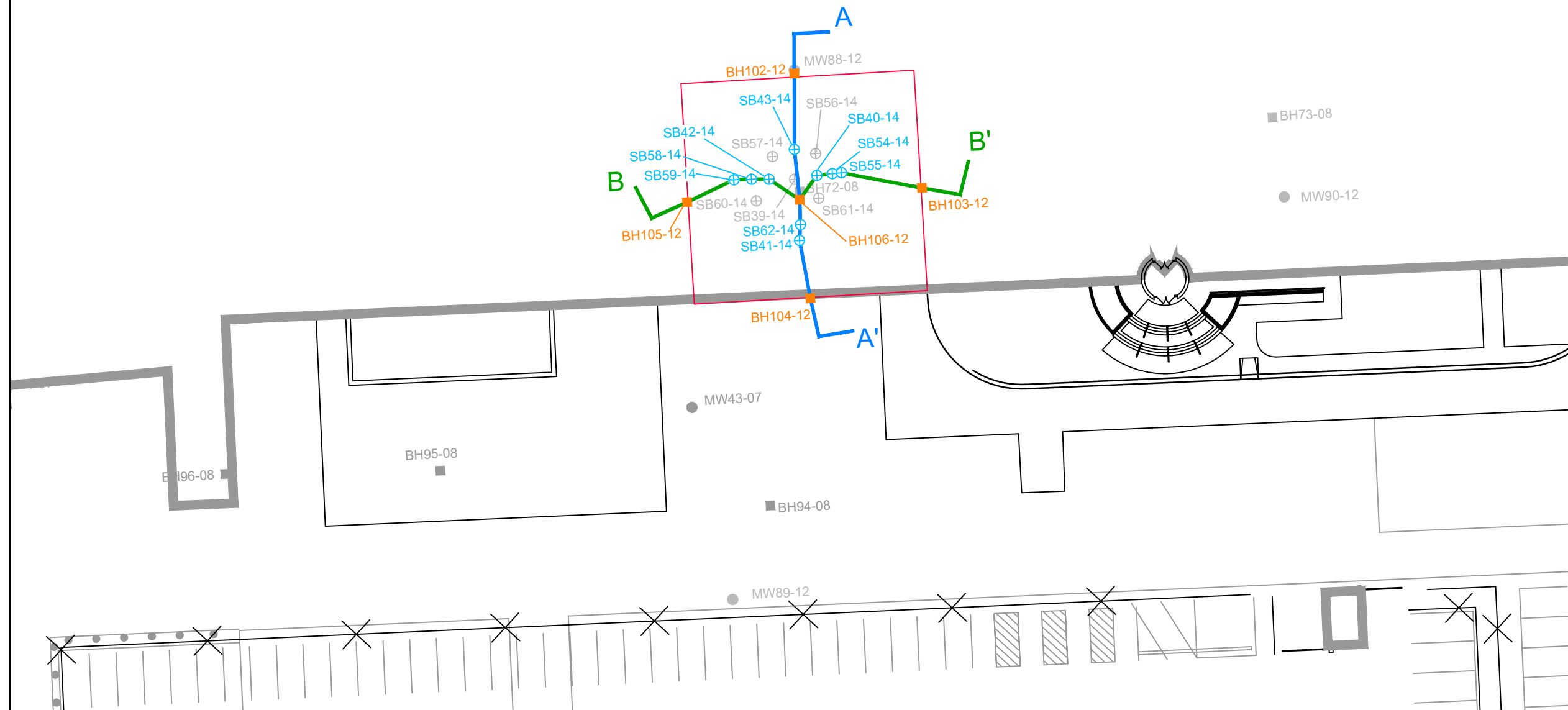
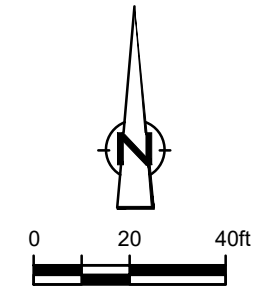


CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: T.K.	Reviewed By: M.C.	Date: FEBRUARY 2013
Scale: 1:200	Project N°: 017322-T01	Report N°: 018
		Drawing N°: 1

FORMER
PLANT 3



LEGEND

- BH-98-12 COMPLETED SOIL BORING LOCATION BY CRA IN 2012
- MW88-12 COMPLETED MONITORING WELL LOCATION BY CRA IN 2012
- TP1-07 COMPLETED TEST PIT LOCATION
- MW28-07 COMPLETED MONITORING WELL LOCATION
- TMW71-08 COMPLETED TEMPORARY MONITORING WELL LOCATION
- BH8-07 COMPLETED SOIL BORING LOCATION
- MW2-07 MONITORING WELL LOCATION RE-SAMPLED BY CRA IN 2012
- BH111-12 COMPLETED SOIL BORING LOCATION - DECEMBER 2012
- MW90-12 COMPLETED MONITORING WELL LOCATION - DECEMBER 2012

- ⊕ SB59-14 SME 2014 SOIL BORING LOCATION
- APPROXIMATE SITE BOUNDARY
- EXISTING STRUCTURE
- FORMER SITE STRUCTURE
- M.H. MANHOLE
- C.B. CATCH BASIN
- ▭ PCB IMPACTED AREA
- A—A' CROSS-SECTION LINE

figure 3

CROSS-SECTION LOCATION MAP
PCC-VALIDATION
Pontica, Michigan



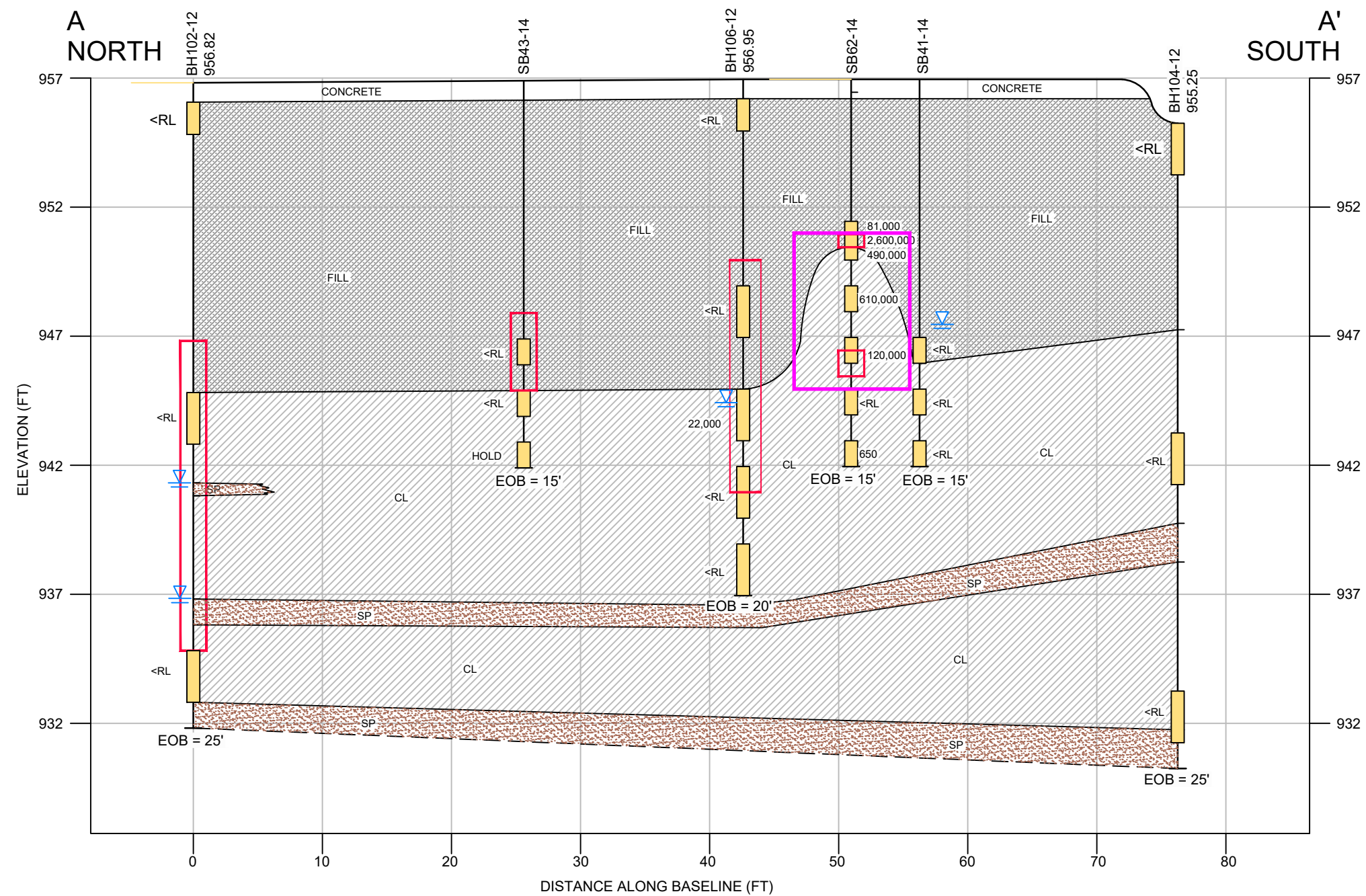


figure 4

CROSS-SECTION FROM A-A'
PCC-VALIDATION
Pontiac, Michigan



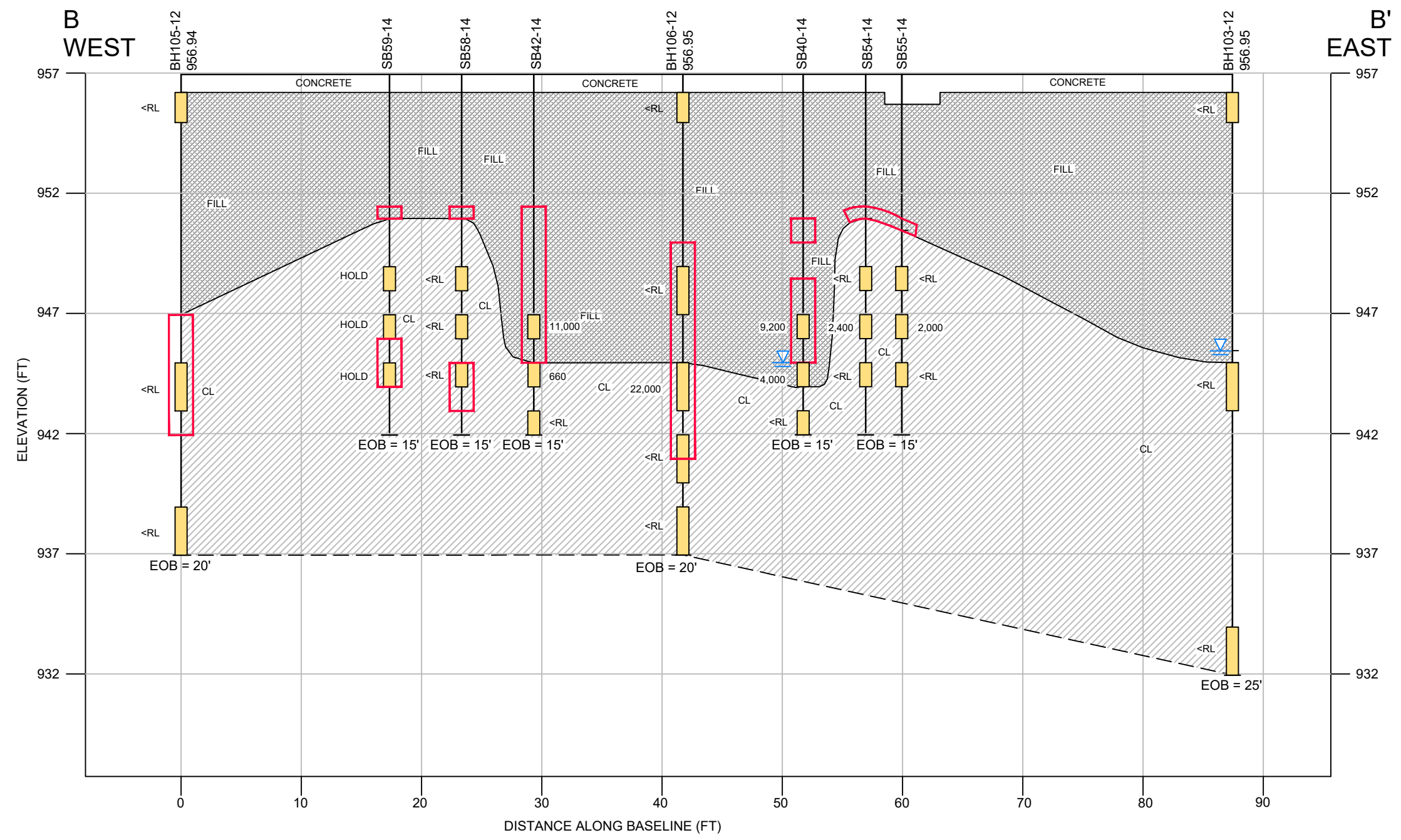
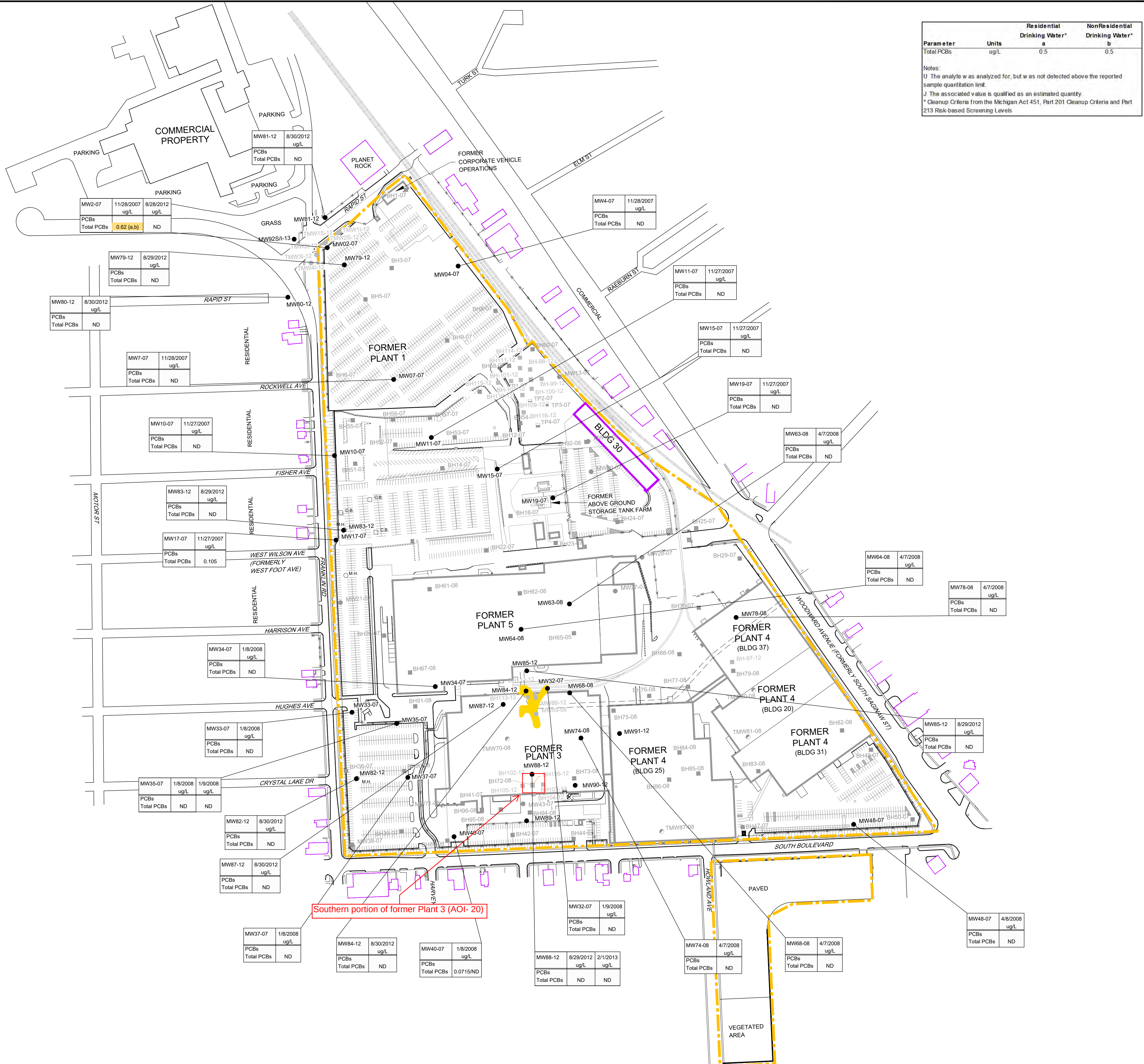


figure 5

CROSS-SECTION FROM B-B'
PCC-VALIDATION
Pontiac, Michigan

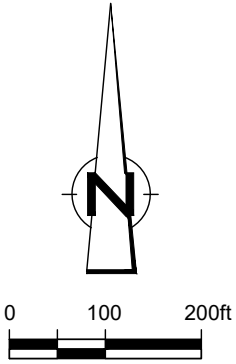




Parameter	Units	Residential	NonResidential
		Drinking Water*	Drinking Water*
Total PCBs	ug/L	a 0.5	b 0.5

Notes:
U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J The associated value is qualified as an estimated quantity.
* Cleanup Criteria from the Michigan Act 451, Part 201 Cleanup Criteria and Part 213 Risk-based Screening Levels.

No	Revision	Date	Initial



- LEGEND
- TP1-07 COMPLETED TEST PIT LOCATION
 - MW28-07 COMPLETED MONITORING WELL LOCATION
 - TMW71-08 COMPLETED TEMPORARY MONITORING WELL LOCATION
 - BH8-07 COMPLETED SOIL BORING LOCATION
 - APPROXIMATE SITE BOUNDARY
 - EXISTING STRUCTURE
 - FORMER SITE STRUCTURE
 - M.H. MANHOLE
 - C.B. CATCH BASIN
 - 945- GROUNDWATER CONTOUR

DRAFT

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

PCBs EXCEEDANCES IN GROUNDWATER
WITH SAMPLING LOCATIONS

PCC-VALIDATION

PONTIAC, MICHIGAN

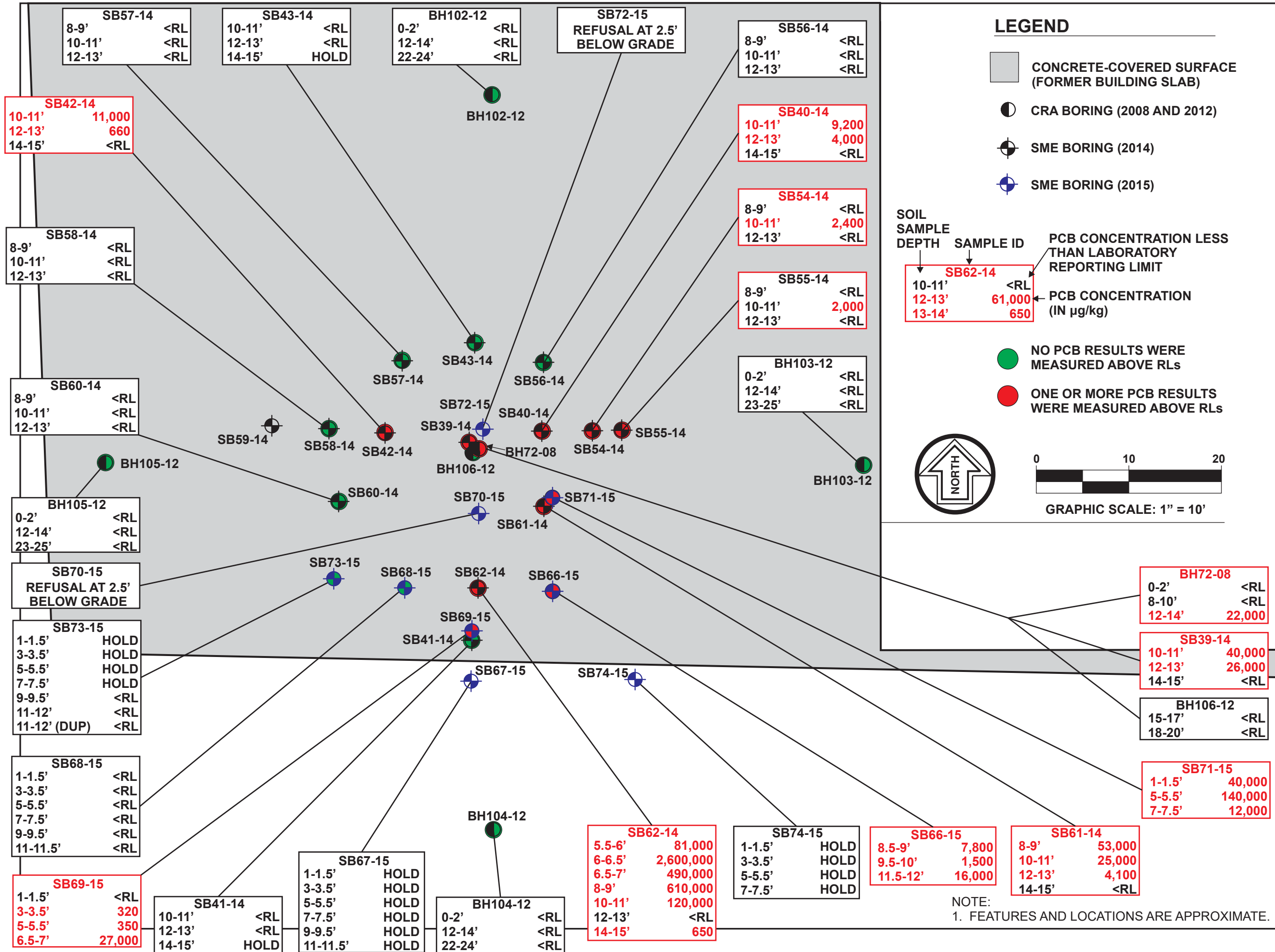


CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: T.K.	Reviewed By: M.C.	Date: FEBRUARY 2013
Scale: 1:200	Project N°: 017322-T01	Report N°: 018
		Drawing N°: 6

DRAFT



 www.sme-usa.com	Michigan Indiana Ohio	Date	5-29-2015			No.	Revision Date
		Drawn By	PAG				
		Designed By	JWH				
		Scale	1" = 10'				
		Project	066864.01.004				
PCB ASSESSMENT OVERVIEW DIAGRAM FORMER PONTIAC VALIDATION CENTER PARCEL A PONTIAC, MICHIGAN							



Memorandum

To: Peter Ramanauskas/EPA

Ref. No.: 017322

From: Thomas Kinney/MC/ds/36

Date: 10/12/2015

CC: Dave Favero/RACER; Grant Trigger/RACER

Re: PCB Excavation

1. Introduction

GHD Services Inc. (GHD) is providing this summary on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust of the excavation of PCB impacted soil located in the southern portion of the Site at the former PCC-Validation (Site) facility located in Pontiac, Michigan.

2. Background

The PCB soil impacts were first discovered during a 2009 Phase II Environmental Site Assessment (ESA) at a depth of 12-14 feet (ft) below ground surface (bgs) at BH72-08 (located in the southern portion of former Plant 3). The PCB impacts at BH72-08 were delineated to below 1 part per million (ppm) by soil samples collected in 2012 from borings BH102-12, BH103-12, BH104-12, BH105-12 and BH106-12. In 2014 SME collected soil samples near BH72-08 on behalf of the purchaser (M1 Concourse, LLC) of the PCC-Validation property. Soil borings were installed near and around BH72-08 and PCBs were detected in certain soil samples above 100 ppm. SME conducted a second round of soil borings and sampling in 2015 to further delineate the impacts discovered in 2014. Although helpful, the delineation borings were inadequate to fully delineate impacts for purposes of excavation. GHD submitted a work plan for pre-excavation sampling dated August 20, 2015 to fulfill any data gaps from SME's 2015 investigation. The EPA responded with an email dated August 26, 2015 with additional requests for analysis and the EPA's suggested additional boring locations (which were added to the work plan). The additional field work to fulfill data gaps was completed on August 31, 2015 and results were summarized and presented to the EPA in an email dated September 11, 2015. On September 24, 2015 a notification for self-implemented removal of PCBs (excavation work) was sent to the EPA for review. On August 25, 2015, the EPA responded with a request for additional sampling and field verification for the excavation work (which was added to the work plan). The excavation work, sampling and field verification was completed on October 9, 2015 and further discussed below.

September



3. PCB EXCAVATION

On October 9, 2015, PCB impacts exceeding 100 ppm were excavated and removed from the Site. The following work was completed:

-) Prior to excavation, five areas (A, B, C, D, and E) were surveyed and flagged (figure 1). Ground surface elevations were collected from the five areas.
-) Five separate areas (A, B, C, D, and E) were excavated to varying depths.
-) Geology of excavated areas was fairly consistent. Fill material (sand/clay mix) was encountered from surface to approximately 3-6 feet below ground surface (bgs). Asphalt (former parking lot?) was encountered in each excavation at approximately 3-6 feet bgs. Stiff, blue/gray clay was encountered below the asphalt to maximum depth excavated.
-) Approximately 50-60 cubic yards (waiting on manifests for confirmation) of soil was removed from the five separate areas.
-) Field test kits and soil analytical results (pending) were conducted in Areas A, C and E. Soil samples (for test kits and soil analysis) were collected from depths of known PCB impacts.
-) Field test kits (to 50 PPM) were used to verify the southern side of excavation A.
-) Field test kits (to 50 PPM) were used to verify the southern, eastern and western sides of excavation C.
-) Field test kits (to 50 PPM) were used to verify the northern, southern, eastern and western sides of excavation E.
-) All field tests kits were negative (<50 PPM) except the eastern sidewall of excavation C.
-) Based on the positive field test kit at the eastern sidewall of excavation C, an additional 3.5 feet of sidewall was over-excavated. Re-tested sidewall samples of the over excavated eastern sidewall was negative (<50 PPM). See figure 1 for over-excavated sidewall area.
-) Soil samples were collected from each field test kit location and submitted for laboratory analysis. Results are pending.
-) Following excavation, the areas were re-surveyed and ground surface elevations from the base of the excavations were collected from the five areas.

Figure 1 provides a map with excavation boundaries (surveyed from floor of excavation corners) and field test sample locations. See Table 1 for a sample key and test kit results summary. See Table 2 for a summary of excavation elevations. A photographic log of excavations and field test kits are provided in Attachment 1.

4. Closing

Upon completion of the excavation (and awaiting analytical results), PCB impacts exceeding 100 PPM have been delineated and are assumed to have been removed. Any risk for potential exposure is mitigated by the proposed clay cap to be installed by SME and M1. Further, the area will be deed restricted and designated low occupancy. No future excavation or mitigation (other than indicated above) is anticipated at this time.

Encl: Figure 1 – Excavation overview diagram
Table 1 – Sample key and test kit results
Table 2- Excavation summary
Attachment 1 – Photographic log of excavation and field test kits

Manifests included

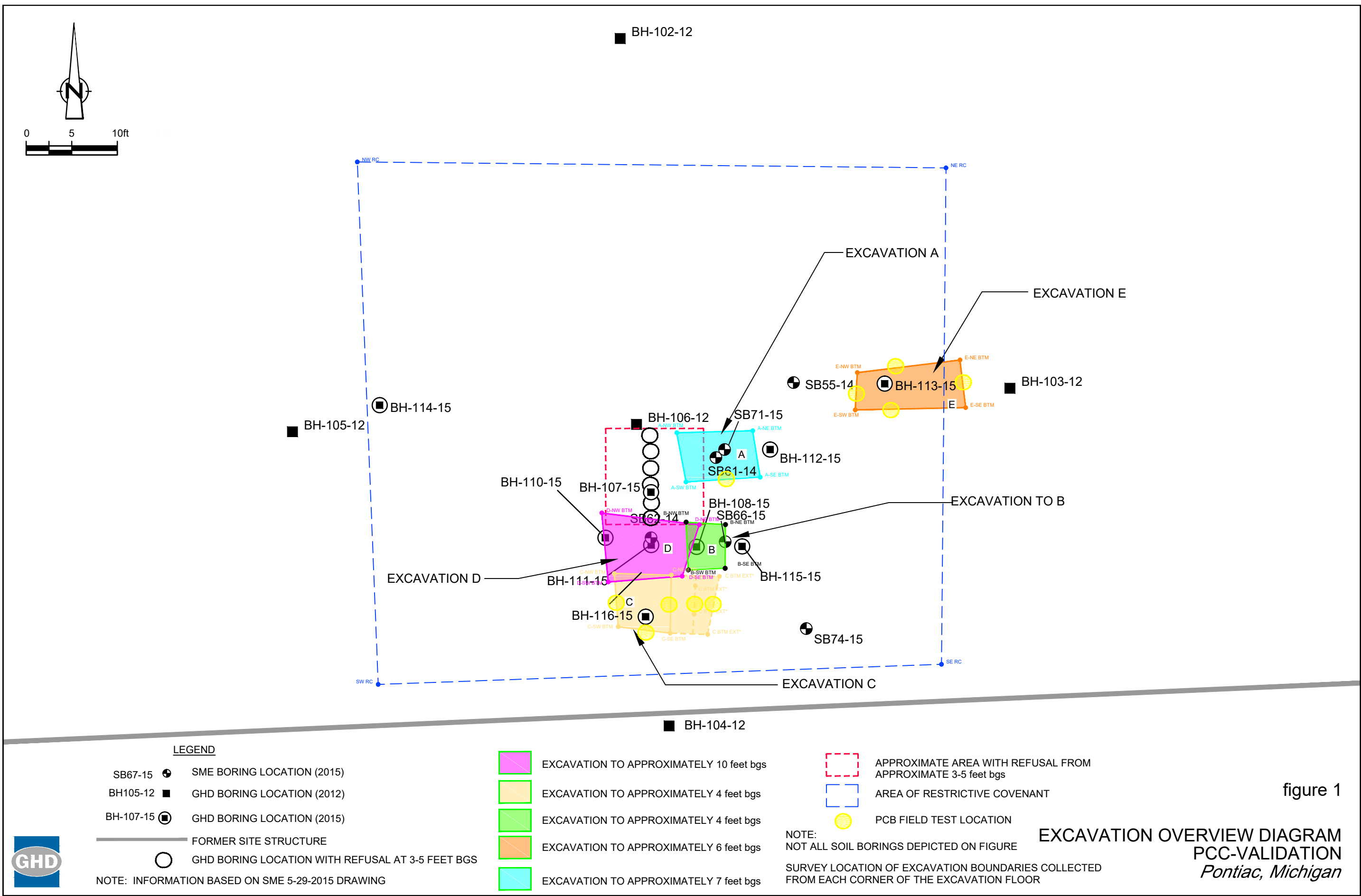


figure 1

Table 1

Sample Key and Test Kit Results
PCC-Validation
Pontiac, Michigan

Sample ID (For Lab Analysis)	Location Description	Soil Boring and Depth Historic PCB Impacts Encountered (Ft BGS)	Depth Soil Sample Collected for Test Kit/Laboratory Analysis (Ft BGS)	Field Test Kit Results	PCB Lab Analytical Results (PPM)		Notes
EXCAVATION A							
NA	North Sidewall	NA	NA	NA	NA		
SO-17322-100915-MC-005	South Sidewall	SB71-15 (5-5.5)	(4-6)	<50 PPM	44		
NA	East Sidewall	NA	NA	NA	NA		
NA	West Sidewall	NA	NA	NA	NA		
EXCAVATION B							
NA	North Sidewall	NA	NA	NA	NA		
NA	South Sidewall	NA	NA	NA	NA		
NA	East Sidewall	NA	NA	NA	NA		
NA	West Sidewall	NA	NA	NA	NA		
EXCAVATION C							
SO-17322-100915-MC-008	West Sidewall	BH116-15 (2-4)	(2-4)	<50 PPM	0.020		
SO-17322-100915-MC-006	South Sidewall	BH116-15 (2-4)	(2-4)	<50 PPM	0.860		
NA	East Sidewall	BH116-15 (2-4)	(2-4)	>50 PPM***	NA		
NA	East Sidewall + 1.5*	BH116-15 (2-4)	(2-4)	>50 PPM***	NA		
SO-17322-100915-MC-009	East Sidewall +3.5**	BH116-15 (2-4)	(2-4)	<50 PPM	0.081		
EXCAVATION D							
NA	North Sidewall	NA	NA	NA	NA		
NA	South Sidewall	NA	NA	NA	NA		
NA	East Sidewall	NA	NA	NA	NA		
NA	West Sidewall	NA	NA	NA	NA		
EXCAVATION E							
SO-17322-100915-MC-001	North Sidewall	BH113-15(4-6)	(4-6)	<50 PPM	Non-Detect		
SO-17322-100915-MC-003/010	South Sidewall	BH113-15(4-6)	(4-6)	<50 PPM	Non-Detect/Non-Detect		Duplicate sample ID - SO-17322-100915-MC-010
SO-17322-100915-MC-002	East Sidewall	BH113-15(4-6)	(4-6)	<50 PPM	0.029		
SO-17322-100915-MC-004	West Sidewall	BH113-15(4-6)	(4-6)	<50 PPM	Non-Detect		MS/MSD

Notes:

* - Represents 1.5 foot over excavation of eastern sidewall

** - Represents 3.5 foot over excavation of eastern sidewall

***- Indicates field test exceeded 50 PPM. The sidewall was over excavated until field test indicated <50 PPM.

NA - Sample not collected, not analyzed or data not available

Ft BGS - Feet below ground surface

Table 2

Excavation Summary
PCC-Validation
Pontiac, Michigan

Survey Location Description	Starting Ground Surface Elevation (Ft AMSL)	Final Ground Surface Elevation (Ft AMSL)*	Total Depth Excavated (Ft BGS)	Proposed Depth Excavated (Ft BGS)	Analytical Results
EXCAVATION A					
North-West Corner	955.017	948.111	6.91	7	SB71-15 (5-5.5) 140 PPM SB71-15 (7-7.5) 12 PPM
North-East Corner	954.622	947.657	6.96	7	
South-West Corner	954.234	948.193	6.04	7	
South-East Corner	954.16	947.713	6.45	7	
EXCAVATION B					
North-West Corner	953.517	949.584	3.93	4	BH108-15 (2-4) 110 PPM BH108-15 (4-6) 1.9 PPM
North-East Corner	953.312	949.387	3.93	4	
South-West Corner	952.888	949.254	3.63	4	
South-East Corner	952.803	949.266	3.54	4	
EXCAVATION C					
North-West Corner	953.167	948.727	4.44	4	BH116-15 (2-4) 160 PPM BH116-15 (4-6) 0.54 PPM
South-West Corner	952.152	948.638	3.51	4	
North-East Corner+3.5**	952.838	948.547	4.29	4	
South-East Corner+3.5**	952.25	948.374	3.88	4	
EXCAVATION D					
North-West Corner	953.786	944.286	9.50	10	BH111-15 (8-10) 140 PPM BH111-15 (10-12) 5.8 PPM
North-East Corner	953.431	943.585	9.85	10	
South-West Corner	953.188	943.967	9.22	10	
South-East Corner	952.878	943.431	9.45	10	
EXCAVATION E					
North-West Corner	954.746	948.817	5.93	6	BH113-15 (4-6) 120 PPM BH113-15 (6-8) <50 PPM East sidewall 0.029 PPM
North-East Corner	953.28	948.531	4.75	6	
South-West Corner	954.892	948.774	6.12	6	
South-East Corner	953.503	948.572	4.93	6	

Notes:

* - Final ground surface elevations collected from floor of excavations at specified locations

** - Represents 3.5 foot overexcavation of eastern sidewall

Ft AMSL - Feet above mean sea level

Ft BGS - Feet below ground surface



Excavation A facing North sidewall



Site Photographs



Excavation B facing East sidewall



Site Photographs



Excavation C facing east sidewall at 0 foot over excavation



Site Photographs



Excavation C facing east sidewall at 1.5 foot over excavation



Site Photographs



Excavation C facing east sidewall at 3.5 foot over excavation



Site Photographs



Excavation D facing Northeast corner



Site Photographs



Excavation E facing West sidewall



Site Photographs



Field test kit results for excavation E – North, South, East and West sidewalls



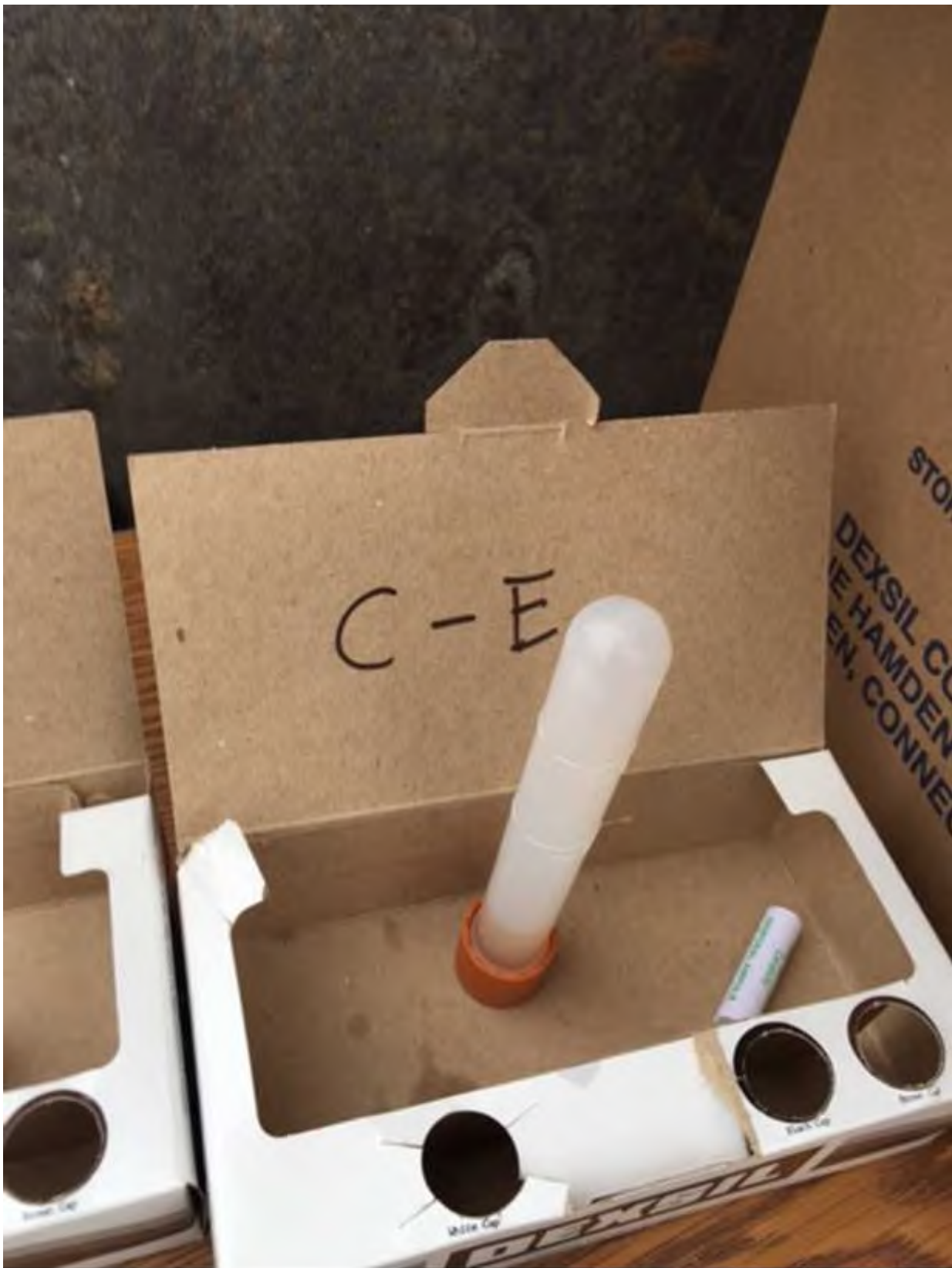
Site Photographs



Field test kit results for excavation C – South, East (0 foot over excavation) and West sidewalls & Excavation E – South Sidewall



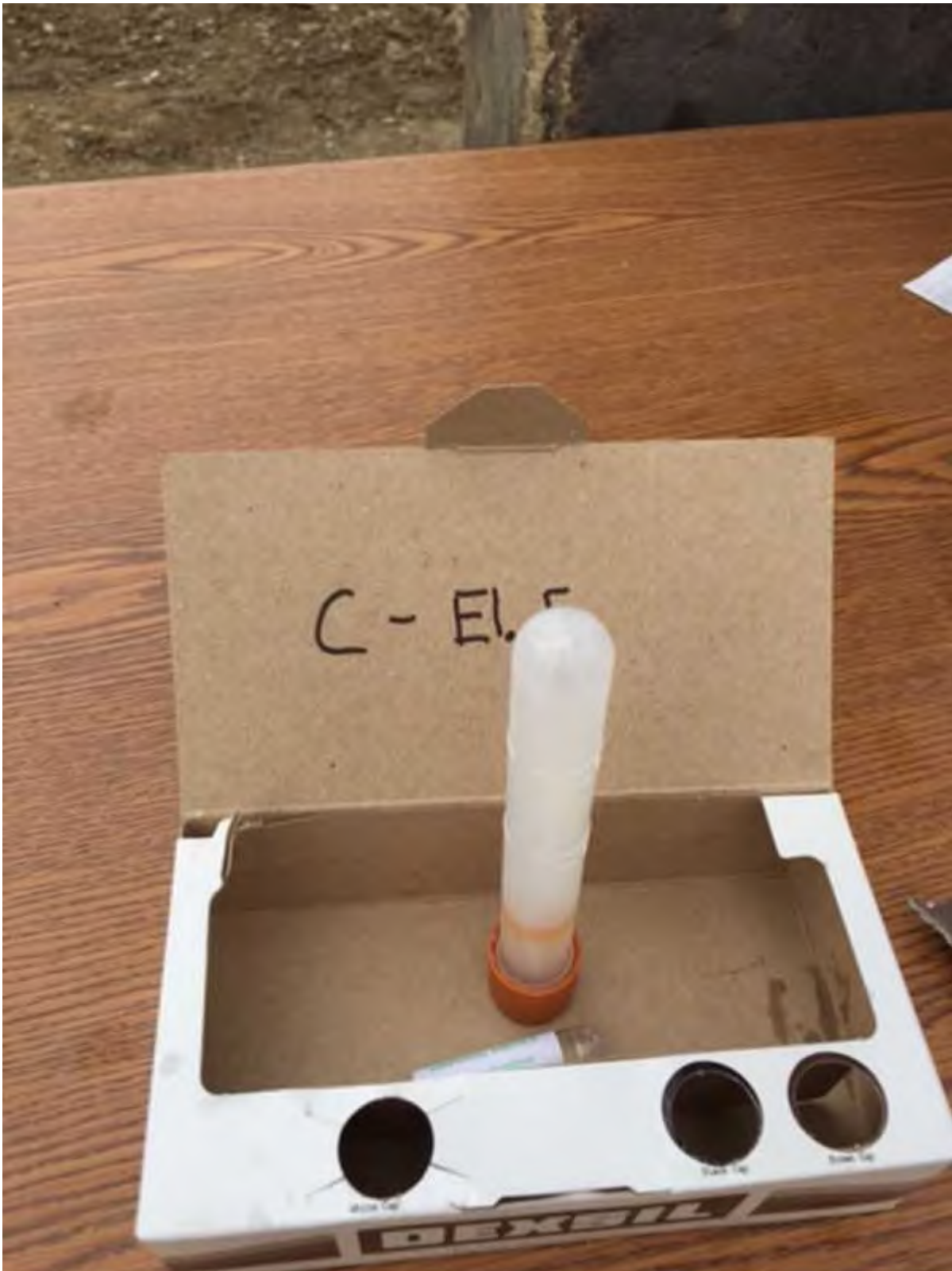
Site Photographs



(Close-up photo) Field test kit results for excavation C – East 0 feet over excavated sidewall



Site Photographs



Field test kit results for excavation C – East 1.5 feet over excavated sidewall



Site Photographs



Field test kit results for excavation C – East 3.5 feet over excavated sidewall



Site Photographs

Wayne Disposal, Inc.
49350 North I-94 Service Drive, Belleville, Michigan 48111

Receipt

JOB SITE SERVICES INC
4395 WILDER ROAD
BAY CITY, MI 48706

Receipt ID: 1256945
EQ Account #: 9015
Manifest / BOL: 015169790JJK
Transporter: SC
Date: 10/09/2015
Time In: 12:12 PM
Time Out: 1:12 PM

Line	Description Generator	Qty. Unit
1 - 1	J158052WDI - PCB Impacted Soil	60.820 TONS
	Hazardous Surcharge Ton	60.820 TONS
	MID980568836 RACER TRUST	
	Gross: 182,240 Tare: 60,600 Net: 121,640	
2	Wayne Disposal Host Community Agreement Royalty Fee	60.820 TONS
	MID980568836 RACER TRUST	
	Gross: 182,240 Tare: 60,600 Net: 121,640	

Wayne Disposal, Inc.
49350 North I-94 Service Drive, Belleville, Michigan 48111

Receipt

JOB SITE SERVICES INC
4395 WILDER ROAD
BAY CITY, MI 48706

Receipt ID: 1256965
EQ Account #: 9015
Manifest / BOL: 015169791JJK
Transporter: SC
Date: 10/12/2015
Time In: 7:29 AM
Time Out: 8:44 AM

Line	Description Generator	Qty. Unit
1 - 1	J158052WDI - PCB Impacted Soil	42.970 TONS
	Hazardous Surcharge Ton	42.970 TONS
	MID980568836 RACER TRUST	
	Gross: 149,000 Tare: 63,060 Net: 85,940	
2	Wayne Disposal Host Community Agreement Royalty Fee	42.970 TONS
	MID980568836 RACER TRUST	
	Gross: 149,000 Tare: 63,060 Net: 85,940	



November

Memorandum

October 28, 2018

To: Peter Ramanauskas/USEPA

Ref. No.: 017322A

MC

From: Michael Coram/GHD

Tel:

CC: Grant Trigger/RACER; Dave Favero/RACER

**Subject: PCB Delineation Report
PCC-Validation
Pontiac, Michigan**

1. Introduction

GHD is providing this memorandum on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust for the former PCC-Validation property in Pontiac, Michigan (Site). The purpose of this memorandum is to provide a summary of work completed to delineate PCB impacts in soil to 1.0 part per million (ppm).

2. Background

The PCB soil impacted area is identified on Figure 1 and located in the southern portion of former Plant 3. This area is also referred to as AOI-20 and is associated with former transformers and/or substations historically located throughout the Site. The PCB soil impacts were first discovered during a 2008 Phase II Environmental Site Assessment (ESA) (GHD, 2008) at a depth of 12-14 feet (ft) below ground surface (bgs) at BH72-08 (located in the southern portion of former Plant 3). Multiple PCB investigations were completed from 2008 through 2015 to delineate the PCBs to 1 ppm and are described in the 2013 RCRA EI CA725 Report (GHD, 2013) and the 2018 PCB Sampling and Analysis Plan (GHD, 2018). See Table 1 for a summary of PCB soil sampling results from 2008 through 2015.

On September 24, 2015 a notification for self-implemented removal of PCBs (excavation work) was sent to the U.S. Environmental Protection Agency (EPA) for review. On October 9, 2015, PCB impacts exceeding 100 ppm were excavated, transported and disposed at the Wayne Disposal Facility located in Bellville, MI. PCB impacts exceeding 100 ppm have been laterally and vertically delineated and have been removed. A summary of work completed was submitted to EPA in a letter dated October 12, 2015 (GHD, 2015). See Figure 2 for a site map with an excavation overview.

In 2018, additional funding was acquired to continue the investigations of the PCBs; in particular, data gaps and delineation of PCB impacts to 1 ppm. A scope of work to delineate PCBs to 1.0 ppm was approved by EPA and presented in the 2018 PCB Sampling and Analysis Plan (GHD, 2018). Following the initial



2018

investigation in April 2019, additional data gaps required a second round of sampling in May 2018, a third round of investigations July 2018 and a fourth round in August 2018. Scope of work for each round of sampling was approved by EPA in email communications on March 14, 2018, May 18, 2018, June 27, 2018 and August 02, 2018, respectively (See Attachment 1 for EPA approvals). The following sections provide a summary of the 2018 field work to address data gaps and delineate PCB impacts to 1.0 ppm.

3. PCB Field Investigations

The field investigations were conducted in four rounds following the methodology described in the 2018 PCB Sampling and Analysis Plan (GHD, 2018). The first was completed on April 30, 2018, the second on May 29, 2018, the third on July 5, 2018 and the fourth round on August 10, 2018. All soil samples were collected in laboratory supplied containers for PCB analysis by EPA Method 8082. All samples were shipped under chain of custody to TestAmerica Laboratories located in North Canton, Ohio. Each of the four rounds of PCB field investigations are described below. See Figure 3 for a Site map with soil borings and analytical results. See Tables 2 and 3 for a sample analysis summary and a summary of analytical results compared against 1.0 ppm for PCBs, respectively. See Attachment 2 for the laboratory analytical reports for the 2018 field investigations.

3.1 April 30, 2018 PCB Field Investigation (First Round)

Prior to the start of the April 30, 2018 PCB investigation, a private utility locate was conducted at each boring location and GHD surveyed soil sampling locations. The survey provided location and elevation data to compare with historic data and provide accurate sampling depths regardless of site redevelopment and changes in surface elevations.

During the first round of soil borings, GHD completed eight soil borings (BH-119-18 through BH-126-18). As per the 2018 PCB Sampling and Analysis Plan (GHD, 2018), soil samples were collected at every 2 ft interval to a maximum depth of 10, 12 or 14 ft bgs. Based on the results from the April 30, 2018 investigation, soil borings BH-121-18 (2-4 and 4-6 ft bgs), BH-122-18 (2-4 bgs) and BH-123-18 (0-2 ft bgs) exceeded 1.0 ppm.

3.2 May 29, 2018 PCB Field Investigation (Second Round)

Similar methodology as the April 30, 2018 investigation was conducted during the May 29, 2018 investigation including the private locate and survey of boring locations. During the second round of soil borings, GHD completed five soil borings (BH-127-18 through BH-131-18) to delineate the April 30, 2018 exceedances as described below:

- Soil samples were collected at every 2 ft interval to a maximum depth of 8 ft bgs at soil borings BH-127-18 and BH-128-18 to delineate BH-121-18 to the north and east.
- Soil samples were collected at every 2 ft interval to a maximum depth of 6 ft bgs at soil boring BH-129-18 to delineate BH-122-18 to the north and east.



- Soil samples were collected at every 2 ft interval to a maximum depth of 4 ft bgs at soil borings BH-130-18 and BH-131-18 to delineate BH-123-18 to the south and east. It should be noted that sample BH-130-18 (2-4 ft bgs) was damaged during shipment to TestAmerica Laboratories in North Canton, Ohio and was unable to be analyzed. Therefore, no data is available for BH-130-18 from 2-4 ft bgs.

Based on the results from the May 29, 2018 investigation, soil borings BH-127-18 (2-4 ft bgs), BH-128-18 (6-8 ft bgs) and BH-129-18 (2-4 ft bgs) exceeded 1.0 ppm.

3.3 July 5, 2018 PCB Field Investigation (Third Round)

Similar methodology as the May 29, and April 30, 2018 investigation was conducted during the July 5, 2018 investigation including the private locate; however, no survey was conducted since proposed locations were at approximately the same ground elevation. During the third round of soil borings, GHD completed five soil borings (BH-132-18 through BH-136-18) to delineate the May 29, 2018 exceedances as described below:

- Soil samples were collected at every 2 ft interval to a maximum depth of 6 ft bgs at soil borings BH-132-18 and BH-133-18 to delineate BH-127-18 to the north and west.
- Soil samples were collected at every 2 ft interval to a maximum depth of 8 ft bgs at soil borings BH-134-18 to delineate BH-127-18 to the east and BH-128-18 to the north.
- Soil samples were collected at every 2 ft interval from 4 to 10 ft bgs at soil boring BH-135-18 to delineate BH-128-18 to the east.
- Soil samples were collected at every 2 ft interval to a maximum depth of 6 ft bgs at soil borings BH-136-18 to delineate BH-129-18 to the east.

Based on the results from the July 5, 2018 investigation, soil boring BH-134-18 (4-6 bgs) exceeded 1.0 ppm.

3.4 August 10, 2018 PCB Field Investigation (Fourth Round)

Similar methodology as the July 5, 2018 investigation was conducted during the August 10, 2018 investigation. During the fourth round of soil borings, GHD completed two soil borings (BH-137-18 and BH-138-18) to delineate the July 5, 2018 exceedances as described below:

- Soil samples were collected at every 2 ft interval from 2 to 8 ft bgs at soil borings BH-137-18 and BH-138-18 to delineate BH-134-18 to the north and east, respectively.

Based on the results from the August 10, 2018 investigation, soil samples were non-detect or below 1.0 ppm.

4. Discussion of Results

In total, 90 soil samples were collected from the 20 soil borings. Each of the 90 soil samples were analyzed for PCBs. The 90 soil samples were collected over four rounds to vertically and horizontally delineate PCBs in soil to 1.0 ppm. Based on the results of the four rounds of sampling, PCBs have been vertically and horizontally delineated to 1.0 ppm as described below.



4.1 Vertical Delineation of PCBs to 1.0 PPM

Based on previous investigations from 2008 through 2012, the deepest interval encountered with PCBs above 1 ppm was at soil boring BH72-08 from 12-14 ft bgs. In 2012, soil boring BH-106-12 was completed near BH72-08 to vertically delineate the deepest impacts. Based on the results from BH-106-12, PCBs were non-detect from 15 to 20 ft bgs. Therefore, in 2012, PCBs in soil were delineated to 1 ppm to a maximum depth of 14 ft bgs.

During the 2018 investigation, PCBs were detected above 1 ppm at the surface (BH-123-18) to a maximum depth of 8 ft bgs (BH-127-18). Soil borings BH-127-18, BH-135-18 BH-122-18 and BH-121-18 vertically delineated PCBs to 1 ppm to the north, east, south and west, respectively. The vertical extent of PCBs in soils exceeding 1 ppm varied at different borings but overall the vertical extent of PCBs exceeding 1 ppm in soil is from the surface to a maximum depth of 14 ft bgs. In summary, PCB concentrations exceeding 1 ppm in soil were encountered at elevations ranging from approximately 956 to 942 ft above mean sea level (AMSL).

4.2 Horizontal Delineation of PCBs to 1.0 PPM

Based on the results of the four rounds of 2018 soil sampling, PCBs at various intervals were encountered at BH-121-18, BH-122-18, BH-123-18, BH-127-18, BH-128-18, BH-129-18 and BH-134-18. During subsequent rounds of sampling, when data-gaps were encountered, samples were collected from the impacted interval and the corresponding two-foot interval above and below to confirm the data-gap was closed. Each of the sample intervals that exceeded 1.0 ppm at the borings were delineated to the north, south, east and west as identified in the table below.

Horizontal Delineation Summary

Boring Exceeding 1 ppm (ft bgs)	Delineation Borings to the North (ft bgs)	Delineation Borings to the East (ft bgs)	Delineation Borings to the South (ft bgs)	Delineation Borings to the West (ft bgs)
BH-121-18 (2-4 and 4-6)	BH-133-18 (2-4) and BH-127-18 (4-6)	BH-128-18 (2-4 and 4-6)	BH-122-18 (4-6) and BH-123-18 (2-4)	BH-120-18 (2-4 and 4-6)
BH-122-18 (2-4)	BH-133-18 (2-4)	BH-136-18 (2-4)	BH-123-18 (2-4) and BH-131-18 (2-4)	BH-126-18 (2-4)
BH-123-18 (0-2)	BH-121-18 (0-2) and BH-127-18 (0-2) and BH-133-18 (0-2)	BH-130-19 (0-2)	BH-131-18 (0-2)	BH-125-18 (0-2)
BH-127-18 (2-4)	BH-133-18 (2-4)	BH-134-18 (2-4) and BH-138-18 (2-4)	BH-123-18 (2-4) and BH-131-18 (2-4)	BH-132-18 (2-4)
BH-128-18 (6-8)	BH-134-18 (6-8) and BH-137-18 (6-8)	BH-135-18 (6-8)	BH-123-18 (6-8)	BH-120-18 (6-8) and BH-121-18 (6-8) and BH-119-18 (6-8)
BH-134-18 (4-6)	BH-137-18 (4-6)	BH-138-18 (4-6)	BH-128-18 (4-6) and BH-129-18 (4-6)	BH-132-18 (4-6) and BH-133-18 (4-6)

See figure 4 for a Site map with delineation of PCBs to 1.0 ppm. a



5. Closing

Currently, the PCBs in soil are delineated to 1.0 ppm as identified in Figure 3. No additional investigations are anticipated at this time. Upon agreement with EPA that PCBs have been delineated to 1.0 ppm, a revised Declaration of Restrictive Covenant will be prepared to provide required TSCA notification and restriction to mitigate future risks from contact with PCBs in soil greater than 1.0 ppm.

6. References

- GHD, 2008 Phase II Environmental Site Assessment, PCC-Validation, Pontiac, Michigan, 2008
- GHD, RCRA EI CA724 Report, PCC-Validation, Pontiac, Michigan, 2013
- GHD, PCB Sampling and Analysis Plan, PCC-Validation, Pontiac, Michigan, 2018
- GHD, PCB Excavation, PCC-Validation, Pontiac, Michigan, 2015

Encl: Figure 1 – Site Map with PCB Area

Figure 2 – Excavation Overview Diagram

Figure 3 – Site Map with Soil Boring Locations and Analytical Results

Figure 4 – Site Map with Delineation of PCBs to 1 PPM

Table 1 – Summary of Historic PCB Analytical Results

Table 2 – Sample Analysis Summary for 2018

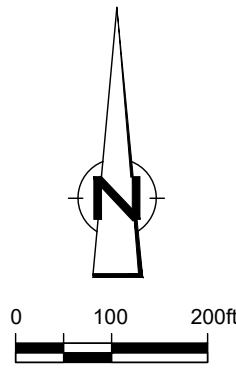
Table 3 – Summary of 2018 PCB Analytical Results

Attachment 1 – EPA Correspondence with Scope of Work Approval

Attachment 2 - Laboratory Analytical Reports (2018 only)



No	Revision	Date	Initial



- LEGEND**
- TP1-07 COMPLETED TEST PIT LOCATION
 - MW28-07 COMPLETED MONITORING WELL LOCATION
 - TMW71-08 COMPLETED TEMPORARY MONITORING WELL LOCATION
 - BH8-07 COMPLETED SOIL BORING LOCATION
 - APPROXIMATE SITE BOUNDARY
 - EXISTING STRUCTURE
 - FORMER SITE STRUCTURE
 - M.H. MANHOLE
 - C.B. CATCH BASIN

SCALE VERIFICATION

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

Approved

DRAWING STATUS

Status	Date	Initial

SITE MAP WITH PCB AREA

PCC-VALIDATION

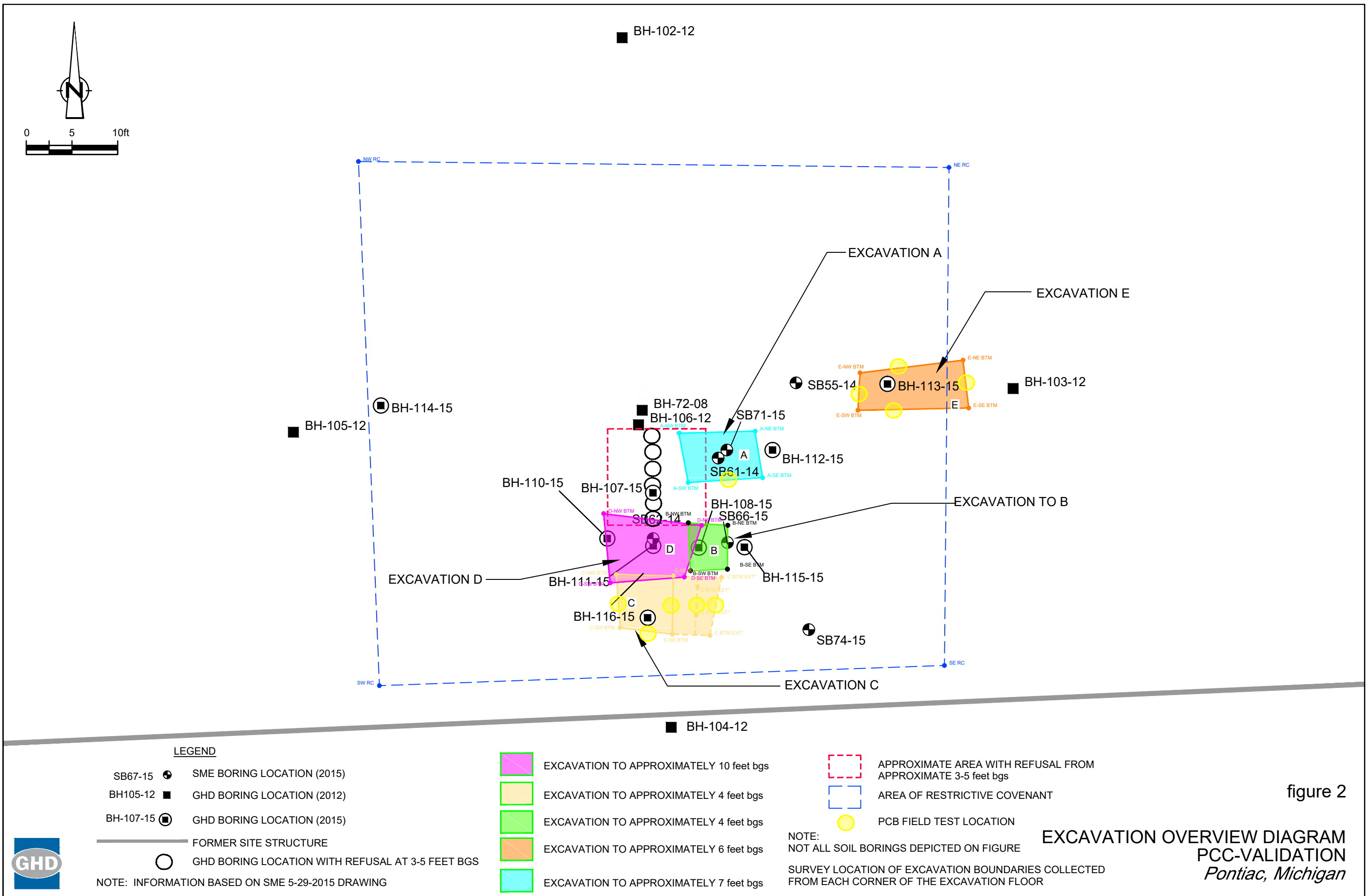
PONTIAC, MICHIGAN

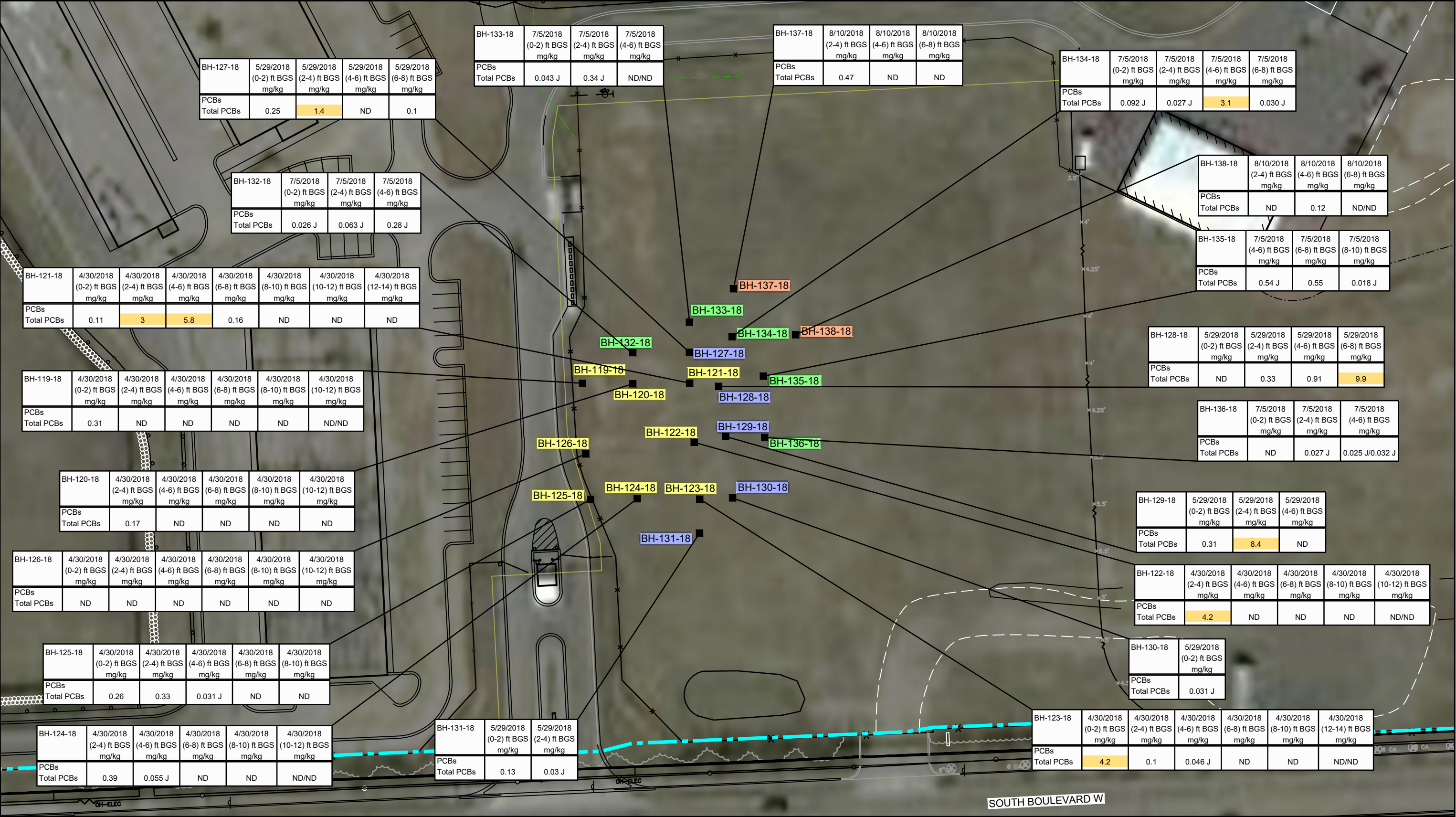


CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: T.K.	Reviewed By: M.C.	Date: FEBRUARY 2013
Scale: 1:200	Project N°: 017322-T01	Report N°: 018
		Drawing N°: 1





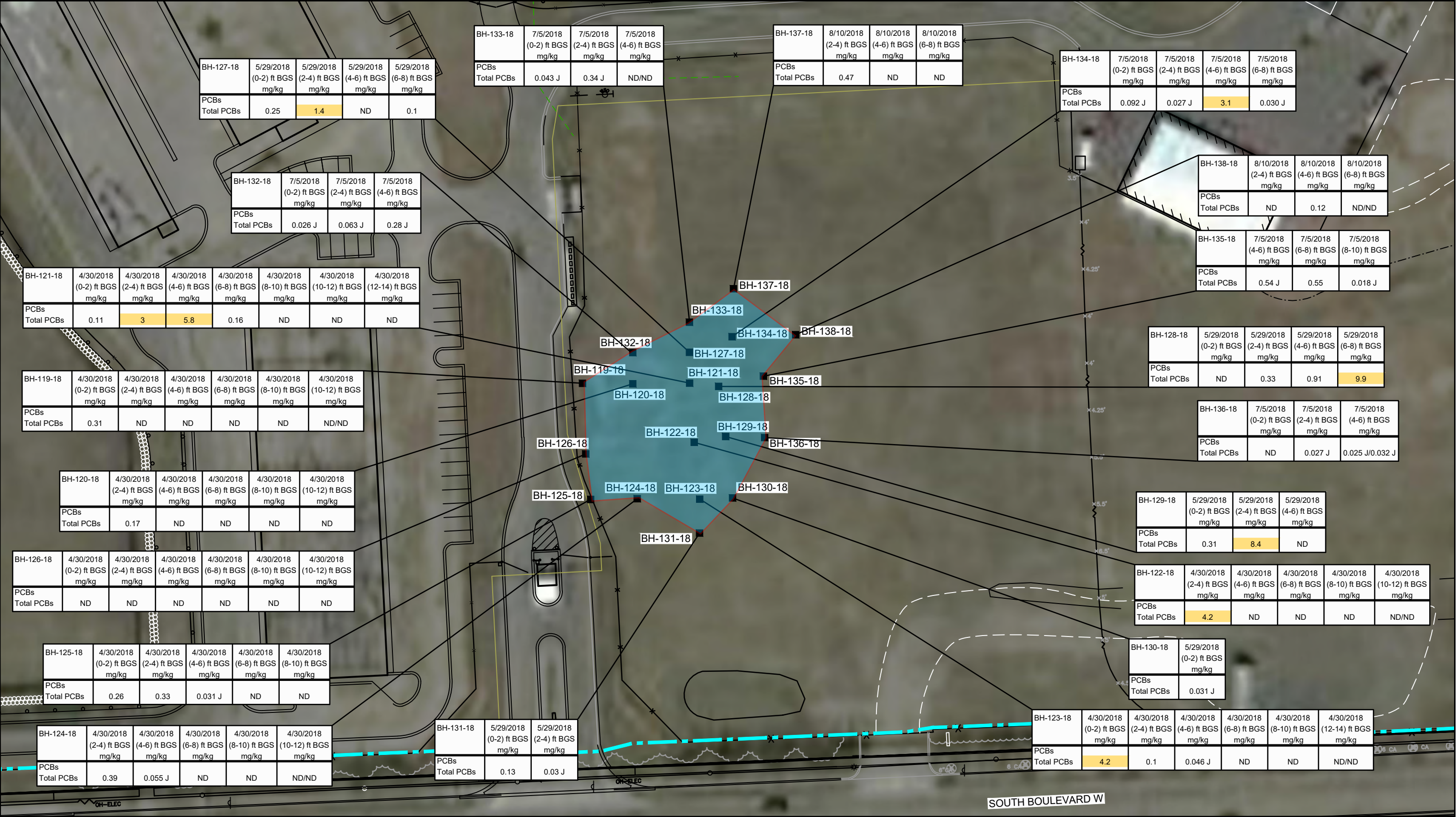
Source: GOOGLE EARTH (DIGITAL GLOBE 4/7/2017)

RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN

SITE MAP WITH SOIL BORING LOCATIONS AND ANALYTICAL RESULTS

017322-T07
Oct 16, 2018

FIGURE 3



Source: GOOGLE EARTH (DIGITAL GLOBE 4/7/2017)

03060ft

LEGEND

APPROXIMATE PROPERTY BOUNDARY

RAILROAD

BH-127-18 SOIL BORING LOCATION

1 PPM PCB BOUNDARY



RACER
1 CONCOURSE DRIVE
PONTIAC, MICHIGAN

SITE MAP WITH DELINEATION OF PCBS TO 1 PPM

017322-T07
Oct 16, 2018

FIGURE 4

Table 1

Summary of Historic PCB Analytical Results
PCC-Validation
Pontiac, Michigan

Sample Location:			BH72-08	BH72-08	BH72-08	BH102-12	BH102-12	BH102-12	BH103-12	BH103-12	BH103-12	BH104-12	BH104-12	BH104-12	BH105-12	BH105-12	BH105-12	BH105-12	BH106-12	BH106-12
Sample Depth:			0-2 ft BGS	8-10 ft BGS	12-14 ft BGS	0-2 ft BGS	12-14 ft BGS	22-24 ft BGS	0-2 ft BGS	12-14 ft BGS	23-25 ft BGS	0-2 ft BGS	12-14 ft BGS	22-24 ft BGS	0-2 ft BGS	12-14 ft BGS	18-20 ft BGS	18-20 ft BGS	15-17 ft BGS	18-20 ft BGS
Sample Date:			03/13/2008	03/13/2008	03/13/2008	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012	08/20/2012
Consultant:			GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Parameters	Units																	Duplicate		
PCBs																				
Aroclor-1016 (PCB-1016)	mg/kg	1	0.035 U	0.038 U	3.8 U	0.051 U	0.043 U	0.047 U	0.044 U	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.044 U	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Aroclor-1221 (PCB-1221)	mg/kg	1	0.035 U	0.038 U	3.8 U	0.051 U	0.043 U	0.047 U	0.044 U	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.044 U	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Aroclor-1232 (PCB-1232)	mg/kg	1	0.035 U	0.038 U	3.8 U	0.051 U	0.043 U	0.047 U	0.044 U	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.044 U	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Aroclor-1242 (PCB-1242)	mg/kg	1	0.035 U	0.038 U	3.8 U	0.051 U	0.043 U	0.047 U	0.044 U	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.044 U	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Aroclor-1248 (PCB-1248)	mg/kg	1	0.035 U	0.038 U	3.8 U	0.051 U	0.043 U	0.047 U	0.044 U	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.044 U	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Aroclor-1254 (PCB-1254)	mg/kg	1	0.24	0.038 U	20	0.051 U	0.043 U	0.047 U	0.04 J	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.12	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Aroclor-1260 (PCB-1260)	mg/kg	1	0.035 U	0.038 U	3.8 U	0.051 U	0.043 U	0.047 U	0.044 U	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.044 U	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U
Total PCBs	mg/kg	1	0.258	0.038 U	22	0.051 U	0.043 U	0.047 U	0.04	0.044 U	0.047 U	0.042 U	0.046 U	0.048 U	0.12	0.045 U	0.043 U	0.042 U	0.043 U	0.044 U

Sample Location:			BH-107-15	BH-107-15	BH-107-15	BH-107-15	BH-107-15	BH-107-15	BH-108-15	BH-108-15	BH-108-15	BH-108-15	BH-108-15	BH-108-15	BH-108-15	BH-109-15	BH-109-15	BH-109-15	BH-109-15	BH-109-15
Sample Depth:			0-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS
Sample Date:			08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015
Consultant:			GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Parameters	Units																			
PCBs																				
Aroclor-1016 (PCB-1016)	mg/kg	1	0.042 U	0.045 U	0.044 U	0.044 U	0.046 U	0.045 U	0.044 U	0.045 U	0.047 U	0.045 U	0.043 U	0.047 U	0.045 U	0.046 U	0.048 U	0.044 U	0.043 U	0.044 U
Aroclor-1221 (PCB-1221)	mg/kg	1	0.042 U	0.045 U	0.044 U	0.044 U	0.046 U	0.045 U	0.044 U	0.045 U	0.047 U	0.045 U	0.043 U	0.047 U	0.045 U	0.046 U	0.048 U	0.044 U	0.043 U	0.044 U
Aroclor-1232 (PCB-1232)	mg/kg	1	0.042 U	0.045 U	0.044 U	0.044 U	0.046 U	0.045 U	0.044 U	0.045 U	0.047 U	0.045 U	0.043 U	0.047 U	0.045 U	0.046 U	0.048 U	0.044 U	0.043 U	0.044 U
Aroclor-1242 (PCB-1242)	mg/kg	1	0.042 U	0.045 U	0.044 U	0.044 U	0.046 U	0.045 U	0.044 U	0.045 U	0.047 U	0.045 U	0.043 U	0.047 U	0.045 U	0.046 U	0.048 U	0.044 U	0.043 U	0.044 U
Aroclor-1248 (PCB-1248)	mg/kg	1	0.042 U	0.045 U	0.044 U	0.044 U	0.046 U	0.045 U	0.044 U	0.045 U	0.047 U	0.045 U	0.043 U	0.047 U	0.045 U	0.046 U	0.048 U	0.044 U	0.043 U	0.044 U
Aroclor-1254 (PCB-1254)	mg/kg	1	0.51	4.6	0.033 J	1.1	20	7.1	1.6	110	1.9	29	7.3	1.8	1.6	21	7.3	82	15	0.05
Aroclor-1260 (PCB-1260)	mg/kg	1	0.042 U	0.045 U	0.044 U	0.044 U	0.046 U	0.045 U	0.044 U	0.045 U	0.047 U	0.045 U	0.043 U	0.047 U	0.045 U	0.046 U	0.048 U	0.044 U	0.043 U	0.044 U
Total PCBs	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Sample Location:			BH-110-15	BH-110-15	BH-110-15	BH-110-15	BH-110-15	BH-110-15	BH-111-15	BH-111-15	BH-111-15	BH-111-15	BH-111-15	BH-111-15	BH-111-15	BH112-12	BH112-12	BH113-12	BH-113-15	BH-115-15	BH-115-15
Sample Depth:			0-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS	0-2 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	8-10 ft BGS	10-12 ft BGS	5.5 ft BGS	16 ft BGS	17 ft BGS	12/05/2012	2-4 ft BGS	0-2 ft BGS	2-4 ft BGS
Sample Date:			08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	12/05/2012	12/05/2012	12/05/2012	08/31/2015	08/31/2015	08/31/2015
Consultant:			GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD
Parameters	Units																				
PCBs																					
Aroclor-1016 (PCB-1016)	mg/kg	1	0.044 U	0.046 U	0.044 U	0.047 U	0.045 U	0.048 U	0.043 U	0.042 U	0.046 U	0.047 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044	0.043 U	0.043 U	
Aroclor-1221 (PCB-1221)	mg/kg	1	0.044 U	0.046 U	0.044 U	0.047 U	0.045 U	0.048 U	0.043 U	0.042 U	0.046 U	0.047 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044	0.043 U	0.043 U	
Aroclor-1232 (PCB-1232)	mg/kg	1	0.044 U	0.046 U	0.044 U	0.047 U	0.045 U	0.048 U	0.043 U	0.042 U	0.046 U	0.047 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044	0.043 U	0.043 U	
Aroclor-1242 (PCB-1242)	mg/kg	1	0.044 U	0.046 U	0.044 U	0.047 U	0.045 U	0.048 U	0.043 U	0.042 U	0.046 U	0.047 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044	0.043 U	0.043 U	
Aroclor-1248 (PCB-1248)	mg/kg	1	0.044 U	0.046 U	0.044 U	0.047 U	0.045 U	0.048 U	0.043 U	0.042 U	0.046 U	0.047 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044	0.043 U	0.043 U	
Aroclor-1254 (PCB-1254)	mg/kg	1	4.7	0.025 J	0.026 J	11	100	68	11	130	88	150	140	5.8	0.046 U	0.045 U	0.046 U	0.12	50	90	
Aroclor-1260 (PCB-1260)	mg/kg	1	0.044 U	0.046 U	0.044 U	0.047 U	0.045 U	0.048 U	0.043 U	0.042 U	0.046 U	0.047 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044	0.043 U	0.043 U	
Total PCBs	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	0.046 U	0.045 U	0.046 U	--	--	--	

Footnotes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
<RL - Below laboratory reporting limit

Table 1

Summary of Historic PCB Analytical Results
PCC-Validation
Pontiac, Michigan

Sample Location:		BH-115-15	BH-116-15	BH-116-15	BH-116-15	BH-117-15	BH-117-15	BH-117-15	BH-118-15	SB39-14	SB39-14	SB39-14	SB40-14	SB40-14	SB40-14	SB41-14	SB41-14	SB41-14	SB42-14	SB42-14
Sample Depth:		4-6 ft BGS	2-4 ft BGS	4-6 ft BGS	6-8 ft BGS	2-4 ft BGS	8-10 ft BGS	10-12 ft BGS	2-4 ft BGS	10-11 ft BGS	12-13 ft BGS	14-15 ft BGS	10-11 ft BGS	12-13 ft BGS	14-15 ft BGS	10-11 ft BGS	12-13 ft BGS	14-15 ft BGS	10-11 ft BGS	12-13 ft BGS
Sample Date:		08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	08/31/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015
Consultant:		GHD	GHD	GHD	GHD	GHD	GHD	GHD	GHD	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME
Parameters	Units																			
PCBs																				
Aroclor-1016 (PCB-1016)	mg/kg	1	0.046 U	0.045 U	0.045 U	0.046 U	0.043 U	0.045 U	0.042 U	0.045 U	--	--	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	mg/kg	1	0.046 U	0.045 U	0.045 U	0.046 U	0.043 U	0.045 U	0.042 U	0.045 U	--	--	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	mg/kg	1	0.046 U	0.045 U	0.045 U	0.046 U	0.043 U	0.045 U	0.042 U	0.045 U	--	--	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	mg/kg	1	0.046 U	0.045 U	0.045 U	0.046 U	0.043 U	0.045 U	0.042 U	0.045 U	--	--	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	mg/kg	1	0.046 U	0.045 U	0.045 U	0.046 U	0.043 U	0.045 U	0.042 U	0.045 U	--	--	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	mg/kg	1	12	160	0.54	0.11	0.61	0.058	0.093	51	--	--	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	mg/kg	1	0.046 U	0.045 U	0.045 U	0.046 U	0.043 U	0.045 U	0.042 U	0.045 U	--	--	--	--	--	--	--	--	--	--
Total PCBs	mg/kg	1	--	--	--	--	--	--	--	--	40	26	<RL	9.2	4	<RL	<RL	<RL	HOLD	11 .660

Sample Location:		SB42-14	SB43-14	SB43-14	SB43-14	SB54-14	SB54-14	SB54-14	SB55-14	SB55-14	SB55-14	SB56-14	SB56-14	SB56-14	SB57-14	SB57-14	SB57-14	SB60-14	SB60-14	SB60-14
Sample Depth:		14-15 ft BGS	10-11 ft BGS	12-13 ft BGS	14-15 ft BGS	8-9 ft BGS	10-11 ft BGS	12-13 ft BGS	8-9 ft BGS	10-11 ft BGS	12-13 ft BGS	8-9 ft BGS	10-11 ft BGS	12-13 ft BGS	8-9 ft BGS	10-11 ft BGS	12-13 ft BGS	8-9 ft BGS	10-11 ft BGS	12-13 ft BGS
Sample Date:		5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015
Consultant:		SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME
Parameters	Units																			
PCBs																				
Aroclor-1016 (PCB-1016)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	mg/kg	1	<RL	<RL	<RL	HOLD	<RL	2.4	<RL	<RL	2	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL

Sample Location:		SB61-14	SB61-14	SB61-14	SB61-14	SB62-14	SB62-14	SB62-14	SB62-14	SB62-14	SB62-14	SB62-14	SB62-14	SB66-15	SB66-15	SB66-15	SB67-15	SB67-15	SB67-15	SB67-15
Sample Depth:		8-9 ft BGS	10-11 ft BGS	12-13 ft BGS	14-15 ft BGS	5.5-6 ft BGS	6-6.5 ft BGS	6.5-7 ft BGS	8-9 ft BGS	10-11 ft BGS	12-13 ft BGS	14-15 ft BGS	8.5-9 ft BGS	9.5-10 ft BGS	1.5-12 ft BG	1-1.5 ft BGS	3-3.5 ft BGS	5-5.5 ft BGS	7-7.5 ft BGS	9-9.5 ft BGS
Sample Date:		5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015
Consultant:		SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME
Parameters	Units																			
PCBs																				
Aroclor-1016 (PCB-1016)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	mg/kg	1	53	25	1.4	<RL	81	2600	490	610	120	<RL	.650	7.8	1.5	16	HOLD	HOLD	HOLD	HOLD

Footnotes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
<RL - Below laboratory reporting limit

Table 1

Summary of Historic PCB Analytical Results
PCC-Validation
Pontiac, Michigan

Sample Location:		SB67-15	SB68-15	SB68-15	SB68-15	SB68-15	SB68-15	SB68-15	SB69-15	SB69-15	SB69-15	SB69-15	SB71-15	SB71-15	SB71-15	SB73-15	SB73-15	SB73-15	SB73-15
Sample Depth:		11-11.5 ft BGS	1-1.5 ft BGS	3-3.5 ft BGS	5-5.5 ft BGS	7-7.5 ft BGS	9-9.5 ft BGS	11-11.5 ft BGS	1-1.5 ft BGS	3-3.5 ft BGS	5-5.5 ft BGS	6.5-7 ft BGS	1-1.5 ft BGS	5-5.5 ft BGS	7-7.5 ft BGS	1-1.5 ft BGS	3-3.5 ft BGS	5-5.5 ft BGS	7-7.5 ft BGS
Sample Date:		5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015
Consultant:		SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME	SME
Parameters		Units																	
PCBs																			
Aroclor-1016 (PCB-1016)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	mg/kg	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	mg/kg	1	HOLD	<RL	<RL	<RL	<RL	<RL	<RL	.320	.350	27	40	140	12	HOLD	HOLD	HOLD	HOLD

Sample Location:		SB73-15	SB73-15	SB73-15	SB74-15	SB74-15	SB74-15	SB74-15
Sample Depth:		9-9.5 ft BGS	11-12 ft BGS	-12ft BGS (DL	1-1.5 ft BGS	3-3.5 ft BGS	5-5.5 ft BGS	7-7.5 ft BGS
Sample Date:		5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015	5/29/2015
Consultant:		SME	SME	SME	SME	SME	SME	SME

Parameters		Units						
PCBs								
Aroclor-1016 (PCB-1016)	mg/kg	1	--	--	--	--	--	--
Aroclor-1221 (PCB-1221)	mg/kg	1	--	--	--	--	--	--
Aroclor-1232 (PCB-1232)	mg/kg	1	--	--	--	--	--	--
Aroclor-1242 (PCB-1242)	mg/kg	1	--	--	--	--	--	--
Aroclor-1248 (PCB-1248)	mg/kg	1	--	--	--	--	--	--
Aroclor-1254 (PCB-1254)	mg/kg	1	--	--	--	--	--	--
Aroclor-1260 (PCB-1260)	mg/kg	1	--	--	--	--	--	--
Total PCBs	mg/kg	1	<RL	<RL	<RL	HOLD	HOLD	HOLD

Footnotes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

<RL - Below laboratory reporting limit

Table 2

Sample Analysis Summary
PCC-Validation
Pontiac, Michigan

Sample ID	Location Description	Soil Sample Depth (Ft bgs)	Collection Date (mm/dd/yy)	Sample Type	QAQC	Parent ID	Analysis
April 2018 PCB Soil Sampling Event							
SO-17322-043018-DR-001	BH-123-18	0-2	4/30/2018	soil			PCB
SO-17322-043018-DR-002	BH-123-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-003	BH-123-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-004	BH-123-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-005	BH-123-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-006	BH-123-18	12-14	4/30/2018	soil			PCB
SO-17322-043018-DR-007	BH-123-18	12-14	4/30/2018	soil	Dup	SO-17322-043018-DR-006	PCB
SO-17322-043018-DR-008	BH-122-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-009	BH-122-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-010	BH-122-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-011	BH-122-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-012	BH-122-18	10-12	4/30/2018	soil			PCB
SO-17322-043018-DR-013	BH-122-18	10-12	4/30/2018	soil	Dup	SO-17322-043018-DR-012	PCB
SO-17322-043018-DR-014	BH-121-18	0-2	4/30/2018	soil			PCB
SO-17322-043018-DR-015	BH-121-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-016	BH-121-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-017	BH-121-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-018	BH-121-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-019	BH-121-18	10-12	4/30/2018	soil			PCB
SO-17322-043018-DR-020	BH-121-18	12-14	4/30/2018	soil			PCB
SO-17322-043018-DR-021	BH-120-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-022	BH-120-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-023	BH-120-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-024	BH-120-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-025	BH-120-18	10-12	4/30/2018	soil			PCB
SO-17322-043018-DR-026	BH-119-18	0-2	4/30/2018	soil			PCB
SO-17322-043018-DR-027	BH-119-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-028	BH-119-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-029	BH-119-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-030	BH-119-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-031	BH-119-18	10-12	4/30/2018	soil			PCB
SO-17322-043018-DR-032	BH-119-18	10-12	4/30/2018	soil	Dup	SO-17322-043018-DR-031	PCB
SO-17322-043018-DR-033	BH-126-18	0-2	4/30/2018	soil			PCB
SO-17322-043018-DR-034	BH-126-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-035	BH-126-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-036	BH-126-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-037	BH-126-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-038	BH-126-18	10-12	4/30/2018	soil			PCB
SO-17322-043018-DR-039	BH-125-18	0-2	4/30/2018	soil			PCB
SO-17322-043018-DR-040	BH-125-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-041	BH-125-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-042	BH-125-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-043	BH-125-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-044	BH-124-18	2-4	4/30/2018	soil			PCB
SO-17322-043018-DR-045	BH-124-18	4-6	4/30/2018	soil			PCB
SO-17322-043018-DR-046	BH-124-18	6-8	4/30/2018	soil			PCB
SO-17322-043018-DR-047	BH-124-18	8-10	4/30/2018	soil			PCB
SO-17322-043018-DR-048	BH-124-18	10-12	4/30/2018	soil			PCB
SO-17322-043018-DR-049	BH-124-18	10-12	4/30/2018	soil	Dup	SO-17322-043018-DR-048	PCB

Table 2

Sample Analysis Summary
PCC-Validation
Pontiac, Michigan

Sample ID	Location Description	Soil Sample Depth (Ft bgs)	Collection Date (mm/dd/yy)	Sample Type	QAQC	Parent ID	Analysis
May 2018 PCB Soil Sampling Event							
S-17322A-052918-SK-001	BH-127-18	0-2	5/29/2018	soil			PCB
S-17322A-052918-SK-002	BH-127-18	2-4	5/29/2018	soil			PCB
S-17322A-052918-SK-003	BH-127-18	4-6	5/29/2018	soil			PCB
S-17322A-052918-SK-004	BH-127-18	6-8	5/29/2018	soil			PCB
S-17322A-052918-SK-005	BH-128-18	0-2	5/29/2018	soil			PCB
S-17322A-052918-SK-006	BH-128-18	2-4	5/29/2018	soil			PCB
S-17322A-052918-SK-007	BH-128-18	4-6	5/29/2018	soil			PCB
S-17322A-052918-SK-008	BH-128-18	6-8	5/29/2018	soil			PCB
S-17322A-052918-SK-009	BH-129-18	0-2	5/29/2018	soil			PCB
S-17322A-052918-SK-010	BH-129-18	2-4	5/29/2018	soil			PCB
S-17322A-052918-SK-011	BH-129-18	4-6	5/29/2018	soil			PCB
S-17322A-052918-SK-012	BH-130-18	0-2	5/29/2018	soil			PCB
S-17322A-052918-SK-013	BH-130-18	2-4	5/29/2018	soil			PCB
S-17322A-052918-SK-014	BH-131-18	0-2	5/29/2018	soil			PCB
S-17322A-052918-SK-015	BH-131-18	2-4	5/29/2018	soil			PCB
July 2018 PCB Soil Sampling Event							
SO-17322A-070518-DS-001	BH-132-18	0-2	7/5/2018	soil			PCB
SO-17322A-070518-DS-002	BH-132-18	2-4	7/5/2018	soil			PCB
SO-17322A-070518-DS-003	BH-132-18	4-6	7/5/2018	soil			PCB
SO-17322A-070518-DS-004	BH-133-18	0-2	7/5/2018	soil			PCB
SO-17322A-070518-DS-005	BH-133-18	2-4	7/5/2018	soil			PCB
SO-17322A-070518-DS-006	BH-133-18	4-6	7/5/2018	soil			PCB
SO-17322A-070518-DS-007	BH-133-18	4-6	7/5/2018	soil	Dup	SO-17322A-070518-DS-006	PCB
SO-17322A-070518-DS-008	BH-134-18	0-2	7/5/2018	soil			PCB
SO-17322A-070518-DS-009	BH-134-18	2-4	7/5/2018	soil			PCB
SO-17322A-070518-DS-010	BH-134-18	4-6	7/5/2018	soil			PCB
SO-17322A-070518-DS-011	BH-134-18	6-8	7/5/2018	soil			PCB
SO-17322A-070518-DS-012	BH-134-18	8-10	7/5/2018	soil	ms/msd		PCB
SO-17322A-070518-DS-013	BH-135-18	4-6	7/5/2018	soil			PCB
SO-17322A-070518-DS-014	BH-135-18	6-8	7/5/2018	soil			PCB
SO-17322A-070518-DS-015	BH-135-18	8-10	7/5/2018	soil			PCB
SO-17322A-070518-DS-016	BH-136-18	0-2	7/5/2018	soil			PCB
SO-17322A-070518-DS-017	BH-136-18	2-4	7/5/2018	soil			PCB
SO-17322A-070518-DS-018	BH-136-18	4-6	7/5/2018	soil			PCB
SO-17322A-070518-DS-019	BH-136-18	4-6	7/5/2018	soil	Dup	SO-17322A-070518-DS-018	PCB
August 2018 PCB Soil Sampling Event							
SB-17322A-081018-KT-001	BH-138-18	2-4	8/10/2018	soil			PCB
SB-17322A-081018-KT-002	BH-138-18	4-6	8/10/2018	soil			PCB
SB-17322A-081018-KT-003	BH-138-18	6-8	8/10/2018	soil			PCB
SB-17322A-081018-KT-004	BH-138-18	6-8	8/10/2018	soil	Dup	SB-17322A-081018-KT-003	PCB
SB-17322A-081018-KT-005	BH-137-18	2-4	8/10/2018	soil			PCB
SB-17322A-081018-KT-006	BH-137-18	4-6	8/10/2018	soil			PCB
SB-17322A-081018-KT-007	BH-137-18	6-8	8/10/2018	soil			PCB

Table 3
Summary of 2018 PCB Analytical Results
PCC-Validation
Pontiac, Michigan

Sample Location:			BH-119-18	BH-119-18	BH-119-18	BH-119-18	BH-119-18	BH-119-18	BH-119-18	BH-120-18	BH-120-18	BH-120-18	BH-120-18	BH-120-18	BH-121-18	BH-121-18	BH-121-18	BH-121-18
Sample Date:			4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018
Sample Depth:			(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(10-12) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS
Parameters			Units															
PCBs																		
Aroclor-1016 (PCB-1016)	mg/kg	1	0.056 U	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.056 U	0.057 U	0.055 U	0.057 U	0.055 U	0.055 U	0.53 U	0.28 U	0.06 U
Aroclor-1221 (PCB-1221)	mg/kg	1	0.056 U	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.056 U	0.057 U	0.055 U	0.057 U	0.055 U	0.055 U	0.53 U	0.28 U	0.06 U
Aroclor-1232 (PCB-1232)	mg/kg	1	0.056 U	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.056 U	0.057 U	0.055 U	0.057 U	0.055 U	0.055 U	0.53 U	0.28 U	0.06 U
Aroclor-1242 (PCB-1242)	mg/kg	1	0.056 U	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.056 U	0.057 U	0.055 U	0.057 U	0.055 U	0.055 U	0.53 U	0.28 U	0.06 U
Aroclor-1248 (PCB-1248)	mg/kg	1	0.056 U	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.056 U	0.057 U	0.055 U	0.057 U	0.055 U	0.055 U	0.53 U	0.28 U	0.06 U
Aroclor-1254 (PCB-1254)	mg/kg	1	0.31	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.17	0.057 U	0.055 U	0.057 U	0.055 U	0.11	3	5.8	0.16
Aroclor-1260 (PCB-1260)	mg/kg	1	0.056 U	0.055 U	0.057 U	0.055 U	0.058 U	0.055 U	0.059 U	0.056 U	0.057 U	0.055 U	0.057 U	0.055 U	0.055 U	0.53 U	0.28 U	0.06 U
Total PCBs	mg/kg	1	0.31	ND	ND	ND	ND	ND	ND	0.17	ND	ND	ND	ND	0.11	3	5.8	0.16

Sample Location:			BH-121-18	BH-121-18	BH-122-18	BH-122-18	BH-122-18	BH-122-18	BH-122-18	BH-122-18	BH-123-18	BH-123-18	BH-123-18	BH-123-18	BH-123-18	BH-123-18	BH-123-18	BH-124-18
Sample Date:			4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018
Sample Depth:			(10-12) ft BGS	(12-14) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(12-14) ft BGS	(12-14) ft BGS	(2-4) ft BGS
Parameters			Units															
PCBs																		
Aroclor-1016 (PCB-1016)	mg/kg	1	0.056 U	0.055 U	0.28 U	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	0.28 U	0.055 U	0.058 U	0.054 U	0.054 U	0.055 U	0.055 U	0.059 U
Aroclor-1221 (PCB-1221)	mg/kg	1	0.056 U	0.055 U	0.28 U	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	0.28 U	0.055 U	0.058 U	0.054 U	0.054 U	0.055 U	0.055 U	0.059 U
Aroclor-1232 (PCB-1232)	mg/kg	1	0.056 U	0.055 U	0.28 U	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	0.28 U	0.055 U	0.058 U	0.054 U	0.054 U	0.055 U	0.055 U	0.059 U
Aroclor-1242 (PCB-1242)	mg/kg	1	0.056 U	0.055 U	0.28 U	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	0.28 U	0.055 U	0.058 U	0.054 U	0.054 U	0.055 U	0.055 U	0.059 U
Aroclor-1248 (PCB-1248)	mg/kg	1	0.056 U	0.055 U	0.28 U	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	0.28 U	0.055 U	0.058 U	0.054 U	0.054 U	0.055 U	0.055 U	0.059 U
Aroclor-1254 (PCB-1254)	mg/kg	1	0.056 U	0.055 U	4.2	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	4.2	0.1	0.046 J	0.054 U	0.054 U	0.055 U	0.055 U	0.39
Aroclor-1260 (PCB-1260)	mg/kg	1	0.056 U	0.055 U	0.28 U	0.058 U	0.058 U	0.056 U	0.059 U	0.45 U	0.28 U	0.055 U	0.058 U	0.054 U	0.054 U	0.055 U	0.055 U	0.059 U
Total PCBs	mg/kg	1	ND	ND	4.2	ND	ND	ND	ND	ND	4.2	0.1	0.046 J	ND	ND	ND	ND	0.39

Sample Location:			BH-124-18	BH-124-18	BH-124-18	BH-124-18	BH-125-18	BH-125-18	BH-125-18	BH-125-18	BH-125-18	BH-126-18	BH-126-18	BH-126-18	BH-126-18	BH-126-18	BH-126-18	BH-127-18
Sample Date:			4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	4/30/2018	5/29/2018
Sample Depth:			(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(10-12) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(10-12) ft BGS	(0-2) ft BGS
Parameters			Units															
PCBs																		
Aroclor-1016 (PCB-1016)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.057 U	0.057 U	0.059 U	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.055 U
Aroclor-1221 (PCB-1221)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.057 U	0.057 U	0.059 U	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.055 U
Aroclor-1232 (PCB-1232)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.057 U	0.057 U	0.059 U	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.055 U
Aroclor-1242 (PCB-1242)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.057 U	0.057 U	0.059 U	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.055 U
Aroclor-1248 (PCB-1248)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.057 U	0.057 U	0.059 U	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.055 U
Aroclor-1254 (PCB-1254)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.26	0.33	0.031 J	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.25
Aroclor-1260 (PCB-1260)	mg/kg	1	0.056 U	0.059 U	0.054 U	0.056 U	0.057 U	0.057 U	0.059 U	0.056 U	0.058 U	0.054 U	0.055 U	0.062 U	0.059 U	0.054 U	0.053 U	0.055 U
Total PCBs	mg/kg	1	ND	ND	ND	ND	0.26	0.33	0.031 J	ND	ND	ND	ND	ND	ND	ND	ND	0.25

Footnotes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
<RL - Below laboratory reporting limit

Table 3
Summary of 2018 PCB Analytical Results
PCC-Validation
Pontiac, Michigan

Sample Location:			BH-127-18	BH-127-18	BH-128-18	BH-128-18	BH-128-18	BH-128-18	BH-129-18	BH-129-18	BH-129-18	BH-130-18	BH-131-18	BH-131-18	BH-132-18	BH-132-18	BH-132-18	BH-133-18	BH-133-18																
Sample Date:			5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	5/29/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018																
Sample Depth:			(4-6) ft BGS	(6-8) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS																
Parameters			Units																																
PCBs																																			
Aroclor-1016 (PCB-1016)	mg/kg	1	0.063 U	0.058 U	0.064 U	0.055 U	0.053 U	1.1 U	0.054 U	0.59 U	0.055 U	0.057 U	0.057 U	0.054 U	0.036 U	0.038 U	0.042 U	0.037 U	0.040 U																
Aroclor-1221 (PCB-1221)	mg/kg	1	0.063 U	0.058 U	0.064 U	0.055 U	0.053 U	1.1 U	0.054 U	0.59 U	0.055 U	0.057 U	0.057 U	0.054 U	0.036 U	0.038 U	0.042 U	0.037 U	0.040 U																
Aroclor-1232 (PCB-1232)	mg/kg	1	0.063 U	0.058 U	0.064 U	0.055 U	0.053 U	1.1 U	0.054 U	0.59 U	0.055 U	0.057 U	0.057 U	0.054 U	0.036 U	0.038 U	0.042 U	0.037 U	0.040 U																
Aroclor-1242 (PCB-1242)	mg/kg	1	0.063 U	0.058 U	0.064 U	0.055 U	0.053 U	1.1 U	0.054 U	0.59 U	0.055 U	0.057 U	0.057 U	0.054 U	0.036 U	0.038 U	0.042 U	0.037 U	0.040 U																
Aroclor-1248 (PCB-1248)	mg/kg	1	0.063 U	0.058 U	0.064 U	0.055 U	0.053 U	1.1 U	0.054 U	0.59 U	0.055 U	0.057 U	0.057 U	0.054 U	0.036 U	0.038 U	0.042 U	0.037 U	0.040 U																
Aroclor-1254 (PCB-1254)	mg/kg	1	0.063 U	0.1	0.064 U	0.33	0.91	9.9	0.31	8.4	0.055 U	0.031 J	0.13	0.03 J	0.021 J	0.050	0.23	0.034 J	0.30																
Aroclor-1260 (PCB-1260)	mg/kg	1	0.063 U	0.058 U	0.064 U	0.055 U	0.053 U	1.1 U	0.054 U	0.59 U	0.055 U	0.057 U	0.057 U	0.054 U	0.0050 J	0.014 J	0.042 J	0.0087 J	0.038 J																
Total PCBs	mg/kg	1	ND	0.1	ND	0.33	0.91	9.9	0.31	8.4	ND	0.031 J	0.13	0.03 J	0.026 J	0.063 J	0.28 J	0.043 J	0.34 J																
Sample Location:			BH-133-18	BH-133-18	BH-134-18	BH-134-18	BH-134-18	BH-134-18	BH-135-18	BH-135-18	BH-135-18	BH-136-18	BH-136-18	BH-136-18	BH-136-18	BH-137-18	BH-137-18	BH-137-18	BH-138-18																
Sample Date:			7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	7/5/2018	8/10/2018	8/10/2018	8/10/2018	8/10/2018																
Sample Depth:			(4-6) ft BGS	(4-6) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(8-10) ft BGS	(0-2) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(4-6) ft BGS	(2-4) ft BGS	(4-6) ft BGS	(6-8) ft BGS	(2-4) ft BGS																
Parameters			Units																																
PCBs																																			
Aroclor-1016 (PCB-1016)	mg/kg	1	0.037 U	0.037 U	0.035 U	0.039 U	0.39 U	0.036 U	0.072 U	0.072 U	0.046 U	0.036 U	0.040 U	0.039 U	0.038 U	0.069 U	0.036 U	0.037 U	0.035 U																
Aroclor-1221 (PCB-1221)	mg/kg	1	0.037 U	0.037 U	0.035 U	0.039 U	0.39 U	0.036 U	0.072 U	0.072 U	0.046 U	0.036 U	0.040 U	0.039 U	0.038 U	0.069 U	0.036 U	0.037 U	0.035 U																
Aroclor-1232 (PCB-1232)	mg/kg	1	0.037 U	0.037 U	0.035 U	0.039 U	0.39 U	0.036 U	0.072 U	0.072 U	0.046 U	0.036 U	0.040 U	0.039 U	0.038 U	0.069 U	0.036 U	0.037 U	0.035 U																
Aroclor-1242 (PCB-1242)	mg/kg	1	0.037 U	0.037 U	0.035 U	0.039 U	0.39 U	0.036 U	0.072 U	0.072 U	0.046 U	0.036 U	0.040 U	0.039 U	0.038 U	0.069 U	0.036 U	0.037 U	0.035 U																
Aroclor-1248 (PCB-1248)	mg/kg	1	0.037 U	0.037 U	0.035 U	0.039 U	0.39 U	0.036 U	0.072 U	0.072 U	0.046 U	0.036 U	0.040 U	0.039 U	0.038 U	0.069 U	0.036 U	0.037 U	0.035 U																
Aroclor-1254 (PCB-1254)	mg/kg	1	0.037 U	0.037 U	0.074	0.022 J	0.71	0.022 J	0.49	0.50	0.018 J	0.036 U	0.0073 J	0.020 J	0.019 J	0.47	0.036 U	0.037 U	0.035 U																
Aroclor-1260 (PCB-1260)	mg/kg	1	0.037 U	0.037 U	0.018 J	0.0051 J	2.3	0.0076 J	0.052 J	0.057 J	0.046 U	0.036 U	0.020 J	0.0041 J	0.013 J	0.069 U	0.036 U	0.037 U	0.035 U																
Total PCBs	mg/kg	1	ND	ND	0.092 J	0.027 J	3.1	0.030 J	0.54 J	0.55	0.018 J	ND	0.027 J	0.025 J	0.032 J	0.47	ND	ND	ND																
Sample Location:			BH-138-18	BH-138-18	BH-138-18																														
Sample Date:			8/10/2018	8/10/2018	8/10/2018																														
Sample Depth:			(4-6) ft BGS	(6-8) ft BGS	(6-8) ft BGS																														
Parameters			Units																																
PCBs																																			
Aroclor-1016 (PCB-1016)	mg/kg	1	0.037 U	0.038 U	0.037 U																														
Aroclor-1221 (PCB-1221)	mg/kg	1	0.037 U	0.038 U	0.037 U																														
Aroclor-1232 (PCB-1232)	mg/kg	1	0.037 U	0.038 U	0.037 U																														
Aroclor-1242 (PCB-1242)	mg/kg	1	0.037 U	0.038 U	0.037 U																														
Aroclor-1248 (PCB-1248)	mg/kg	1	0.037 U	0.038 U	0.037 U																														
Aroclor-1254 (PCB-1254)	mg/kg	1	0.12	0.038 U	0.037 U																														
Aroclor-1260 (PCB-1260)	mg/kg	1	0.037 U	0.038 U	0.037 U																														
Total PCBs	mg/kg	1	0.12	ND	ND																														

Footnotes:
U - Not detected at the associated reporting limit.
J - Estimated concentration.
UJ - Not detected; associated reporting limit is estimated.
<RL - Below laboratory reporting limit

Attachment A

EPA Correspondence with Scope of Work Approval

From: Ramanauskas, Peter
To: [Michael Coram](mailto:Michael.Coram@ghd.com)
Cc: [Thomas Kinney](mailto:Thomas.Kinney@ghd.com); [Dave Favero](mailto:Dave.Favero@racertrust.org)
Subject: RE: PCC-Validation - Update 6-27-18
Date: Thursday, August 02, 2018 5:09:26 PM

Thanks, Mike. No objections.

Peter

From: Michael.Coram@ghd.com [mailto:Michael.Coram@ghd.com]
Sent: Thursday, August 02, 2018 2:01 PM
To: Ramanauskas, Peter <ramanauskas.peter@epa.gov>
Cc: Tom.Kinney@ghd.com; Dave Favero <dfavero@racertrust.org>
Subject: RE: PCC-Validation - Update 6-27-18

Good afternoon Peter,

Regarding the former PCC-Validation Site, I would like to provide an update for the PCB Delineation. Based on the results of the most recent step-out borings we exceeded 1 PPM at BH-134-18. Therefore, we propose to drill two additional delineation borings. See attached for a (draft version) map of the PCB area including previous sample locations and our proposed step-outs (red dots). Since we exceeded 1 ppm at the 4-6 interval, we plan to sample the 2-4, 4-6 and 6-8 intervals at the two proposed locations. Please review the locations and respond if scope is acceptable or if you require additional data-points.

Thanks,

Michael Coram, CPG

GHD

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From: Ramanauskas, Peter <ramanauskas.peter@epa.gov>
Sent: Wednesday, June 27, 2018 3:28 PM
To: Michael Coram <Michael.Coram@ghd.com>
Cc: Thomas Kinney <Tom.Kinney@ghd.com>; Dave Favero <dfavero@racertrust.org>; Jeff Lanier <Jeff.Lanier@sme-usa.com>; Brad Oleshansky (brad@m1concourse.com) (brad@m1concourse.com) <brad@m1concourse.com>
Subject: RE: PCC-Validation - Update 6-27-18

Thanks, Mike. No objections to the proposed scope for additional borings.

Peter

From: Michael.Coram@ghd.com [mailto:Michael.Coram@ghd.com]
Sent: Wednesday, June 27, 2018 1:48 PM
To: Ramanauskas, Peter <ramanauskas.peter@epa.gov>
Cc: Tom.Kinney@ghd.com; Dave Favero <dfavero@racertrust.org>; Jeff Lanier <Jeff.Lanier@sme-usa.com>; Brad Oleshansky (brad@m1concourse.com) (brad@m1concourse.com) <brad@m1concourse.com>
Subject: RE: PCC-Validation - Update 6-27-18

Good afternoon Peter,

Regarding the former PCC-Validation Site I would like to provide updates for the two areas of recent investigation (**PCB Delineation** and **Groundwater Monitoring Well Installation and Sampling**).

PCB delineation:

Based on the results of the most recent step-out borings we exceeded 1 PPM at three locations (BH-127-18, BH-128-18 and BH-129-81). Therefore we propose to install five additional delineation borings. See attached for a close up map of the PCB area including previous sample locations and our proposed step-outs. Also, attached is a table with current and previous 2018 PCB results. The approach is the same as previous, we will sample the interval that contained PCBs above 1 ppm and both the intervals above and below the interval(s) containing above 1 ppm. Intervals are included on the map and summarized below:

<u>Proposed Boring</u>	<u>Description and Exceeded Interval</u>	<u>Sample Interval in ft bgs</u>
BH-132-18	West of BH-127-18 (2-4)	0-2, 2-4, 4-6
BH-133-18	North of BH-127-18 (2-4)	0-2, 2-4, 4-6
BH-134-18	East of BH-127-18 (2-4) and north of BH-128-18 (6-8)	0-2, 2-4, 4-6, 6-8, 8-10
BH-135-18	East of BH-128-18 (6-8)	4-6, 6-8, 8-10
BH-136-18	East of BH-129-18 (2-4)	0-2, 2-4, 4-6

Please review the locations and respond if scope is acceptable or if you require additional data-points.

-

Groundwater Monitoring Well Installation and Sampling:

Regarding the recent monitoring well installation and sampling, we completed the scope of work except at two monitoring wells (MW21-07 and MW79-12). Utilities were present near MW21-07 and we had refusal at MW79-12. Therefore, we will re-locate the two wells to new locations and attempt to install during the next phase of well installation. Most wells had sufficient groundwater except MW38-07 (which is consist with historical water levels). We attempted to bore deeper at MW38-07 but there was not a sufficient saturated zone encountered. Results from wells sampled were all consistent or less than previous results. I will summarize the well installation and results in a report soon.

Feel free to give me a call with any questions.

Thanks,

Michael Coram, CPG

GHD

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[WATER](#) | [ENERGY & RESOURCES](#) | [ENVIRONMENT](#) | [PROPERTY & BUILDINGS](#) | [TRANSPORTATION](#)

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From: Ramanauskas, Peter <ramanauskas.peter@epa.gov>

Sent: Friday, May 18, 2018 12:49 PM

To: Dave Favero <dfavero@racertrust.org>

Cc: Michael Coram <Michael.Coram@ghd.com>; Thomas Kinney <Tom.Kinney@ghd.com>

Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Thank you for the update, Dave. No objections to your proposed sampling.

Peter

From: Dave Favero [<mailto:dfavero@racertrust.org>]
Sent: Friday, May 18, 2018 9:08 AM
To: Ramanauskas, Peter <ramanauskas.peter@epa.gov>
Cc: Mike Coram, GHD <Michael.Coram@ghd.com>; Tom Kinney, GHD <tom.kinney@ghd.com>
Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Hi Peter,

Please see the attached Excel file that includes the results of the recently completed sampling that had the objective of delineating PCBs to below 1 ppm. Unfortunately the 3 easternmost sample locations contained PCBs above 1 ppm up to ~6 ppm in one or more sampling intervals. In order to continue delineation efforts we are proposing 5 step out boring locations. Please see attached figure that shows the general locations of the proposed borings. The proposed sampling intervals are also identified on the figure. The approach is to sample the interval that contained PCBs above 1 ppm and both the intervals above and below the interval(s) containing above 1 ppm.

Mike has scheduled well installation beginning on 5/29 and if acceptable to you we would also like to complete the proposed additional sampling at that time.

Please let us know if you have any comments or would like to discuss, or if you approve the proposed sampling.

Thank you,
David Favero
Deputy Cleanup Manager - Michigan

RACER | 500 Woodward Avenue, Suite 2650 | Detroit, MI 48226 | dfavero@racertrust.org | direct line – 734.879.9525 | c – 217.741.6235 | www.racertrust.org

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From: Ramanauskas, Peter [<mailto:ramanauskas.peter@epa.gov>]
Sent: Monday, April 16, 2018 3:29 PM
To: Dave Favero <dfavero@racertrust.org>
Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Hi Dave,

Thanks for the revised document. Still good to go for Wednesday. Can you let me know where to meet you? I plan to leave before 8 am Central if possible and it usually takes me around 5 hours to get up there.

Thanks,
Peter

From: Dave Favero [<mailto:dfavero@racertrust.org>]

Sent: Monday, April 16, 2018 2:16 PM

To: Ramanauskas, Peter <ramanauskas.peter@epa.gov>

Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Peter,

PDF of the final package is attached. See you on Wednesday afternoon at M1 or let me know if any conflicts have come up.

Thank you,

David Favero

Deputy Cleanup Manager - Michigan

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From: Ramanauskas, Peter [<mailto:ramanauskas.peter@epa.gov>]

Sent: Wednesday, March 14, 2018 9:43 AM

To: Michael.Coram@ghd.com

Cc: Dave Favero <dfavero@racertrust.org>; Grant Trigger <gtrigger@racertrust.org>; Tom.Kinney@ghd.com; cctofiling@croworld.com

Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Thanks, Mike. The edited text looks good.

Peter

From: Michael.Coram@ghd.com [<mailto:Michael.Coram@ghd.com>]

Sent: Wednesday, March 14, 2018 8:34 AM

To: Ramanauskas, Peter <ramanauskas.peter@epa.gov>

Cc: Dave Favero <dfavero@racertrust.org>; Grant Trigger <gtrigger@racertrust.org>; Tom.Kinney@ghd.com; cctofiling@croworld.com

Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Good morning Peter,

See attached for the updated text with redline edits to further clarify the rationale for sampling depth intervals. Please review, and let me know if you have any questions. There are no changes to the tables/figures. Let me know if you would like me to re-send the tables/figures.

Thanks,

Michael Coram, CPG

GHD

T: +1 248 893 3420 | M: +1 248 390 5748 | E: Michael.Coram@ghd.com

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

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Please consider our environment before printing this email

From: Ramanauskas, Peter [<mailto:ramanauskas.peter@epa.gov>]
Sent: Tuesday, March 13, 2018 4:23 PM
To: Michael Coram <Michael.Coram@ghd.com>
Cc: Dave Favero <dfavero@racertrust.org>; Grant Trigger <gtrigger@racertrust.org>; Thomas Kinney <Tom.Kinney@ghd.com>; cctofiling@croworld.com
Subject: RE: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Thank you, Mike.

I don't need a Word version. My only comment is that if they stated purpose/objective of the SAP is to delineate to < 1 ppm, but you aren't planning to collect an interval deeper than 14 feet in spite of the elevated presence at the 12 to 14 foot interval of BH72-08, you need to restate the objective or add deeper samples.

Thanks,
Peter

From: Michael.Coram@ghd.com [<mailto:Michael.Coram@ghd.com>]
Sent: Tuesday, March 13, 2018 2:26 PM
To: Ramanauskas, Peter <ramanauskas.peter@epa.gov>
Cc: Dave Favero <dfavero@racertrust.org>; Grant Trigger <gtrigger@racertrust.org>; Tom.Kinney@ghd.com; cctofiling@croworld.com
Subject: PCC-Validation - DRAFT PCB Sampling and Analysis Plan ~COR-017322-03~

Good afternoon Peter,

See attached for the DRAFT PCB Sampling and Analysis Plan for the PCC-Validation Site. The proposed sampling locations and intervals are consistent with last Wednesday's (03-7-18) conference call between the EPA, RACER and GHD. Please review and let me know if you would like a word version to mark-up.

Thanks,

Michael Coram, CPG

GHD

T: +1 248 893 3420 | M: +1 248 390 5748 | E: Michael.Coram@ghd.com
26850 Haggerty Road, Farmington Hills, Michigan 48331 USA www.ghd.com
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Attachment B

Laboratory Analytical Reports (2018 Only)

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: 240-94866-1

Client Project/Site: 17322A-T06, PCC Validation

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: James Abston



Authorized for release by:

5/9/2018 10:40:53 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.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.

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Case Narrative

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Job ID: 240-94866-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-94866-1

Comments

No additional comments.

Receipt

The samples were received on 5/1/2018 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

GC Semi VOA

Method(s) 8082A: The following samples were diluted due to abundance of target analytes: SO-17322-043018-DR-001 (240-94866-1), SO-17322-043018-DR-008 (240-94866-8) and SO-17322-043018-DR-016 (240-94866-16). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Method(s) 8082A: Surrogate Decachlorobiphenyl recovery for the following samples were outside control limits: SO-17322-043018-DR-007 (240-94866-7), SO-17322-043018-DR-009 (240-94866-9), SO-17322-043018-DR-011 (240-94866-11) and (240-94866-B-20-C MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: SO-17322-043018-DR-001 (240-94866-1), SO-17322-043018-DR-002 (240-94866-2), SO-17322-043018-DR-003 (240-94866-3), SO-17322-043018-DR-004 (240-94866-4), SO-17322-043018-DR-008 (240-94866-8), SO-17322-043018-DR-009 (240-94866-9), SO-17322-043018-DR-010 (240-94866-10), SO-17322-043018-DR-012 (240-94866-12), SO-17322-043018-DR-013 (240-94866-13), SO-17322-043018-DR-014 (240-94866-14), SO-17322-043018-DR-017 (240-94866-17) and SO-17322-043018-DR-019 (240-94866-19). 3560343, 3449340, 3361890.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: SO-17322-043018-DR-021 (240-94866-21), SO-17322-043018-DR-022 (240-94866-22), SO-17322-043018-DR-028 (240-94866-28), SO-17322-043018-DR-030 (240-94866-30), SO-17322-043018-DR-034 (240-94866-34), SO-17322-043018-DR-035 (240-94866-35), SO-17322-043018-DR-036 (240-94866-36), SO-17322-043018-DR-039 (240-94866-39), SO-17322-043018-DR-040 (240-94866-40), (240-94866-B-22-B MS) and (240-94866-B-22-C MSD). 3560343, 3449340, 3361890.

Method(s) 8082A: Surrogate recoveries for the following samples were outside control limits: SO-17322-043018-DR-045 (240-94866-45) and SO-17322-043018-DR-046 (240-94866-46). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: SO-17322-043018-DR-041 (240-94866-41), SO-17322-043018-DR-043 (240-94866-43), SO-17322-043018-DR-044 (240-94866-44), SO-17322-043018-DR-045 (240-94866-45), SO-17322-043018-DR-046 (240-94866-46), (240-94866-B-44-B MS) and (240-94866-B-44-C MSD). 3560343, 3449340, 3361890.

Method(s) 8082A: The following samples appear 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: SO-17322-043018-DR-046 (240-94866-46). The samples have been quantified and reported using the best overall Aroclor/standard pattern match.

Method(s) 8082A: The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: SO-17322-043018-DR-013 (240-94866-13). 3560341, 3449341, 3361891.

Method(s) 8082A: The following sample required a Silica Gel clean-up, via EPA Method 3630C, to reduce matrix interferences: SO-17322-043018-DR-013 (240-94866-13). 3515664

Method(s) 8082A: The following sample was diluted due to the nature of the sample matrix: SO-17322-043018-DR-013 (240-94866-13). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

Case Narrative

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Job ID: 240-94866-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

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

General Chemistry

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

Organic Prep

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

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Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

Glossary

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-94866-1	SO-17322-043018-DR-001	Solid	04/30/18 08:25	05/01/18 10:00
240-94866-2	SO-17322-043018-DR-002	Solid	04/30/18 08:27	05/01/18 10:00
240-94866-3	SO-17322-043018-DR-003	Solid	04/30/18 08:33	05/01/18 10:00
240-94866-4	SO-17322-043018-DR-004	Solid	04/30/18 08:35	05/01/18 10:00
240-94866-5	SO-17322-043018-DR-005	Solid	04/30/18 08:37	05/01/18 10:00
240-94866-6	SO-17322-043018-DR-006	Solid	04/30/18 08:43	05/01/18 10:00
240-94866-7	SO-17322-043018-DR-007	Solid	04/30/18 08:45	05/01/18 10:00
240-94866-8	SO-17322-043018-DR-008	Solid	04/30/18 08:55	05/01/18 10:00
240-94866-9	SO-17322-043018-DR-009	Solid	04/30/18 08:57	05/01/18 10:00
240-94866-10	SO-17322-043018-DR-010	Solid	04/30/18 09:00	05/01/18 10:00
240-94866-11	SO-17322-043018-DR-011	Solid	04/30/18 09:05	05/01/18 10:00
240-94866-12	SO-17322-043018-DR-012	Solid	04/30/18 09:08	05/01/18 10:00
240-94866-13	SO-17322-043018-DR-013	Solid	04/30/18 09:10	05/01/18 10:00
240-94866-14	SO-17322-043018-DR-014	Solid	04/30/18 09:20	05/01/18 10:00
240-94866-15	SO-17322-043018-DR-015	Solid	04/30/18 09:22	05/01/18 10:00
240-94866-16	SO-17322-043018-DR-016	Solid	04/30/18 09:25	05/01/18 10:00
240-94866-17	SO-17322-043018-DR-017	Solid	04/30/18 09:27	05/01/18 10:00
240-94866-18	SO-17322-043018-DR-018	Solid	04/30/18 09:30	05/01/18 10:00
240-94866-19	SO-17322-043018-DR-019	Solid	04/30/18 09:33	05/01/18 10:00
240-94866-20	SO-17322-043018-DR-020	Solid	04/30/18 09:35	05/01/18 10:00
240-94866-21	SO-17322-043018-DR-021	Solid	04/30/18 09:45	05/01/18 10:00
240-94866-22	SO-17322-043018-DR-022	Solid	04/30/18 09:50	05/01/18 10:00
240-94866-23	SO-17322-043018-DR-023	Solid	04/30/18 09:53	05/01/18 10:00
240-94866-24	SO-17322-043018-DR-024	Solid	04/30/18 09:55	05/01/18 10:00
240-94866-25	SO-17322-043018-DR-025	Solid	04/30/18 10:00	05/01/18 10:00
240-94866-26	SO-17322-043018-DR-026	Solid	04/30/18 10:10	05/01/18 10:00
240-94866-27	SO-17322-043018-DR-027	Solid	04/30/18 10:12	05/01/18 10:00
240-94866-28	SO-17322-043018-DR-028	Solid	04/30/18 10:17	05/01/18 10:00
240-94866-29	SO-17322-043018-DR-029	Solid	04/30/18 10:20	05/01/18 10:00
240-94866-30	SO-17322-043018-DR-030	Solid	04/30/18 10:23	05/01/18 10:00
240-94866-31	SO-17322-043018-DR-031	Solid	04/30/18 10:25	05/01/18 10:00
240-94866-32	SO-17322-043018-DR-032	Solid	04/30/18 10:27	05/01/18 10:00
240-94866-33	SO-17322-043018-DR-033	Solid	04/30/18 10:40	05/01/18 10:00
240-94866-34	SO-17322-043018-DR-034	Solid	04/30/18 10:42	05/01/18 10:00
240-94866-35	SO-17322-043018-DR-035	Solid	04/30/18 10:47	05/01/18 10:00
240-94866-36	SO-17322-043018-DR-036	Solid	04/30/18 10:50	05/01/18 10:00
240-94866-37	SO-17322-043018-DR-037	Solid	04/30/18 10:53	05/01/18 10:00
240-94866-38	SO-17322-043018-DR-038	Solid	04/30/18 10:55	05/01/18 10:00
240-94866-39	SO-17322-043018-DR-039	Solid	04/30/18 11:00	05/01/18 10:00
240-94866-40	SO-17322-043018-DR-040	Solid	04/30/18 11:05	05/01/18 10:00
240-94866-41	SO-17322-043018-DR-041	Solid	04/30/18 11:07	05/01/18 10:00
240-94866-42	SO-17322-043018-DR-042	Solid	04/30/18 11:10	05/01/18 10:00
240-94866-43	SO-17322-043018-DR-043	Solid	04/30/18 11:12	05/01/18 10:00
240-94866-44	SO-17322-043018-DR-044	Solid	04/30/18 11:25	05/01/18 10:00
240-94866-45	SO-17322-043018-DR-045	Solid	04/30/18 11:30	05/01/18 10:00
240-94866-46	SO-17322-043018-DR-046	Solid	04/30/18 11:32	05/01/18 10:00
240-94866-47	SO-17322-043018-DR-047	Solid	04/30/18 11:35	05/01/18 10:00
240-94866-48	SO-17322-043018-DR-048	Solid	04/30/18 11:40	05/01/18 10:00
240-94866-49	SO-17322-043018-DR-049	Solid	04/30/18 11:42	05/01/18 10:00

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-001

Lab Sample ID: 240-94866-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	4200		280	130	ug/Kg	5	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-002

Lab Sample ID: 240-94866-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	100		55	25	ug/Kg	1	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-003

Lab Sample ID: 240-94866-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	46	J	58	27	ug/Kg	1	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-004

Lab Sample ID: 240-94866-4

No Detections.

Client Sample ID: SO-17322-043018-DR-005

Lab Sample ID: 240-94866-5

No Detections.

Client Sample ID: SO-17322-043018-DR-006

Lab Sample ID: 240-94866-6

No Detections.

Client Sample ID: SO-17322-043018-DR-007

Lab Sample ID: 240-94866-7

No Detections.

Client Sample ID: SO-17322-043018-DR-008

Lab Sample ID: 240-94866-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	4200		280	130	ug/Kg	5	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-009

Lab Sample ID: 240-94866-9

No Detections.

Client Sample ID: SO-17322-043018-DR-010

Lab Sample ID: 240-94866-10

No Detections.

Client Sample ID: SO-17322-043018-DR-011

Lab Sample ID: 240-94866-11

No Detections.

Client Sample ID: SO-17322-043018-DR-012

Lab Sample ID: 240-94866-12

No Detections.

Client Sample ID: SO-17322-043018-DR-013

Lab Sample ID: 240-94866-13

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-014

Lab Sample ID: 240-94866-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	110		55	26	ug/Kg	1	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-015

Lab Sample ID: 240-94866-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	3000		530	240	ug/Kg	10	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-016

Lab Sample ID: 240-94866-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	5800		280	130	ug/Kg	5	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-017

Lab Sample ID: 240-94866-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	160		60	28	ug/Kg	1	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-018

Lab Sample ID: 240-94866-18

No Detections.

Client Sample ID: SO-17322-043018-DR-019

Lab Sample ID: 240-94866-19

No Detections.

Client Sample ID: SO-17322-043018-DR-020

Lab Sample ID: 240-94866-20

No Detections.

Client Sample ID: SO-17322-043018-DR-021

Lab Sample ID: 240-94866-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	170		56	26	ug/Kg	1	☼	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-022

Lab Sample ID: 240-94866-22

No Detections.

Client Sample ID: SO-17322-043018-DR-023

Lab Sample ID: 240-94866-23

No Detections.

Client Sample ID: SO-17322-043018-DR-024

Lab Sample ID: 240-94866-24

No Detections.

Client Sample ID: SO-17322-043018-DR-025

Lab Sample ID: 240-94866-25

No Detections.

Client Sample ID: SO-17322-043018-DR-026

Lab Sample ID: 240-94866-26

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-026 (Continued)

Lab Sample ID: 240-94866-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	310		56	26	ug/Kg	1		✳	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-027

Lab Sample ID: 240-94866-27

No Detections.

Client Sample ID: SO-17322-043018-DR-028

Lab Sample ID: 240-94866-28

No Detections.

Client Sample ID: SO-17322-043018-DR-029

Lab Sample ID: 240-94866-29

No Detections.

Client Sample ID: SO-17322-043018-DR-030

Lab Sample ID: 240-94866-30

No Detections.

Client Sample ID: SO-17322-043018-DR-031

Lab Sample ID: 240-94866-31

No Detections.

Client Sample ID: SO-17322-043018-DR-032

Lab Sample ID: 240-94866-32

No Detections.

Client Sample ID: SO-17322-043018-DR-033

Lab Sample ID: 240-94866-33

No Detections.

Client Sample ID: SO-17322-043018-DR-034

Lab Sample ID: 240-94866-34

No Detections.

Client Sample ID: SO-17322-043018-DR-035

Lab Sample ID: 240-94866-35

No Detections.

Client Sample ID: SO-17322-043018-DR-036

Lab Sample ID: 240-94866-36

No Detections.

Client Sample ID: SO-17322-043018-DR-037

Lab Sample ID: 240-94866-37

No Detections.

Client Sample ID: SO-17322-043018-DR-038

Lab Sample ID: 240-94866-38

No Detections.

Client Sample ID: SO-17322-043018-DR-039

Lab Sample ID: 240-94866-39

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-039 (Continued)

Lab Sample ID: 240-94866-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	260		57	26	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-040

Lab Sample ID: 240-94866-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	330		57	26	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-041

Lab Sample ID: 240-94866-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	31	J	59	27	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-042

Lab Sample ID: 240-94866-42

No Detections.

Client Sample ID: SO-17322-043018-DR-043

Lab Sample ID: 240-94866-43

No Detections.

Client Sample ID: SO-17322-043018-DR-044

Lab Sample ID: 240-94866-44

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	390		59	27	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-045

Lab Sample ID: 240-94866-45

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	55	J	58	27	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: SO-17322-043018-DR-046

Lab Sample ID: 240-94866-46

No Detections.

Client Sample ID: SO-17322-043018-DR-047

Lab Sample ID: 240-94866-47

No Detections.

Client Sample ID: SO-17322-043018-DR-048

Lab Sample ID: 240-94866-48

No Detections.

Client Sample ID: SO-17322-043018-DR-049

Lab Sample ID: 240-94866-49

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
3540C	Soxhlet Extraction	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-001

Date Collected: 04/30/18 08:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-1

Matrix: Solid

Percent Solids: 92.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	280	U	280	120	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5
Aroclor-1221	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5
Aroclor-1232	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5
Aroclor-1242	280	U	280	100	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5
Aroclor-1248	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5
Aroclor-1254	4200		280	130	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5
Aroclor-1260	280	U	280	120	ug/Kg	☼	05/02/18 12:18	05/03/18 20:51	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	92		14 - 128	05/02/18 12:18	05/03/18 20:51	5
DCB Decachlorobiphenyl	149	X	10 - 132	05/02/18 12:18	05/03/18 20:51	5

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-002

Date Collected: 04/30/18 08:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-2

Matrix: Solid

Percent Solids: 90.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1
Aroclor-1254	100		55	25	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/03/18 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		14 - 128	05/02/18 12:18	05/03/18 21:09	1
DCB Decachlorobiphenyl	116		10 - 132	05/02/18 12:18	05/03/18 21:09	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-003

Date Collected: 04/30/18 08:33

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-3

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1
Aroclor-1254	46	J	58	27	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	05/02/18 12:18	05/03/18 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		14 - 128	05/02/18 12:18	05/03/18 21:28	1
DCB Decachlorobiphenyl	129		10 - 132	05/02/18 12:18	05/03/18 21:28	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-004

Date Collected: 04/30/18 08:35

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-4

Matrix: Solid

Percent Solids: 89.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Aroclor-1242	54	U	54	20	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Aroclor-1254	54	U	54	25	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	05/02/18 12:18	05/03/18 21:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	73		14 - 128				05/02/18 12:18	05/03/18 21:46	1
DCB Decachlorobiphenyl	88		10 - 132				05/02/18 12:18	05/03/18 21:46	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-005

Date Collected: 04/30/18 08:37

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-5

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Aroclor-1242	54	U	54	20	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Aroclor-1254	54	U	54	25	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	05/02/18 12:18	05/03/18 22:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		14 - 128				05/02/18 12:18	05/03/18 22:04	1
DCB Decachlorobiphenyl	121		10 - 132				05/02/18 12:18	05/03/18 22:04	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-006

Date Collected: 04/30/18 08:43

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-6

Matrix: Solid

Percent Solids: 88.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/03/18 22:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	104		14 - 128	05/02/18 12:18	05/03/18 22:23	1
DCB Decachlorobiphenyl	110	p	10 - 132	05/02/18 12:18	05/03/18 22:23	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-007

Date Collected: 04/30/18 08:45

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-7

Matrix: Solid

Percent Solids: 89.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/03/18 22:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	106		14 - 128				05/02/18 12:18	05/03/18 22:41	1
DCB Decachlorobiphenyl	152	p X	10 - 132				05/02/18 12:18	05/03/18 22:41	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-008

Date Collected: 04/30/18 08:55

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-8

Matrix: Solid

Percent Solids: 90.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	280	U	280	120	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5
Aroclor-1221	280	U	280	140	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5
Aroclor-1232	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5
Aroclor-1242	280	U	280	110	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5
Aroclor-1248	280	U	280	140	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5
Aroclor-1254	4200		280	130	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5
Aroclor-1260	280	U	280	120	ug/Kg	☼	05/02/18 12:18	05/03/18 22:59	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	86		14 - 128	05/02/18 12:18	05/03/18 22:59	5
DCB Decachlorobiphenyl	268	p X	10 - 132	05/02/18 12:18	05/03/18 22:59	5

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-009

Date Collected: 04/30/18 08:57

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-9

Matrix: Solid

Percent Solids: 83.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Aroclor-1254	58	U	58	27	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	05/02/18 12:18	05/03/18 23:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	85		14 - 128				05/02/18 12:18	05/03/18 23:18	1
DCB Decachlorobiphenyl	138	X	10 - 132				05/02/18 12:18	05/03/18 23:18	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-010

Date Collected: 04/30/18 09:00

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-10

Matrix: Solid

Percent Solids: 84.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	25	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1
Aroclor-1254	58	U	58	27	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1
Aroclor-1260	58	U	58	25	ug/Kg	☼	05/02/18 12:18	05/03/18 23:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	85		14 - 128	05/02/18 12:18	05/03/18 23:36	1
DCB Decachlorobiphenyl	102		10 - 132	05/02/18 12:18	05/03/18 23:36	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-011

Date Collected: 04/30/18 09:05

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-11

Matrix: Solid

Percent Solids: 85.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	25	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1
Aroclor-1254	56	U	56	26	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1
Aroclor-1260	56	U	56	25	ug/Kg	☼	05/02/18 12:18	05/03/18 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	111		14 - 128	05/02/18 12:18	05/03/18 23:55	1
DCB Decachlorobiphenyl	136	X	10 - 132	05/02/18 12:18	05/03/18 23:55	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-012

Date Collected: 04/30/18 09:08

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-12

Matrix: Solid

Percent Solids: 88.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59	26	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1
Aroclor-1221	59	U	59	28	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1
Aroclor-1232	59	U	59	27	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1
Aroclor-1242	59	U	59	22	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1
Aroclor-1248	59	U	59	28	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1
Aroclor-1254	59	U	59	27	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1
Aroclor-1260	59	U	59	26	ug/Kg	☼	05/02/18 12:18	05/04/18 00:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	86		14 - 128	05/02/18 12:18	05/04/18 00:13	1
DCB Decachlorobiphenyl	124	p	10 - 132	05/02/18 12:18	05/04/18 00:13	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-013

Date Collected: 04/30/18 09:10

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-13

Matrix: Solid

Percent Solids: 88.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	450	U	450	200	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8
Aroclor-1221	450	U	450	220	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8
Aroclor-1232	450	U	450	210	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8
Aroclor-1242	450	U	450	170	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8
Aroclor-1248	450	U	450	220	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8
Aroclor-1254	450	U	450	210	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8
Aroclor-1260	450	U	450	200	ug/Kg	☼	05/02/18 12:18	05/08/18 19:44	8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	474	X	14 - 128	05/02/18 12:18	05/08/18 19:44	8
DCB Decachlorobiphenyl	592	X	10 - 132	05/02/18 12:18	05/08/18 19:44	8

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-014

Date Collected: 04/30/18 09:20

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-14

Matrix: Solid

Percent Solids: 90.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1
Aroclor-1221	55	U	55	27	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1
Aroclor-1232	55	U	55	26	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1
Aroclor-1248	55	U	55	27	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1
Aroclor-1254	110		55	26	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/04/18 00:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	86		14 - 128	05/02/18 12:18	05/04/18 00:50	1
DCB Decachlorobiphenyl	117		10 - 132	05/02/18 12:18	05/04/18 00:50	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-015

Date Collected: 04/30/18 09:22

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-15

Matrix: Solid

Percent Solids: 92.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	530	U	530	230	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10
Aroclor-1221	530	U	530	250	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10
Aroclor-1232	530	U	530	240	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10
Aroclor-1242	530	U	530	200	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10
Aroclor-1248	530	U	530	250	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10
Aroclor-1254	3000		530	240	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10
Aroclor-1260	530	U	530	230	ug/Kg	☼	05/03/18 10:24	05/04/18 17:58	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		14 - 128	05/03/18 10:24	05/04/18 17:58	10
DCB Decachlorobiphenyl	126	p	10 - 132	05/03/18 10:24	05/04/18 17:58	10

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-016

Date Collected: 04/30/18 09:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-16

Matrix: Solid

Percent Solids: 92.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	280	U	280	120	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5
Aroclor-1221	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5
Aroclor-1232	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5
Aroclor-1242	280	U	280	110	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5
Aroclor-1248	280	U	280	130	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5
Aroclor-1254	5800		280	130	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5
Aroclor-1260	280	U	280	120	ug/Kg	☼	05/02/18 12:18	05/04/18 01:08	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		14 - 128	05/02/18 12:18	05/04/18 01:08	5
DCB Decachlorobiphenyl	287	X	10 - 132	05/02/18 12:18	05/04/18 01:08	5

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-017

Date Collected: 04/30/18 09:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-17

Matrix: Solid

Percent Solids: 85.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	60	U	60	26	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1
Aroclor-1221	60	U	60	29	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1
Aroclor-1232	60	U	60	28	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1
Aroclor-1242	60	U	60	23	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1
Aroclor-1248	60	U	60	29	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1
Aroclor-1254	160		60	28	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1
Aroclor-1260	60	U	60	26	ug/Kg	☼	05/02/18 12:18	05/04/18 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	97		14 - 128	05/02/18 12:18	05/04/18 01:26	1
DCB Decachlorobiphenyl	114		10 - 132	05/02/18 12:18	05/04/18 01:26	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-018

Date Collected: 04/30/18 09:30

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-18

Matrix: Solid

Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1
Aroclor-1221	55	U	55	27	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1
Aroclor-1248	55	U	55	27	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/04/18 01:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		14 - 128	05/02/18 12:18	05/04/18 01:45	1
DCB Decachlorobiphenyl	102		10 - 132	05/02/18 12:18	05/04/18 01:45	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-019

Date Collected: 04/30/18 09:33

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-19

Matrix: Solid

Percent Solids: 90.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	25	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Aroclor-1254	56	U	56	26	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Aroclor-1260	56	U	56	25	ug/Kg	☼	05/02/18 12:18	05/04/18 02:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	101		14 - 128				05/02/18 12:18	05/04/18 02:58	1
DCB Decachlorobiphenyl	132		10 - 132				05/02/18 12:18	05/04/18 02:58	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-020

Date Collected: 04/30/18 09:35

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-20

Matrix: Solid

Percent Solids: 90.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1
Aroclor-1221	55	U	55	27	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1
Aroclor-1248	55	U	55	27	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/02/18 12:18	05/04/18 03:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	98		14 - 128	05/02/18 12:18	05/04/18 03:17	1
DCB Decachlorobiphenyl	116		10 - 132	05/02/18 12:18	05/04/18 03:17	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-021

Date Collected: 04/30/18 09:45

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-21

Matrix: Solid

Percent Solids: 88.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	24	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1
Aroclor-1254	170		56	26	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1
Aroclor-1260	56	U	56	24	ug/Kg	☼	05/03/18 08:13	05/04/18 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		14 - 128	05/03/18 08:13	05/04/18 20:33	1
DCB Decachlorobiphenyl	84		10 - 132	05/03/18 08:13	05/04/18 20:33	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-022

Date Collected: 04/30/18 09:50

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-22

Matrix: Solid

Percent Solids: 87.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1
Aroclor-1221	57	U	57	27	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1
Aroclor-1248	57	U	57	27	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1
Aroclor-1254	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/04/18 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		14 - 128	05/03/18 08:13	05/04/18 20:52	1
DCB Decachlorobiphenyl	92		10 - 132	05/03/18 08:13	05/04/18 20:52	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-023

Date Collected: 04/30/18 09:53

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-23

Matrix: Solid

Percent Solids: 89.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1
Aroclor-1221	55	U	55	27	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1
Aroclor-1248	55	U	55	27	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		14 - 128	05/03/18 08:13	05/04/18 21:51	1
DCB Decachlorobiphenyl	69		10 - 132	05/03/18 08:13	05/04/18 21:51	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-024

Date Collected: 04/30/18 09:55

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-24

Matrix: Solid

Percent Solids: 84.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1
Aroclor-1221	57	U	57	27	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1
Aroclor-1248	57	U	57	27	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1
Aroclor-1254	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/04/18 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		14 - 128	05/03/18 08:13	05/04/18 22:10	1
DCB Decachlorobiphenyl	98		10 - 132	05/03/18 08:13	05/04/18 22:10	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-025

Date Collected: 04/30/18 10:00

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-25

Matrix: Solid

Percent Solids: 87.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 22:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		14 - 128	05/03/18 08:13	05/04/18 22:30	1
DCB Decachlorobiphenyl	55		10 - 132	05/03/18 08:13	05/04/18 22:30	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-026

Date Collected: 04/30/18 10:10

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-26

Matrix: Solid

Percent Solids: 87.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	25	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1
Aroclor-1254	310		56	26	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1
Aroclor-1260	56	U	56	25	ug/Kg	☼	05/03/18 08:13	05/04/18 22:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		14 - 128	05/03/18 08:13	05/04/18 22:49	1
DCB Decachlorobiphenyl	96		10 - 132	05/03/18 08:13	05/04/18 22:49	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-027

Date Collected: 04/30/18 10:12

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-27

Matrix: Solid

Percent Solids: 90.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1
Aroclor-1221	55	U	55	27	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1
Aroclor-1248	55	U	55	27	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 23:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		14 - 128	05/03/18 08:13	05/04/18 23:09	1
DCB Decachlorobiphenyl	101		10 - 132	05/03/18 08:13	05/04/18 23:09	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-028

Date Collected: 04/30/18 10:17

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-28

Matrix: Solid

Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Aroclor-1221	57	U	57	28	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Aroclor-1248	57	U	57	28	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Aroclor-1254	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/04/18 23:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	91		14 - 128				05/03/18 08:13	05/04/18 23:28	1
DCB Decachlorobiphenyl	97		10 - 132				05/03/18 08:13	05/04/18 23:28	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-029

Date Collected: 04/30/18 10:20

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-29

Matrix: Solid

Percent Solids: 90.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/04/18 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	89		14 - 128	05/03/18 08:13	05/04/18 23:48	1
DCB Decachlorobiphenyl	97		10 - 132	05/03/18 08:13	05/04/18 23:48	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-030

Date Collected: 04/30/18 10:23

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-30

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1
Aroclor-1254	58	U	58	27	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	05/03/18 08:13	05/05/18 00:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		14 - 128	05/03/18 08:13	05/05/18 00:07	1
DCB Decachlorobiphenyl	90		10 - 132	05/03/18 08:13	05/05/18 00:07	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-031

Date Collected: 04/30/18 10:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-31

Matrix: Solid

Percent Solids: 87.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/05/18 00:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		14 - 128				05/03/18 08:13	05/05/18 00:26	1
DCB Decachlorobiphenyl	88		10 - 132				05/03/18 08:13	05/05/18 00:26	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-032

Date Collected: 04/30/18 10:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-32

Matrix: Solid

Percent Solids: 88.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59	26	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1
Aroclor-1221	59	U	59	28	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1
Aroclor-1232	59	U	59	27	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1
Aroclor-1242	59	U	59	22	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1
Aroclor-1248	59	U	59	28	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1
Aroclor-1254	59	U	59	27	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1
Aroclor-1260	59	U	59	26	ug/Kg	☼	05/03/18 08:13	05/05/18 00:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	79		14 - 128	05/03/18 08:13	05/05/18 00:46	1
DCB Decachlorobiphenyl	84		10 - 132	05/03/18 08:13	05/05/18 00:46	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-033

Date Collected: 04/30/18 10:40

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-33

Matrix: Solid

Percent Solids: 89.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1
Aroclor-1242	54	U	54	21	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1
Aroclor-1254	54	U	54	25	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	05/03/18 08:13	05/05/18 01:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	93		14 - 128	05/03/18 08:13	05/05/18 01:05	1
DCB Decachlorobiphenyl	95		10 - 132	05/03/18 08:13	05/05/18 01:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-034

Date Collected: 04/30/18 10:42

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-34

Matrix: Solid

Percent Solids: 89.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1
Aroclor-1254	55	U	55	25	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	05/03/18 08:13	05/05/18 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	100		14 - 128	05/03/18 08:13	05/05/18 01:25	1
DCB Decachlorobiphenyl	102		10 - 132	05/03/18 08:13	05/05/18 01:25	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-035

Date Collected: 04/30/18 10:47

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-35

Matrix: Solid

Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	62	U	62	27	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1
Aroclor-1221	62	U	62	30	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1
Aroclor-1232	62	U	62	28	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1
Aroclor-1242	62	U	62	23	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1
Aroclor-1248	62	U	62	30	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1
Aroclor-1254	62	U	62	28	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1
Aroclor-1260	62	U	62	27	ug/Kg	☼	05/03/18 08:13	05/05/18 01:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		14 - 128	05/03/18 08:13	05/05/18 01:44	1
DCB Decachlorobiphenyl	90		10 - 132	05/03/18 08:13	05/05/18 01:44	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-036

Date Collected: 04/30/18 10:50

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-36

Matrix: Solid

Percent Solids: 84.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59	26	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1
Aroclor-1221	59	U	59	29	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1
Aroclor-1232	59	U	59	27	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1
Aroclor-1242	59	U	59	23	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1
Aroclor-1248	59	U	59	29	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1
Aroclor-1254	59	U	59	27	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1
Aroclor-1260	59	U	59	26	ug/Kg	☼	05/03/18 08:13	05/05/18 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		14 - 128	05/03/18 08:13	05/05/18 03:02	1
DCB Decachlorobiphenyl	116		10 - 132	05/03/18 08:13	05/05/18 03:02	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-037

Date Collected: 04/30/18 10:53

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-37

Matrix: Solid

Percent Solids: 89.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1
Aroclor-1242	54	U	54	21	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1
Aroclor-1254	54	U	54	25	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	05/03/18 08:13	05/05/18 03:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	95		14 - 128	05/03/18 08:13	05/05/18 03:22	1
DCB Decachlorobiphenyl	108		10 - 132	05/03/18 08:13	05/05/18 03:22	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-038

Date Collected: 04/30/18 10:55

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-38

Matrix: Solid

Percent Solids: 93.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	53	U	53	23	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1
Aroclor-1221	53	U	53	26	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1
Aroclor-1232	53	U	53	24	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1
Aroclor-1242	53	U	53	20	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1
Aroclor-1248	53	U	53	26	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1
Aroclor-1254	53	U	53	24	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1
Aroclor-1260	53	U	53	23	ug/Kg	☼	05/03/18 08:13	05/05/18 03:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	74		14 - 128	05/03/18 08:13	05/05/18 03:41	1
DCB Decachlorobiphenyl	77		10 - 132	05/03/18 08:13	05/05/18 03:41	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-039

Date Collected: 04/30/18 11:00

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-39

Matrix: Solid

Percent Solids: 88.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1
Aroclor-1221	57	U	57	27	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1
Aroclor-1248	57	U	57	27	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1
Aroclor-1254	260		57	26	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/05/18 04:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	78		14 - 128	05/03/18 08:13	05/05/18 04:01	1
DCB Decachlorobiphenyl	79		10 - 132	05/03/18 08:13	05/05/18 04:01	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-040

Date Collected: 04/30/18 11:05

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-40

Matrix: Solid

Percent Solids: 88.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1
Aroclor-1221	57	U	57	28	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1
Aroclor-1248	57	U	57	28	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1
Aroclor-1254	330		57	26	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	05/03/18 08:13	05/05/18 04:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	91		14 - 128	05/03/18 08:13	05/05/18 04:20	1
DCB Decachlorobiphenyl	85		10 - 132	05/03/18 08:13	05/05/18 04:20	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-041

Date Collected: 04/30/18 11:07

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-41

Matrix: Solid

Percent Solids: 85.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59	26	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1
Aroclor-1221	59	U	59	28	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1
Aroclor-1232	59	U	59	27	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1
Aroclor-1242	59	U	59	22	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1
Aroclor-1248	59	U	59	28	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1
Aroclor-1254	31	J	59	27	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1
Aroclor-1260	59	U	59	26	ug/Kg	☼	05/03/18 08:49	05/04/18 13:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	93		14 - 128	05/03/18 08:49	05/04/18 13:41	1
DCB Decachlorobiphenyl	112		10 - 132	05/03/18 08:49	05/04/18 13:41	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-042

Date Collected: 04/30/18 11:10

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-42

Matrix: Solid

Percent Solids: 89.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	24	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Aroclor-1254	56	U	56	26	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Aroclor-1260	56	U	56	24	ug/Kg	☼	05/03/18 08:49	05/04/18 13:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	92		14 - 128				05/03/18 08:49	05/04/18 13:59	1
DCB Decachlorobiphenyl	94		10 - 132				05/03/18 08:49	05/04/18 13:59	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-043

Date Collected: 04/30/18 11:12

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-43

Matrix: Solid

Percent Solids: 87.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Aroclor-1254	58	U	58	27	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	05/03/18 08:49	05/04/18 14:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	92		14 - 128				05/03/18 08:49	05/04/18 14:18	1
DCB Decachlorobiphenyl	99	p	10 - 132				05/03/18 08:49	05/04/18 14:18	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-044

Date Collected: 04/30/18 11:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-44

Matrix: Solid

Percent Solids: 88.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59	26	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1
Aroclor-1221	59	U	59	28	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1
Aroclor-1232	59	U	59	27	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1
Aroclor-1242	59	U	59	23	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1
Aroclor-1248	59	U	59	28	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1
Aroclor-1254	390		59	27	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1
Aroclor-1260	59	U	59	26	ug/Kg	☼	05/03/18 08:49	05/04/18 14:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		14 - 128	05/03/18 08:49	05/04/18 14:36	1
DCB Decachlorobiphenyl	101		10 - 132	05/03/18 08:49	05/04/18 14:36	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-045

Date Collected: 04/30/18 11:30

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-45

Matrix: Solid

Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1
Aroclor-1254	55	J	58	27	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	05/03/18 08:49	05/04/18 16:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		14 - 128	05/03/18 08:49	05/04/18 16:26	1
DCB Decachlorobiphenyl	163	X	10 - 132	05/03/18 08:49	05/04/18 16:26	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-046

Date Collected: 04/30/18 11:32

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-46

Matrix: Solid

Percent Solids: 93.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	25	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1
Aroclor-1254	56	U	56	26	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1
Aroclor-1260	56	U	56	25	ug/Kg	☼	05/03/18 08:49	05/04/18 16:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		14 - 128	05/03/18 08:49	05/04/18 16:44	1
DCB Decachlorobiphenyl	396	X	10 - 132	05/03/18 08:49	05/04/18 16:44	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-047

Date Collected: 04/30/18 11:35

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-47

Matrix: Solid

Percent Solids: 88.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	59	U	59	26	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1
Aroclor-1221	59	U	59	28	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1
Aroclor-1232	59	U	59	27	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1
Aroclor-1242	59	U	59	22	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1
Aroclor-1248	59	U	59	28	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1
Aroclor-1254	59	U	59	27	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1
Aroclor-1260	59	U	59	26	ug/Kg	☼	05/03/18 08:49	05/04/18 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		14 - 128	05/03/18 08:49	05/04/18 17:03	1
DCB Decachlorobiphenyl	81		10 - 132	05/03/18 08:49	05/04/18 17:03	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-048

Date Collected: 04/30/18 11:40

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-48

Matrix: Solid

Percent Solids: 89.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Aroclor-1242	54	U	54	21	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Aroclor-1254	54	U	54	25	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	05/03/18 08:49	05/04/18 17:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	93		14 - 128				05/03/18 08:49	05/04/18 17:21	1
DCB Decachlorobiphenyl	108		10 - 132				05/03/18 08:49	05/04/18 17:21	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Client Sample ID: SO-17322-043018-DR-049

Date Collected: 04/30/18 11:42

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-49

Matrix: Solid

Percent Solids: 89.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	56	U	56	25	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Aroclor-1221	56	U	56	27	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Aroclor-1232	56	U	56	26	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Aroclor-1242	56	U	56	21	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Aroclor-1248	56	U	56	27	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Aroclor-1254	56	U	56	26	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Aroclor-1260	56	U	56	25	ug/Kg	☼	05/03/18 08:49	05/04/18 17:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	85		14 - 128				05/03/18 08:49	05/04/18 17:39	1
DCB Decachlorobiphenyl	80	p	10 - 132				05/03/18 08:49	05/04/18 17:39	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-001

Date Collected: 04/30/18 08:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-1

Matrix: Solid

Percent Solids: 92.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.4		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	7.6		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-002

Date Collected: 04/30/18 08:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-2

Matrix: Solid

Percent Solids: 90.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-003

Date Collected: 04/30/18 08:33

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-3

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.7		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.3		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-004

Date Collected: 04/30/18 08:35

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-4

Matrix: Solid

Percent Solids: 89.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.4		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.6		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-005

Date Collected: 04/30/18 08:37

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-5

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-006

Date Collected: 04/30/18 08:43

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-6

Matrix: Solid

Percent Solids: 88.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.5		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.5		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-007

Date Collected: 04/30/18 08:45

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-7

Matrix: Solid

Percent Solids: 89.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-008

Date Collected: 04/30/18 08:55

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-8

Matrix: Solid

Percent Solids: 90.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-009

Date Collected: 04/30/18 08:57

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-9

Matrix: Solid

Percent Solids: 83.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.7		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	16.3		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-010

Date Collected: 04/30/18 09:00

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-10

Matrix: Solid

Percent Solids: 84.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.1		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	15.9		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-011

Date Collected: 04/30/18 09:05

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-11

Matrix: Solid

Percent Solids: 85.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.8		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	14.2		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-012

Date Collected: 04/30/18 09:08

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-12

Matrix: Solid

Percent Solids: 88.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.7		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.3		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-013

Date Collected: 04/30/18 09:10

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-13

Matrix: Solid

Percent Solids: 88.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.9		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.1		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-014

Date Collected: 04/30/18 09:20

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-14

Matrix: Solid

Percent Solids: 90.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	9.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-015

Date Collected: 04/30/18 09:22

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-15

Matrix: Solid

Percent Solids: 92.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.4		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	7.6		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-016

Date Collected: 04/30/18 09:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-16

Matrix: Solid

Percent Solids: 92.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	8.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-017

Date Collected: 04/30/18 09:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-17

Matrix: Solid

Percent Solids: 85.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	14.6		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-018

Date Collected: 04/30/18 09:30

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-18

Matrix: Solid

Percent Solids: 86.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.8		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	13.2		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-019

Date Collected: 04/30/18 09:33

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-19

Matrix: Solid

Percent Solids: 90.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.9		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	9.1		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-020

Date Collected: 04/30/18 09:35

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-20

Matrix: Solid

Percent Solids: 90.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	9.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-021

Date Collected: 04/30/18 09:45

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-21

Matrix: Solid

Percent Solids: 88.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.6		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.4		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-022

Date Collected: 04/30/18 09:50

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-22

Matrix: Solid

Percent Solids: 87.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.8		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.2		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-023

Date Collected: 04/30/18 09:53

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-23

Matrix: Solid

Percent Solids: 89.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.1		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.9		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-024

Date Collected: 04/30/18 09:55

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-24

Matrix: Solid

Percent Solids: 84.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.3		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	15.7		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-025

Date Collected: 04/30/18 10:00

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-25

Matrix: Solid

Percent Solids: 87.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.7		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.3		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-026

Date Collected: 04/30/18 10:10

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-26

Matrix: Solid

Percent Solids: 87.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-027

Date Collected: 04/30/18 10:12

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-27

Matrix: Solid

Percent Solids: 90.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-028

Date Collected: 04/30/18 10:17

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-28

Matrix: Solid

Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	16.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-029

Date Collected: 04/30/18 10:20

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-29

Matrix: Solid

Percent Solids: 90.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.4		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	9.6		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-030

Date Collected: 04/30/18 10:23

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-30

Matrix: Solid

Percent Solids: 89.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-031

Date Collected: 04/30/18 10:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-31

Matrix: Solid

Percent Solids: 87.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.9		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.1		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-032

Date Collected: 04/30/18 10:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-32

Matrix: Solid

Percent Solids: 88.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-033

Date Collected: 04/30/18 10:40

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-33

Matrix: Solid

Percent Solids: 89.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-034

Date Collected: 04/30/18 10:42

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-34

Matrix: Solid

Percent Solids: 89.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.1		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.9		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-035

Date Collected: 04/30/18 10:47

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-35

Matrix: Solid

Percent Solids: 84.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	16.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-036

Date Collected: 04/30/18 10:50

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-36

Matrix: Solid

Percent Solids: 84.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.3		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	15.7		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-037

Date Collected: 04/30/18 10:53

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-37

Matrix: Solid

Percent Solids: 89.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.8		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.2		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-038

Date Collected: 04/30/18 10:55

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-38

Matrix: Solid

Percent Solids: 93.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	6.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-039

Date Collected: 04/30/18 11:00

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-39

Matrix: Solid

Percent Solids: 88.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.3		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.7		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-040

Date Collected: 04/30/18 11:05

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-40

Matrix: Solid

Percent Solids: 88.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.6		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.4		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-041

Date Collected: 04/30/18 11:07

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-41

Matrix: Solid

Percent Solids: 85.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.2		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	14.8		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-042

Date Collected: 04/30/18 11:10

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-42

Matrix: Solid

Percent Solids: 89.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.5		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.5		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-043

Date Collected: 04/30/18 11:12

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-43

Matrix: Solid

Percent Solids: 87.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.8		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.2		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-044

Date Collected: 04/30/18 11:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-44

Matrix: Solid

Percent Solids: 88.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	12.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-045

Date Collected: 04/30/18 11:30

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-45

Matrix: Solid

Percent Solids: 85.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.6		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	14.4		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-046

Date Collected: 04/30/18 11:32

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-46

Matrix: Solid

Percent Solids: 93.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.4		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	6.6		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-047

Date Collected: 04/30/18 11:35

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-47

Matrix: Solid

Percent Solids: 88.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.5		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.5		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-048

Date Collected: 04/30/18 11:40

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-48

Matrix: Solid

Percent Solids: 89.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.0		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	11.0		0.1	0.1	%			05/02/18 11:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry

Client Sample ID: SO-17322-043018-DR-049

Date Collected: 04/30/18 11:42

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-49

Matrix: Solid

Percent Solids: 89.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.5		0.1	0.1	%			05/02/18 11:05	1
Percent Moisture	10.5		0.1	0.1	%			05/02/18 11:05	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

GC Semi VOA

Prep Batch: 325054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-1	SO-17322-043018-DR-001	Total/NA	Solid	3540C	
240-94866-2	SO-17322-043018-DR-002	Total/NA	Solid	3540C	
240-94866-3	SO-17322-043018-DR-003	Total/NA	Solid	3540C	
240-94866-4	SO-17322-043018-DR-004	Total/NA	Solid	3540C	
240-94866-5	SO-17322-043018-DR-005	Total/NA	Solid	3540C	
240-94866-6	SO-17322-043018-DR-006	Total/NA	Solid	3540C	
240-94866-7	SO-17322-043018-DR-007	Total/NA	Solid	3540C	
240-94866-8	SO-17322-043018-DR-008	Total/NA	Solid	3540C	
240-94866-9	SO-17322-043018-DR-009	Total/NA	Solid	3540C	
240-94866-10	SO-17322-043018-DR-010	Total/NA	Solid	3540C	
240-94866-11	SO-17322-043018-DR-011	Total/NA	Solid	3540C	
240-94866-12	SO-17322-043018-DR-012	Total/NA	Solid	3540C	
240-94866-13	SO-17322-043018-DR-013	Total/NA	Solid	3540C	
240-94866-14	SO-17322-043018-DR-014	Total/NA	Solid	3540C	
240-94866-16	SO-17322-043018-DR-016	Total/NA	Solid	3540C	
240-94866-17	SO-17322-043018-DR-017	Total/NA	Solid	3540C	
240-94866-18	SO-17322-043018-DR-018	Total/NA	Solid	3540C	
240-94866-19	SO-17322-043018-DR-019	Total/NA	Solid	3540C	
240-94866-20	SO-17322-043018-DR-020	Total/NA	Solid	3540C	
MB 240-325054/23-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-325054/24-A	Lab Control Sample	Total/NA	Solid	3540C	
240-94866-20 MS	SO-17322-043018-DR-020	Total/NA	Solid	3540C	
240-94866-20 MSD	SO-17322-043018-DR-020	Total/NA	Solid	3540C	

Prep Batch: 325163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-21	SO-17322-043018-DR-021	Total/NA	Solid	3540C	
240-94866-22	SO-17322-043018-DR-022	Total/NA	Solid	3540C	
240-94866-23	SO-17322-043018-DR-023	Total/NA	Solid	3540C	
240-94866-24	SO-17322-043018-DR-024	Total/NA	Solid	3540C	
240-94866-25	SO-17322-043018-DR-025	Total/NA	Solid	3540C	
240-94866-26	SO-17322-043018-DR-026	Total/NA	Solid	3540C	
240-94866-27	SO-17322-043018-DR-027	Total/NA	Solid	3540C	
240-94866-28	SO-17322-043018-DR-028	Total/NA	Solid	3540C	
240-94866-29	SO-17322-043018-DR-029	Total/NA	Solid	3540C	
240-94866-30	SO-17322-043018-DR-030	Total/NA	Solid	3540C	
240-94866-31	SO-17322-043018-DR-031	Total/NA	Solid	3540C	
240-94866-32	SO-17322-043018-DR-032	Total/NA	Solid	3540C	
240-94866-33	SO-17322-043018-DR-033	Total/NA	Solid	3540C	
240-94866-34	SO-17322-043018-DR-034	Total/NA	Solid	3540C	
240-94866-35	SO-17322-043018-DR-035	Total/NA	Solid	3540C	
240-94866-36	SO-17322-043018-DR-036	Total/NA	Solid	3540C	
240-94866-37	SO-17322-043018-DR-037	Total/NA	Solid	3540C	
240-94866-38	SO-17322-043018-DR-038	Total/NA	Solid	3540C	
240-94866-39	SO-17322-043018-DR-039	Total/NA	Solid	3540C	
240-94866-40	SO-17322-043018-DR-040	Total/NA	Solid	3540C	
MB 240-325163/23-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-325163/24-A	Lab Control Sample	Total/NA	Solid	3540C	
240-94866-22 MS	SO-17322-043018-DR-022	Total/NA	Solid	3540C	
240-94866-22 MSD	SO-17322-043018-DR-022	Total/NA	Solid	3540C	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

GC Semi VOA (Continued)

Prep Batch: 325187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-15	SO-17322-043018-DR-015	Total/NA	Solid	3540C	
240-94866-41	SO-17322-043018-DR-041	Total/NA	Solid	3540C	
240-94866-42	SO-17322-043018-DR-042	Total/NA	Solid	3540C	
240-94866-43	SO-17322-043018-DR-043	Total/NA	Solid	3540C	
240-94866-44	SO-17322-043018-DR-044	Total/NA	Solid	3540C	
240-94866-45	SO-17322-043018-DR-045	Total/NA	Solid	3540C	
240-94866-46	SO-17322-043018-DR-046	Total/NA	Solid	3540C	
240-94866-47	SO-17322-043018-DR-047	Total/NA	Solid	3540C	
240-94866-48	SO-17322-043018-DR-048	Total/NA	Solid	3540C	
240-94866-49	SO-17322-043018-DR-049	Total/NA	Solid	3540C	
MB 240-325187/20-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-325187/21-A	Lab Control Sample	Total/NA	Solid	3540C	
240-94866-44 MS	SO-17322-043018-DR-044	Total/NA	Solid	3540C	
240-94866-44 MSD	SO-17322-043018-DR-044	Total/NA	Solid	3540C	

Analysis Batch: 325294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-1	SO-17322-043018-DR-001	Total/NA	Solid	8082A	325054
240-94866-2	SO-17322-043018-DR-002	Total/NA	Solid	8082A	325054
240-94866-3	SO-17322-043018-DR-003	Total/NA	Solid	8082A	325054
240-94866-4	SO-17322-043018-DR-004	Total/NA	Solid	8082A	325054
240-94866-5	SO-17322-043018-DR-005	Total/NA	Solid	8082A	325054
240-94866-6	SO-17322-043018-DR-006	Total/NA	Solid	8082A	325054
240-94866-7	SO-17322-043018-DR-007	Total/NA	Solid	8082A	325054
240-94866-8	SO-17322-043018-DR-008	Total/NA	Solid	8082A	325054
240-94866-9	SO-17322-043018-DR-009	Total/NA	Solid	8082A	325054
240-94866-10	SO-17322-043018-DR-010	Total/NA	Solid	8082A	325054
240-94866-11	SO-17322-043018-DR-011	Total/NA	Solid	8082A	325054
240-94866-12	SO-17322-043018-DR-012	Total/NA	Solid	8082A	325054
240-94866-14	SO-17322-043018-DR-014	Total/NA	Solid	8082A	325054
240-94866-16	SO-17322-043018-DR-016	Total/NA	Solid	8082A	325054
240-94866-17	SO-17322-043018-DR-017	Total/NA	Solid	8082A	325054
240-94866-18	SO-17322-043018-DR-018	Total/NA	Solid	8082A	325054
240-94866-19	SO-17322-043018-DR-019	Total/NA	Solid	8082A	325054
240-94866-20	SO-17322-043018-DR-020	Total/NA	Solid	8082A	325054
MB 240-325054/23-A	Method Blank	Total/NA	Solid	8082A	325054
LCS 240-325054/24-A	Lab Control Sample	Total/NA	Solid	8082A	325054
240-94866-20 MS	SO-17322-043018-DR-020	Total/NA	Solid	8082A	325054
240-94866-20 MSD	SO-17322-043018-DR-020	Total/NA	Solid	8082A	325054

Analysis Batch: 325320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-15	SO-17322-043018-DR-015	Total/NA	Solid	8082A	325187
240-94866-41	SO-17322-043018-DR-041	Total/NA	Solid	8082A	325187
240-94866-42	SO-17322-043018-DR-042	Total/NA	Solid	8082A	325187
240-94866-43	SO-17322-043018-DR-043	Total/NA	Solid	8082A	325187
240-94866-44	SO-17322-043018-DR-044	Total/NA	Solid	8082A	325187
240-94866-45	SO-17322-043018-DR-045	Total/NA	Solid	8082A	325187
240-94866-46	SO-17322-043018-DR-046	Total/NA	Solid	8082A	325187
240-94866-47	SO-17322-043018-DR-047	Total/NA	Solid	8082A	325187
240-94866-48	SO-17322-043018-DR-048	Total/NA	Solid	8082A	325187

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

GC Semi VOA (Continued)

Analysis Batch: 325320 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-49	SO-17322-043018-DR-049	Total/NA	Solid	8082A	325187
MB 240-325187/20-A	Method Blank	Total/NA	Solid	8082A	325187
LCS 240-325187/21-A	Lab Control Sample	Total/NA	Solid	8082A	325187
240-94866-44 MS	SO-17322-043018-DR-044	Total/NA	Solid	8082A	325187
240-94866-44 MSD	SO-17322-043018-DR-044	Total/NA	Solid	8082A	325187

Analysis Batch: 325444

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-21	SO-17322-043018-DR-021	Total/NA	Solid	8082A	325163
240-94866-22	SO-17322-043018-DR-022	Total/NA	Solid	8082A	325163
240-94866-23	SO-17322-043018-DR-023	Total/NA	Solid	8082A	325163
240-94866-24	SO-17322-043018-DR-024	Total/NA	Solid	8082A	325163
240-94866-25	SO-17322-043018-DR-025	Total/NA	Solid	8082A	325163
240-94866-26	SO-17322-043018-DR-026	Total/NA	Solid	8082A	325163
240-94866-27	SO-17322-043018-DR-027	Total/NA	Solid	8082A	325163
240-94866-28	SO-17322-043018-DR-028	Total/NA	Solid	8082A	325163
240-94866-29	SO-17322-043018-DR-029	Total/NA	Solid	8082A	325163
240-94866-30	SO-17322-043018-DR-030	Total/NA	Solid	8082A	325163
240-94866-31	SO-17322-043018-DR-031	Total/NA	Solid	8082A	325163
240-94866-32	SO-17322-043018-DR-032	Total/NA	Solid	8082A	325163
240-94866-33	SO-17322-043018-DR-033	Total/NA	Solid	8082A	325163
240-94866-34	SO-17322-043018-DR-034	Total/NA	Solid	8082A	325163
240-94866-35	SO-17322-043018-DR-035	Total/NA	Solid	8082A	325163
240-94866-36	SO-17322-043018-DR-036	Total/NA	Solid	8082A	325163
240-94866-37	SO-17322-043018-DR-037	Total/NA	Solid	8082A	325163
240-94866-38	SO-17322-043018-DR-038	Total/NA	Solid	8082A	325163
240-94866-39	SO-17322-043018-DR-039	Total/NA	Solid	8082A	325163
240-94866-40	SO-17322-043018-DR-040	Total/NA	Solid	8082A	325163
MB 240-325163/23-A	Method Blank	Total/NA	Solid	8082A	325163
LCS 240-325163/24-A	Lab Control Sample	Total/NA	Solid	8082A	325163
240-94866-22 MS	SO-17322-043018-DR-022	Total/NA	Solid	8082A	325163
240-94866-22 MSD	SO-17322-043018-DR-022	Total/NA	Solid	8082A	325163

Analysis Batch: 325888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-13	SO-17322-043018-DR-013	Total/NA	Solid	8082A	325054

General Chemistry

Analysis Batch: 325028

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-1	SO-17322-043018-DR-001	Total/NA	Solid	Moisture	
240-94866-2	SO-17322-043018-DR-002	Total/NA	Solid	Moisture	
240-94866-3	SO-17322-043018-DR-003	Total/NA	Solid	Moisture	
240-94866-4	SO-17322-043018-DR-004	Total/NA	Solid	Moisture	
240-94866-5	SO-17322-043018-DR-005	Total/NA	Solid	Moisture	
240-94866-6	SO-17322-043018-DR-006	Total/NA	Solid	Moisture	
240-94866-7	SO-17322-043018-DR-007	Total/NA	Solid	Moisture	
240-94866-8	SO-17322-043018-DR-008	Total/NA	Solid	Moisture	
240-94866-9	SO-17322-043018-DR-009	Total/NA	Solid	Moisture	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

General Chemistry (Continued)

Analysis Batch: 325028 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94866-10	SO-17322-043018-DR-010	Total/NA	Solid	Moisture	
240-94866-11	SO-17322-043018-DR-011	Total/NA	Solid	Moisture	
240-94866-12	SO-17322-043018-DR-012	Total/NA	Solid	Moisture	
240-94866-13	SO-17322-043018-DR-013	Total/NA	Solid	Moisture	
240-94866-14	SO-17322-043018-DR-014	Total/NA	Solid	Moisture	
240-94866-15	SO-17322-043018-DR-015	Total/NA	Solid	Moisture	
240-94866-16	SO-17322-043018-DR-016	Total/NA	Solid	Moisture	
240-94866-17	SO-17322-043018-DR-017	Total/NA	Solid	Moisture	
240-94866-18	SO-17322-043018-DR-018	Total/NA	Solid	Moisture	
240-94866-19	SO-17322-043018-DR-019	Total/NA	Solid	Moisture	
240-94866-20	SO-17322-043018-DR-020	Total/NA	Solid	Moisture	
240-94866-21	SO-17322-043018-DR-021	Total/NA	Solid	Moisture	
240-94866-22	SO-17322-043018-DR-022	Total/NA	Solid	Moisture	
240-94866-23	SO-17322-043018-DR-023	Total/NA	Solid	Moisture	
240-94866-24	SO-17322-043018-DR-024	Total/NA	Solid	Moisture	
240-94866-25	SO-17322-043018-DR-025	Total/NA	Solid	Moisture	
240-94866-26	SO-17322-043018-DR-026	Total/NA	Solid	Moisture	
240-94866-27	SO-17322-043018-DR-027	Total/NA	Solid	Moisture	
240-94866-28	SO-17322-043018-DR-028	Total/NA	Solid	Moisture	
240-94866-29	SO-17322-043018-DR-029	Total/NA	Solid	Moisture	
240-94866-30	SO-17322-043018-DR-030	Total/NA	Solid	Moisture	
240-94866-31	SO-17322-043018-DR-031	Total/NA	Solid	Moisture	
240-94866-32	SO-17322-043018-DR-032	Total/NA	Solid	Moisture	
240-94866-33	SO-17322-043018-DR-033	Total/NA	Solid	Moisture	
240-94866-34	SO-17322-043018-DR-034	Total/NA	Solid	Moisture	
240-94866-35	SO-17322-043018-DR-035	Total/NA	Solid	Moisture	
240-94866-36	SO-17322-043018-DR-036	Total/NA	Solid	Moisture	
240-94866-37	SO-17322-043018-DR-037	Total/NA	Solid	Moisture	
240-94866-38	SO-17322-043018-DR-038	Total/NA	Solid	Moisture	
240-94866-39	SO-17322-043018-DR-039	Total/NA	Solid	Moisture	
240-94866-40	SO-17322-043018-DR-040	Total/NA	Solid	Moisture	
240-94866-41	SO-17322-043018-DR-041	Total/NA	Solid	Moisture	
240-94866-42	SO-17322-043018-DR-042	Total/NA	Solid	Moisture	
240-94866-43	SO-17322-043018-DR-043	Total/NA	Solid	Moisture	
240-94866-44	SO-17322-043018-DR-044	Total/NA	Solid	Moisture	
240-94866-45	SO-17322-043018-DR-045	Total/NA	Solid	Moisture	
240-94866-46	SO-17322-043018-DR-046	Total/NA	Solid	Moisture	
240-94866-47	SO-17322-043018-DR-047	Total/NA	Solid	Moisture	
240-94866-48	SO-17322-043018-DR-048	Total/NA	Solid	Moisture	
240-94866-49	SO-17322-043018-DR-049	Total/NA	Solid	Moisture	
240-94866-8 DU	SO-17322-043018-DR-008	Total/NA	Solid	Moisture	
240-94866-18 DU	SO-17322-043018-DR-018	Total/NA	Solid	Moisture	
240-94866-28 DU	SO-17322-043018-DR-028	Total/NA	Solid	Moisture	
240-94866-38 DU	SO-17322-043018-DR-038	Total/NA	Solid	Moisture	
240-94866-48 DU	SO-17322-043018-DR-048	Total/NA	Solid	Moisture	

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Lab Sample ID: MB 240-325054/23-A

Matrix: Solid

Analysis Batch: 325294

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 325054

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50	22	ug/Kg		05/02/18 12:18	05/04/18 02:03	1
Aroclor-1221	50	U	50	24	ug/Kg		05/02/18 12:18	05/04/18 02:03	1
Aroclor-1232	50	U	50	23	ug/Kg		05/02/18 12:18	05/04/18 02:03	1
Aroclor-1242	50	U	50	19	ug/Kg		05/02/18 12:18	05/04/18 02:03	1
Aroclor-1248	50	U	50	24	ug/Kg		05/02/18 12:18	05/04/18 02:03	1
Aroclor-1254	50	U	50	23	ug/Kg		05/02/18 12:18	05/04/18 02:03	1
Aroclor-1260	50	U	50	22	ug/Kg		05/02/18 12:18	05/04/18 02:03	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	99		14 - 128	05/02/18 12:18	05/04/18 02:03	1
DCB Decachlorobiphenyl	117	p	10 - 132	05/02/18 12:18	05/04/18 02:03	1

Lab Sample ID: LCS 240-325054/24-A

Matrix: Solid

Analysis Batch: 325294

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 325054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	1000	555		ug/Kg		55	47 - 120
Aroclor-1260	1000	659		ug/Kg		66	46 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	60		14 - 128
DCB Decachlorobiphenyl	101		10 - 132

Lab Sample ID: 240-94866-20 MS

Matrix: Solid

Analysis Batch: 325294

Client Sample ID: SO-17322-043018-DR-020

Prep Type: Total/NA

Prep Batch: 325054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	55	U	1150	758		ug/Kg	☼	66	31 - 120
Aroclor-1260	55	U F1	1150	880		ug/Kg	☼	77	21 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	71		14 - 128
DCB Decachlorobiphenyl	83	p	10 - 132

Lab Sample ID: 240-94866-20 MSD

Matrix: Solid

Analysis Batch: 325294

Client Sample ID: SO-17322-043018-DR-020

Prep Type: Total/NA

Prep Batch: 325054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor-1016	55	U	1060	939		ug/Kg	☼	89	31 - 120	21	30
Aroclor-1260	55	U F1	1060	1130		ug/Kg	☼	106	21 - 122	25	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	104		14 - 128
DCB Decachlorobiphenyl	151	X	10 - 132

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Lab Sample ID: MB 240-325163/23-A

Matrix: Solid

Analysis Batch: 325444

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 325163

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50	22	ug/Kg		05/03/18 08:13	05/05/18 02:04	1
Aroclor-1221	50	U	50	24	ug/Kg		05/03/18 08:13	05/05/18 02:04	1
Aroclor-1232	50	U	50	23	ug/Kg		05/03/18 08:13	05/05/18 02:04	1
Aroclor-1242	50	U	50	19	ug/Kg		05/03/18 08:13	05/05/18 02:04	1
Aroclor-1248	50	U	50	24	ug/Kg		05/03/18 08:13	05/05/18 02:04	1
Aroclor-1254	50	U	50	23	ug/Kg		05/03/18 08:13	05/05/18 02:04	1
Aroclor-1260	50	U	50	22	ug/Kg		05/03/18 08:13	05/05/18 02:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	112		14 - 128	05/03/18 08:13	05/05/18 02:04	1
DCB Decachlorobiphenyl	119		10 - 132	05/03/18 08:13	05/05/18 02:04	1

Lab Sample ID: LCS 240-325163/24-A

Matrix: Solid

Analysis Batch: 325444

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 325163

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	1000	949		ug/Kg		95	47 - 120
Aroclor-1260	1000	1120		ug/Kg		112	46 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	109		14 - 128
DCB Decachlorobiphenyl	112		10 - 132

Lab Sample ID: 240-94866-22 MS

Matrix: Solid

Analysis Batch: 325444

Client Sample ID: SO-17322-043018-DR-022

Prep Type: Total/NA

Prep Batch: 325163

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	57	U	1140	829		ug/Kg	☼	72	31 - 120
Aroclor-1260	57	U	1140	906		ug/Kg	☼	79	21 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	85		14 - 128
DCB Decachlorobiphenyl	85		10 - 132

Lab Sample ID: 240-94866-22 MSD

Matrix: Solid

Analysis Batch: 325444

Client Sample ID: SO-17322-043018-DR-022

Prep Type: Total/NA

Prep Batch: 325163

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016	57	U	1190	907		ug/Kg	☼	76	31 - 120	9	30
Aroclor-1260	57	U	1190	1020		ug/Kg	☼	85	21 - 122	11	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	90		14 - 128
DCB Decachlorobiphenyl	92		10 - 132

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Lab Sample ID: MB 240-325187/20-A

Matrix: Solid

Analysis Batch: 325320

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 325187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50	22	ug/Kg		05/03/18 08:49	05/04/18 15:31	1
Aroclor-1221	50	U	50	24	ug/Kg		05/03/18 08:49	05/04/18 15:31	1
Aroclor-1232	50	U	50	23	ug/Kg		05/03/18 08:49	05/04/18 15:31	1
Aroclor-1242	50	U	50	19	ug/Kg		05/03/18 08:49	05/04/18 15:31	1
Aroclor-1248	50	U	50	24	ug/Kg		05/03/18 08:49	05/04/18 15:31	1
Aroclor-1254	50	U	50	23	ug/Kg		05/03/18 08:49	05/04/18 15:31	1
Aroclor-1260	50	U	50	22	ug/Kg		05/03/18 08:49	05/04/18 15:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	82		14 - 128	05/03/18 08:49	05/04/18 15:31	1
DCB Decachlorobiphenyl	89		10 - 132	05/03/18 08:49	05/04/18 15:31	1

Lab Sample ID: LCS 240-325187/21-A

Matrix: Solid

Analysis Batch: 325320

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 325187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	1000	795		ug/Kg		80	47 - 120
Aroclor-1260	1000	976		ug/Kg		98	46 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	96		14 - 128
DCB Decachlorobiphenyl	102		10 - 132

Lab Sample ID: 240-94866-44 MS

Matrix: Solid

Analysis Batch: 325320

Client Sample ID: SO-17322-043018-DR-044

Prep Type: Total/NA

Prep Batch: 325187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	59	U	1190	869		ug/Kg	☼	73	31 - 120
Aroclor-1260	59	U	1190	1100		ug/Kg	☼	92	21 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	81		14 - 128
DCB Decachlorobiphenyl	116		10 - 132

Lab Sample ID: 240-94866-44 MSD

Matrix: Solid

Analysis Batch: 325320

Client Sample ID: SO-17322-043018-DR-044

Prep Type: Total/NA

Prep Batch: 325187

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor-1016	59	U	1130	749		ug/Kg	☼	66	31 - 120	15	30
Aroclor-1260	59	U	1130	944		ug/Kg	☼	84	21 - 122	15	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	71		14 - 128
DCB Decachlorobiphenyl	94		10 - 132

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Method: Moisture - Percent Moisture

Lab Sample ID: 240-94866-8 DU

Matrix: Solid

Analysis Batch: 325028

Client Sample ID: SO-17322-043018-DR-008

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	90.0		90.8		%		0.9	20
Percent Moisture	10		9.2		%		9	20

Lab Sample ID: 240-94866-18 DU

Matrix: Solid

Analysis Batch: 325028

Client Sample ID: SO-17322-043018-DR-018

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	86.8		87.4		%		0.7	20
Percent Moisture	13.2		12.6		%		5	20

Lab Sample ID: 240-94866-28 DU

Matrix: Solid

Analysis Batch: 325028

Client Sample ID: SO-17322-043018-DR-028

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	84.0		85.1		%		1	20
Percent Moisture	16.0		14.9		%		7	20

Lab Sample ID: 240-94866-38 DU

Matrix: Solid

Analysis Batch: 325028

Client Sample ID: SO-17322-043018-DR-038

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	93.2		89.7		%		4	20
Percent Moisture	6.8		10.3	F3	%		40	20

Lab Sample ID: 240-94866-48 DU

Matrix: Solid

Analysis Batch: 325028

Client Sample ID: SO-17322-043018-DR-048

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.0		89.4		%		0.5	20
Percent Moisture	11.0		10.6		%		4	20

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (14-128)	TCX2 (14-128)	DCBP1 (10-132)	DCBP2 (10-132)
240-94866-1	SO-17322-043018-DR-001		92		149 X
240-94866-2	SO-17322-043018-DR-002		95		116
240-94866-3	SO-17322-043018-DR-003		101		129
240-94866-4	SO-17322-043018-DR-004		73		88
240-94866-5	SO-17322-043018-DR-005		90		121
240-94866-6	SO-17322-043018-DR-006		104		110 p
240-94866-7	SO-17322-043018-DR-007		106		152 p X
240-94866-8	SO-17322-043018-DR-008		86		268 p X
240-94866-9	SO-17322-043018-DR-009		85		138 X
240-94866-10	SO-17322-043018-DR-010		85		102
240-94866-11	SO-17322-043018-DR-011		111		136 X
240-94866-12	SO-17322-043018-DR-012		86		124 p
240-94866-13	SO-17322-043018-DR-013		474 X		592 X
240-94866-14	SO-17322-043018-DR-014		86		117
240-94866-15	SO-17322-043018-DR-015		95		126 p
240-94866-16	SO-17322-043018-DR-016		94		287 X
240-94866-17	SO-17322-043018-DR-017		97		114
240-94866-18	SO-17322-043018-DR-018		90		102
240-94866-19	SO-17322-043018-DR-019	100	101	137 X	132
240-94866-20	SO-17322-043018-DR-020		98		116
240-94866-20 MS	SO-17322-043018-DR-020		71		83 p
240-94866-20 MSD	SO-17322-043018-DR-020		104		151 X
240-94866-21	SO-17322-043018-DR-021		83		84
240-94866-22	SO-17322-043018-DR-022		94		92
240-94866-22 MS	SO-17322-043018-DR-022		85		85
240-94866-22 MSD	SO-17322-043018-DR-022		90		92
240-94866-23	SO-17322-043018-DR-023		100		69
240-94866-24	SO-17322-043018-DR-024		84		98
240-94866-25	SO-17322-043018-DR-025		95		55
240-94866-26	SO-17322-043018-DR-026		94		96
240-94866-27	SO-17322-043018-DR-027		96		101
240-94866-28	SO-17322-043018-DR-028		91		97
240-94866-29	SO-17322-043018-DR-029		89		97
240-94866-30	SO-17322-043018-DR-030		84		90
240-94866-31	SO-17322-043018-DR-031		84		88
240-94866-32	SO-17322-043018-DR-032		79		84
240-94866-33	SO-17322-043018-DR-033		93		95
240-94866-34	SO-17322-043018-DR-034		100		102
240-94866-35	SO-17322-043018-DR-035		82		90
240-94866-36	SO-17322-043018-DR-036		99		116
240-94866-37	SO-17322-043018-DR-037		95		108
240-94866-38	SO-17322-043018-DR-038		74		77
240-94866-39	SO-17322-043018-DR-039		78		79
240-94866-40	SO-17322-043018-DR-040		91		85
240-94866-41	SO-17322-043018-DR-041		93		112
240-94866-42	SO-17322-043018-DR-042		92		94
240-94866-43	SO-17322-043018-DR-043		92		99 p
240-94866-44	SO-17322-043018-DR-044		72		101
240-94866-44 MS	SO-17322-043018-DR-044		81		116

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		TCX1 (14-128)	TCX2 (14-128)	DCBP1 (10-132)	DCBP2 (10-132)
240-94866-44 MSD	SO-17322-043018-DR-044		71		94
240-94866-45	SO-17322-043018-DR-045		82		163 X
240-94866-46	SO-17322-043018-DR-046		96		396 X
240-94866-47	SO-17322-043018-DR-047		72		81
240-94866-48	SO-17322-043018-DR-048		93		108
240-94866-49	SO-17322-043018-DR-049		85		80 p
LCS 240-325054/24-A	Lab Control Sample		60		101
LCS 240-325163/24-A	Lab Control Sample		109		112
LCS 240-325187/21-A	Lab Control Sample		96		102
MB 240-325054/23-A	Method Blank		99		117 p
MB 240-325163/23-A	Method Blank		112		119
MB 240-325187/20-A	Method Blank		82		89

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-001

Date Collected: 04/30/18 08:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-001

Date Collected: 04/30/18 08:25

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-1

Matrix: Solid

Percent Solids: 92.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		5	325294	05/03/18 20:51	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-002

Date Collected: 04/30/18 08:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-002

Date Collected: 04/30/18 08:27

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-2

Matrix: Solid

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 21:09	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-003

Date Collected: 04/30/18 08:33

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-003

Date Collected: 04/30/18 08:33

Date Received: 05/01/18 10:00

Lab Sample ID: 240-94866-3

Matrix: Solid

Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 21:28	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-004

Lab Sample ID: 240-94866-4

Date Collected: 04/30/18 08:35

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-004

Lab Sample ID: 240-94866-4

Date Collected: 04/30/18 08:35

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 21:46	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-005

Lab Sample ID: 240-94866-5

Date Collected: 04/30/18 08:37

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-005

Lab Sample ID: 240-94866-5

Date Collected: 04/30/18 08:37

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 22:04	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-006

Lab Sample ID: 240-94866-6

Date Collected: 04/30/18 08:43

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-006

Lab Sample ID: 240-94866-6

Date Collected: 04/30/18 08:43

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 22:23	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-007

Lab Sample ID: 240-94866-7

Date Collected: 04/30/18 08:45

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-007

Lab Sample ID: 240-94866-7

Date Collected: 04/30/18 08:45

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 22:41	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-008

Lab Sample ID: 240-94866-8

Date Collected: 04/30/18 08:55

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-008

Lab Sample ID: 240-94866-8

Date Collected: 04/30/18 08:55

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		5	325294	05/03/18 22:59	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-009

Lab Sample ID: 240-94866-9

Date Collected: 04/30/18 08:57

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-009

Lab Sample ID: 240-94866-9

Date Collected: 04/30/18 08:57

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 83.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 23:18	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-010

Lab Sample ID: 240-94866-10

Date Collected: 04/30/18 09:00

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-010

Lab Sample ID: 240-94866-10

Date Collected: 04/30/18 09:00

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 23:36	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-011

Lab Sample ID: 240-94866-11

Date Collected: 04/30/18 09:05

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-011

Lab Sample ID: 240-94866-11

Date Collected: 04/30/18 09:05

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 85.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/03/18 23:55	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-012

Lab Sample ID: 240-94866-12

Date Collected: 04/30/18 09:08

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-012

Lab Sample ID: 240-94866-12

Date Collected: 04/30/18 09:08

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/04/18 00:13	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-013

Lab Sample ID: 240-94866-13

Date Collected: 04/30/18 09:10

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-013

Lab Sample ID: 240-94866-13

Date Collected: 04/30/18 09:10

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		8	325888	05/08/18 19:44	CSC	TAL CAN

Client Sample ID: SO-17322-043018-DR-014

Lab Sample ID: 240-94866-14

Date Collected: 04/30/18 09:20

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-014

Lab Sample ID: 240-94866-14

Date Collected: 04/30/18 09:20

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/04/18 00:50	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-015

Lab Sample ID: 240-94866-15

Date Collected: 04/30/18 09:22

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-015

Lab Sample ID: 240-94866-15

Date Collected: 04/30/18 09:22

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 92.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 10:24	DVT	TAL CAN
Total/NA	Analysis	8082A		10	325320	05/04/18 17:58	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-016

Lab Sample ID: 240-94866-16

Date Collected: 04/30/18 09:25

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-016

Lab Sample ID: 240-94866-16

Date Collected: 04/30/18 09:25

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 92.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		5	325294	05/04/18 01:08	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-017

Lab Sample ID: 240-94866-17

Date Collected: 04/30/18 09:27

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-017

Lab Sample ID: 240-94866-17

Date Collected: 04/30/18 09:27

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/04/18 01:26	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-018

Lab Sample ID: 240-94866-18

Date Collected: 04/30/18 09:30

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-018

Lab Sample ID: 240-94866-18

Date Collected: 04/30/18 09:30

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 86.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/04/18 01:45	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-019

Lab Sample ID: 240-94866-19

Date Collected: 04/30/18 09:33

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-019

Lab Sample ID: 240-94866-19

Date Collected: 04/30/18 09:33

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 90.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/04/18 02:58	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-020

Lab Sample ID: 240-94866-20

Date Collected: 04/30/18 09:35

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-020

Lab Sample ID: 240-94866-20

Date Collected: 04/30/18 09:35

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 90.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325054	05/02/18 12:18	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325294	05/04/18 03:17	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-021

Lab Sample ID: 240-94866-21

Date Collected: 04/30/18 09:45

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-021

Lab Sample ID: 240-94866-21

Date Collected: 04/30/18 09:45

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 20:33	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-022

Lab Sample ID: 240-94866-22

Date Collected: 04/30/18 09:50

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-022

Lab Sample ID: 240-94866-22

Date Collected: 04/30/18 09:50

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 87.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 20:52	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-023

Lab Sample ID: 240-94866-23

Date Collected: 04/30/18 09:53

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-023

Lab Sample ID: 240-94866-23

Date Collected: 04/30/18 09:53

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 21:51	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-024

Lab Sample ID: 240-94866-24

Date Collected: 04/30/18 09:55

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-024

Lab Sample ID: 240-94866-24

Date Collected: 04/30/18 09:55

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 22:10	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-025

Lab Sample ID: 240-94866-25

Date Collected: 04/30/18 10:00

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-025

Lab Sample ID: 240-94866-25

Date Collected: 04/30/18 10:00

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 87.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 22:30	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-026

Lab Sample ID: 240-94866-26

Date Collected: 04/30/18 10:10

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-026

Lab Sample ID: 240-94866-26

Date Collected: 04/30/18 10:10

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 22:49	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-027

Lab Sample ID: 240-94866-27

Date Collected: 04/30/18 10:12

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-027

Lab Sample ID: 240-94866-27

Date Collected: 04/30/18 10:12

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 23:09	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-028

Lab Sample ID: 240-94866-28

Date Collected: 04/30/18 10:17

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-028

Lab Sample ID: 240-94866-28

Date Collected: 04/30/18 10:17

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 23:28	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-029

Lab Sample ID: 240-94866-29

Date Collected: 04/30/18 10:20

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-029

Lab Sample ID: 240-94866-29

Date Collected: 04/30/18 10:20

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/04/18 23:48	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-030

Lab Sample ID: 240-94866-30

Date Collected: 04/30/18 10:23

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-030

Lab Sample ID: 240-94866-30

Date Collected: 04/30/18 10:23

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 00:07	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-031

Lab Sample ID: 240-94866-31

Date Collected: 04/30/18 10:25

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-031

Lab Sample ID: 240-94866-31

Date Collected: 04/30/18 10:25

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 87.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 00:26	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-032

Lab Sample ID: 240-94866-32

Date Collected: 04/30/18 10:27

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-032

Lab Sample ID: 240-94866-32

Date Collected: 04/30/18 10:27

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 00:46	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-033

Lab Sample ID: 240-94866-33

Date Collected: 04/30/18 10:40

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-033

Lab Sample ID: 240-94866-33

Date Collected: 04/30/18 10:40

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 01:05	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-034

Lab Sample ID: 240-94866-34

Date Collected: 04/30/18 10:42

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-034

Lab Sample ID: 240-94866-34

Date Collected: 04/30/18 10:42

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 01:25	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-035

Lab Sample ID: 240-94866-35

Date Collected: 04/30/18 10:47

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-035

Lab Sample ID: 240-94866-35

Date Collected: 04/30/18 10:47

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 84.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 01:44	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-036

Lab Sample ID: 240-94866-36

Date Collected: 04/30/18 10:50

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-036

Lab Sample ID: 240-94866-36

Date Collected: 04/30/18 10:50

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 84.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 03:02	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-037

Lab Sample ID: 240-94866-37

Date Collected: 04/30/18 10:53

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-037

Lab Sample ID: 240-94866-37

Date Collected: 04/30/18 10:53

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 03:22	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-038

Lab Sample ID: 240-94866-38

Date Collected: 04/30/18 10:55

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-038

Lab Sample ID: 240-94866-38

Date Collected: 04/30/18 10:55

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 03:41	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-039

Lab Sample ID: 240-94866-39

Date Collected: 04/30/18 11:00

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-039

Lab Sample ID: 240-94866-39

Date Collected: 04/30/18 11:00

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 04:01	KMG	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-040

Lab Sample ID: 240-94866-40

Date Collected: 04/30/18 11:05

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-040

Lab Sample ID: 240-94866-40

Date Collected: 04/30/18 11:05

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325163	05/03/18 08:13	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325444	05/05/18 04:20	KMG	TAL CAN

Client Sample ID: SO-17322-043018-DR-041

Lab Sample ID: 240-94866-41

Date Collected: 04/30/18 11:07

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-041

Lab Sample ID: 240-94866-41

Date Collected: 04/30/18 11:07

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 85.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 13:41	LSH	TAL CAN

Client Sample ID: SO-17322-043018-DR-042

Lab Sample ID: 240-94866-42

Date Collected: 04/30/18 11:10

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-042

Lab Sample ID: 240-94866-42

Date Collected: 04/30/18 11:10

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 13:59	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-043

Lab Sample ID: 240-94866-43

Date Collected: 04/30/18 11:12

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-043

Lab Sample ID: 240-94866-43

Date Collected: 04/30/18 11:12

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 87.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 14:18	LSH	TAL CAN

Client Sample ID: SO-17322-043018-DR-044

Lab Sample ID: 240-94866-44

Date Collected: 04/30/18 11:25

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-044

Lab Sample ID: 240-94866-44

Date Collected: 04/30/18 11:25

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 14:36	LSH	TAL CAN

Client Sample ID: SO-17322-043018-DR-045

Lab Sample ID: 240-94866-45

Date Collected: 04/30/18 11:30

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-045

Lab Sample ID: 240-94866-45

Date Collected: 04/30/18 11:30

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 16:26	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-046

Lab Sample ID: 240-94866-46

Date Collected: 04/30/18 11:32

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-046

Lab Sample ID: 240-94866-46

Date Collected: 04/30/18 11:32

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 16:44	LSH	TAL CAN

Client Sample ID: SO-17322-043018-DR-047

Lab Sample ID: 240-94866-47

Date Collected: 04/30/18 11:35

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-047

Lab Sample ID: 240-94866-47

Date Collected: 04/30/18 11:35

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 17:03	LSH	TAL CAN

Client Sample ID: SO-17322-043018-DR-048

Lab Sample ID: 240-94866-48

Date Collected: 04/30/18 11:40

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-048

Lab Sample ID: 240-94866-48

Date Collected: 04/30/18 11:40

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 17:21	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

Client Sample ID: SO-17322-043018-DR-049

Lab Sample ID: 240-94866-49

Date Collected: 04/30/18 11:42

Matrix: Solid

Date Received: 05/01/18 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	325028	05/02/18 11:05	SEM	TAL CAN

Client Sample ID: SO-17322-043018-DR-049

Lab Sample ID: 240-94866-49

Date Collected: 04/30/18 11:42

Matrix: Solid

Date Received: 05/01/18 10:00

Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			325187	05/03/18 08:49	DVT	TAL CAN
Total/NA	Analysis	8082A		1	325320	05/04/18 17:39	LSH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-94866-1

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	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-18 *
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
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	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

MICHIGAN
190

Chain of Custody Record

264409

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
55aw TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Company Name: GHD Services Address: 26850 Haggerty Rd City/State/Zip: Farmington Hills, MI Phone: (248) 893-3400 Fax:		Client Contact Project Name: PCC-Validation Site: Pontiac, MI PO #		Project Manager: M. Coman Tel/Fax:		Site Contact: J. Atkinson Lab Contact: D. Hecker		Date: 4/30/18 Carrier: FED EX		COG No: 017322-000 1 of 5 COCs Sampler: D. Rogers	
☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day				Analysis Turnaround Time		Perform MS/MSD (Y/N)		For Lab Use Only: Walk-In Client: Lab Sampling:		Job / SDG No.: 017322 A-127	
Sample Identification				Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:		
50-17322-643018-DR-001				4/30/18	825	B	So	1			
-002					827			1			
-003					833			1			
-004					835			1			
-005					837			1			
-006					843			1			
-007					845			1			
-008					855			1			
-009					857			1			
-010					900			1			
-011					905			1			
-012					908			1			
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
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										☐ 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: Cor'd:			
Relinquished by: D. Rogers				Company: GHD				Received by: J. Atkinson			
Relinquished by:				Company:				Date/Time: 4/30/18 1600			
Relinquished by:				Company:				Date/Time: 5/1/18 1000			
Relinquished 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

264411

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Company Name: GAD Services Address: 26850 Hagerly Rd City/State/Zip: Farmington Hills, MI Phone: (248) 293-3400 Fax:		Client Contact Project Name: POC-Validation Site: Pontiac, MI PO #		Project Manager: M. Loran Tel/Fax:		Site Contact: S. Absor Lab Contact: D. K. Rivers Carrier: PEDI		Date: 4/18/18 COC No: 017322-006 3 of 5 COCs	
Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day				Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
Sample Date				Sample Time		Matrix		# of Cont.	
50-17322-043018-DR-025				4/30/18		SO		1	
-026				1010				1	
-027				1012				1	
-028				1017				1	
-029				1020				1	
-030				1023				1	
-031				1025				1	
-032				1027				1	
-033				1040				1	
-034				1042				1	
-035				1047				1	
-036				1050				1	
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									
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: ☐ Yes ☐ No									
Relinquished by: D. Rivers				Date/Time: 4/30/18 1600		Received by: Gen. P. Rivers		Date/Time: 5/1/18 1000	
Relinquished by:				Date/Time:		Received by:		Date/Time:	
Relinquished by:				Date/Time:		Received in Laboratory by:		Date/Time:	

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

MICHIGAN
190

Chain of Custody Record

264412

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: M. Curran		Site Contact: S. Abston		Date: 4/30/18		Carrier: Fed Ex		OOB No: 017322-0000		4 of 5 COCs	
Company Name: GHD Services		Tel/Fax:		Lab Contact: D. Hedley		Date: 4/30/18		Carrier: Fed Ex		Sampler: D. Russ		For Lab Use Only:	
Address: 26850 Hopewell Rd		Analysis Turnaround Time		Perform MS / MSD (Y / N)		Filtered Sample (Y / N)		Sample Specific Notes:		Walk-in Client:		Lab Sampling:	
City/State/Zip: Farmington Hills, MI		☐ CALENDAR DAYS ☐ WORKING DAYS		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
Phone: (248) 893-3400		TAT if different from Below		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
Fax:		2 weeks		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
Project Name: POC-Validation		1 week		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
Site: Pontiac, MI		2 days		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
PO #		1 day		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
50-17322-043018-DP2-037		4/30/18		1053		G		SO		1			
-038				1055									
-039				1100									
-040				1105									
-041				1107									
-042				1110									
-043				1112									
-044				1125									
-045				1130									
-046				1132									
-047				1135									
-048				1140									

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

Special Instructions/QC Requirements & Comments:

Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:	
Relinquished by:	Company: GHD	Received by:	Company: JAC				
Relinquished by:	Company:	Received by:	Company:				
Relinquished by:	Company:	Received in Laboratory by:	Company:				

Date/Time: 4/30/18 16:00
Date/Time: 5/1/18 1000

5/9/2018

TestAmerica Canton Sample Receipt Form/Narrative Login # : 74866

Canton Facility

Client GHD Services Site Name _____ Cooler unpacked by: [Signature]

Cooler Received on 5/1/18 Opened on 5/1/18

FedEx: 1st Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # TAC Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other Box

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 1.7 °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# HC732776

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes  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

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: _____

18. 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)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

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: 240-96374-1

Client Project/Site: 17322A-T06, PCC Validation

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: James Abston



Authorized for release by:

6/15/2018 7:57:46 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

LINKS

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results through

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www.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.

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Case Narrative

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Job ID: 240-96374-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-96374-1

Comments

No additional comments.

Receipt

The samples were received on 5/31/2018 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° C.

GC Semi VOA

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-17322A-052918-SK-015 (240-96374-15), (240-96374-B-15-C MS) and (240-96374-B-15-D MSD). 3627625,3449340,3361890

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-17322A-052918-SK-001 (240-96374-1), S-17322A-052918-SK-002 (240-96374-2), S-17322A-052918-SK-003 (240-96374-3), S-17322A-052918-SK-004 (240-96374-4), S-17322A-052918-SK-005 (240-96374-5) and S-17322A-052918-SK-006 (240-96374-6). 3627625, 3449340, 3361890.

Method(s) 8082A: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: S-17322A-052918-SK-011 (240-96374-11) and S-17322A-052918-SK-014 (240-96374-14). 3627625, 3449340, 3361890.

Method(s) 8082A: The following samples were diluted due to the nature of the sample matrix : S-17322A-052918-SK-008 (240-96374-8) and S-17322A-052918-SK-010 (240-96374-10). As such, surrogate recoveries may be below the calibration range, and elevated reporting limits (RLs) are provided.

Method(s) 8082A: The following samples appears to contain polychlorinated biphenyls (PCBs); however, due to weathering or other environmental processes, the PCBs in the samples do not directly match any of the laboratory's Aroclor standards used for instrument calibration: S-17322A-052918-SK-009 (240-96374-9). The samples have been quantified and reported using the best overall Aroclor/standard pattern match relative to the reference standards.

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

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

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-96374-1	S-17322A-052918-SK-001	Solid	05/29/18 08:15	05/31/18 10:30
240-96374-2	S-17322A-052918-SK-002	Solid	05/29/18 08:20	05/31/18 10:30
240-96374-3	S-17322A-052918-SK-003	Solid	05/29/18 08:25	05/31/18 10:30
240-96374-4	S-17322A-052918-SK-004	Solid	05/29/18 08:30	05/31/18 10:30
240-96374-5	S-17322A-052918-SK-005	Solid	05/29/18 08:35	05/31/18 10:30
240-96374-6	S-17322A-052918-SK-006	Solid	05/29/18 08:40	05/31/18 10:30
240-96374-7	S-17322A-052918-SK-007	Solid	05/29/18 08:45	05/31/18 10:30
240-96374-8	S-17322A-052918-SK-008	Solid	05/29/18 08:50	05/31/18 10:30
240-96374-9	S-17322A-052918-SK-009	Solid	05/29/18 08:55	05/31/18 10:30
240-96374-10	S-17322A-052918-SK-010	Solid	05/29/18 09:00	05/31/18 10:30
240-96374-11	S-17322A-052918-SK-011	Solid	05/29/18 09:05	05/31/18 10:30
240-96374-12	S-17322A-052918-SK-012	Solid	05/29/18 09:10	05/31/18 10:30
240-96374-14	S-17322A-052918-SK-014	Solid	05/29/18 09:20	05/31/18 10:30
240-96374-15	S-17322A-052918-SK-015	Solid	05/29/18 09:25	05/31/18 10:30

TestAmerica Canton

Detection Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-001

Lab Sample ID: 240-96374-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	250		55	25	ug/Kg	1	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-002

Lab Sample ID: 240-96374-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	1400		58	27	ug/Kg	1	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-003

Lab Sample ID: 240-96374-3

No Detections.

Client Sample ID: S-17322A-052918-SK-004

Lab Sample ID: 240-96374-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	100		58	27	ug/Kg	1	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-005

Lab Sample ID: 240-96374-5

No Detections.

Client Sample ID: S-17322A-052918-SK-006

Lab Sample ID: 240-96374-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	330		55	25	ug/Kg	1	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-007

Lab Sample ID: 240-96374-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	910		53	24	ug/Kg	1	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-008

Lab Sample ID: 240-96374-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	9900		1100	510	ug/Kg	20	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-009

Lab Sample ID: 240-96374-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	310	p	54	25	ug/Kg	1	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-010

Lab Sample ID: 240-96374-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1254	8400		590	270	ug/Kg	10	☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-011

Lab Sample ID: 240-96374-11

No Detections.

Client Sample ID: S-17322A-052918-SK-012

Lab Sample ID: 240-96374-12

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-012 (Continued)

Lab Sample ID: 240-96374-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	31	J	57	26	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-014

Lab Sample ID: 240-96374-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	130		57	26	ug/Kg	1		☒	8082A	Total/NA

Client Sample ID: S-17322A-052918-SK-015

Lab Sample ID: 240-96374-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Aroclor-1254	30	J	54	25	ug/Kg	1		☒	8082A	Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
3540C	Soxhlet Extraction	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-001

Date Collected: 05/29/18 08:15

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-1

Matrix: Solid

Percent Solids: 88.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1
Aroclor-1254	250		55	25	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	06/13/18 10:32	06/14/18 11:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		14 - 128	06/13/18 10:32	06/14/18 11:34	1
DCB Decachlorobiphenyl	85	p	10 - 132	06/13/18 10:32	06/14/18 11:34	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-002

Date Collected: 05/29/18 08:20

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-2

Matrix: Solid

Percent Solids: 86.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1
Aroclor-1254	1400		58	27	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	06/13/18 10:32	06/14/18 11:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		14 - 128	06/13/18 10:32	06/14/18 11:52	1
DCB Decachlorobiphenyl	107	p	10 - 132	06/13/18 10:32	06/14/18 11:52	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-003

Date Collected: 05/29/18 08:25

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-3

Matrix: Solid

Percent Solids: 82.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	63	U	63	28	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Aroclor-1221	63	U	63	30	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Aroclor-1232	63	U	63	29	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Aroclor-1242	63	U	63	24	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Aroclor-1248	63	U	63	30	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Aroclor-1254	63	U	63	29	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Aroclor-1260	63	U	63	28	ug/Kg	☼	06/13/18 10:32	06/14/18 12:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		14 - 128				06/13/18 10:32	06/14/18 12:09	1
DCB Decachlorobiphenyl	94	p	10 - 132				06/13/18 10:32	06/14/18 12:09	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-004

Date Collected: 05/29/18 08:30

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-4

Matrix: Solid

Percent Solids: 82.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	58	U	58	26	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1
Aroclor-1221	58	U	58	28	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1
Aroclor-1232	58	U	58	27	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1
Aroclor-1242	58	U	58	22	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1
Aroclor-1248	58	U	58	28	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1
Aroclor-1254	100		58	27	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1
Aroclor-1260	58	U	58	26	ug/Kg	☼	06/13/18 10:32	06/14/18 12:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	62		14 - 128	06/13/18 10:32	06/14/18 12:27	1
DCB Decachlorobiphenyl	72	p	10 - 132	06/13/18 10:32	06/14/18 12:27	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-005

Date Collected: 05/29/18 08:35

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-5

Matrix: Solid

Percent Solids: 81.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	64	U	64	28	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1
Aroclor-1221	64	U	64	31	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1
Aroclor-1232	64	U	64	29	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1
Aroclor-1242	64	U	64	24	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1
Aroclor-1248	64	U	64	31	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1
Aroclor-1254	64	U	64	29	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1
Aroclor-1260	64	U	64	28	ug/Kg	☼	06/13/18 10:32	06/14/18 12:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	72		14 - 128	06/13/18 10:32	06/14/18 12:44	1
DCB Decachlorobiphenyl	104	p	10 - 132	06/13/18 10:32	06/14/18 12:44	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-006

Date Collected: 05/29/18 08:40

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-6

Matrix: Solid

Percent Solids: 89.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1
Aroclor-1221	55	U	55	26	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1
Aroclor-1232	55	U	55	25	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1
Aroclor-1248	55	U	55	26	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1
Aroclor-1254	330		55	25	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	06/13/18 10:32	06/14/18 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	61		14 - 128	06/13/18 10:32	06/14/18 13:02	1
DCB Decachlorobiphenyl	89	p	10 - 132	06/13/18 10:32	06/14/18 13:02	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-007

Date Collected: 05/29/18 08:45

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-7

Matrix: Solid

Percent Solids: 91.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	53	U	53	23	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1
Aroclor-1221	53	U	53	25	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1
Aroclor-1232	53	U	53	24	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1
Aroclor-1242	53	U	53	20	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1
Aroclor-1248	53	U	53	25	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1
Aroclor-1254	910		53	24	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1
Aroclor-1260	53	U	53	23	ug/Kg	☼	06/13/18 10:32	06/14/18 11:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	58		14 - 128	06/13/18 10:32	06/14/18 11:46	1
DCB Decachlorobiphenyl	57	p	10 - 132	06/13/18 10:32	06/14/18 11:46	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-008

Date Collected: 05/29/18 08:50

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-8

Matrix: Solid

Percent Solids: 89.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	1100	U	1100	490	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20
Aroclor-1221	1100	U	1100	530	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20
Aroclor-1232	1100	U	1100	510	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20
Aroclor-1242	1100	U	1100	420	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20
Aroclor-1248	1100	U	1100	530	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20
Aroclor-1254	9900		1100	510	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20
Aroclor-1260	1100	U	1100	490	ug/Kg	☼	06/13/18 10:32	06/14/18 12:04	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	94		14 - 128	06/13/18 10:32	06/14/18 12:04	20
DCB Decachlorobiphenyl	73	p	10 - 132	06/13/18 10:32	06/14/18 12:04	20

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-009

Date Collected: 05/29/18 08:55

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-9

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1
Aroclor-1242	54	U	54	20	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1
Aroclor-1254	310	p	54	25	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	06/13/18 10:32	06/14/18 12:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		14 - 128	06/13/18 10:32	06/14/18 12:21	1
DCB Decachlorobiphenyl	69	p	10 - 132	06/13/18 10:32	06/14/18 12:21	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-010

Date Collected: 05/29/18 09:00

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-10

Matrix: Solid

Percent Solids: 84.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	590	U	590	260	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10
Aroclor-1221	590	U	590	280	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10
Aroclor-1232	590	U	590	270	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10
Aroclor-1242	590	U	590	220	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10
Aroclor-1248	590	U	590	280	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10
Aroclor-1254	8400		590	270	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10
Aroclor-1260	590	U	590	260	ug/Kg	☼	06/13/18 10:32	06/14/18 12:39	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	112		14 - 128	06/13/18 10:32	06/14/18 12:39	10
DCB Decachlorobiphenyl	79	p	10 - 132	06/13/18 10:32	06/14/18 12:39	10

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-011

Date Collected: 05/29/18 09:05

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-11

Matrix: Solid

Percent Solids: 88.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	55	U	55	24	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1
Aroclor-1221	55	U	55	27	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1
Aroclor-1232	55	U	55	26	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1
Aroclor-1242	55	U	55	21	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1
Aroclor-1248	55	U	55	27	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1
Aroclor-1254	55	U	55	26	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1
Aroclor-1260	55	U	55	24	ug/Kg	☼	06/13/18 10:32	06/14/18 12:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	55		14 - 128	06/13/18 10:32	06/14/18 12:56	1
DCB Decachlorobiphenyl	64	p	10 - 132	06/13/18 10:32	06/14/18 12:56	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-012

Date Collected: 05/29/18 09:10

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-12

Matrix: Solid

Percent Solids: 90.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1
Aroclor-1221	57	U	57	27	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1
Aroclor-1248	57	U	57	27	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1
Aroclor-1254	31	J	57	26	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	06/13/18 10:32	06/14/18 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	96		14 - 128	06/13/18 10:32	06/14/18 13:13	1
DCB Decachlorobiphenyl	106	p	10 - 132	06/13/18 10:32	06/14/18 13:13	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-014

Date Collected: 05/29/18 09:20

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-14

Matrix: Solid

Percent Solids: 88.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	57	U	57	25	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1
Aroclor-1221	57	U	57	27	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1
Aroclor-1232	57	U	57	26	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1
Aroclor-1242	57	U	57	22	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1
Aroclor-1248	57	U	57	27	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1
Aroclor-1254	130		57	26	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1
Aroclor-1260	57	U	57	25	ug/Kg	☼	06/13/18 10:32	06/14/18 13:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	83		14 - 128	06/13/18 10:32	06/14/18 13:31	1
DCB Decachlorobiphenyl	81	p	10 - 132	06/13/18 10:32	06/14/18 13:31	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Client Sample ID: S-17322A-052918-SK-015

Date Collected: 05/29/18 09:25

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-15

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	54	U	54	24	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1
Aroclor-1221	54	U	54	26	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1
Aroclor-1232	54	U	54	25	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1
Aroclor-1242	54	U	54	20	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1
Aroclor-1248	54	U	54	26	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1
Aroclor-1254	30	J	54	25	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1
Aroclor-1260	54	U	54	24	ug/Kg	☼	06/13/18 10:32	06/14/18 11:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		14 - 128	06/13/18 10:32	06/14/18 11:17	1
DCB Decachlorobiphenyl	58		10 - 132	06/13/18 10:32	06/14/18 11:17	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-001

Date Collected: 05/29/18 08:15

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-1

Matrix: Solid

Percent Solids: 88.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.1		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	11.9		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-002

Date Collected: 05/29/18 08:20

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-2

Matrix: Solid

Percent Solids: 86.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.0		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	14.0		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-003

Date Collected: 05/29/18 08:25

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-3

Matrix: Solid

Percent Solids: 82.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.3		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	17.7		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-004

Date Collected: 05/29/18 08:30

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-4

Matrix: Solid

Percent Solids: 82.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.7		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	17.3		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-005

Date Collected: 05/29/18 08:35

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-5

Matrix: Solid

Percent Solids: 81.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.8		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	18.2		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-006

Date Collected: 05/29/18 08:40

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-6

Matrix: Solid

Percent Solids: 89.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.3		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	10.7		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-007

Date Collected: 05/29/18 08:45

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-7

Matrix: Solid

Percent Solids: 91.4

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	8.6		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-008

Date Collected: 05/29/18 08:50

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-8

Matrix: Solid

Percent Solids: 89.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.6		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	10.4		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-009

Date Collected: 05/29/18 08:55

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-9

Matrix: Solid

Percent Solids: 89.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.7		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	10.3		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-010

Date Collected: 05/29/18 09:00

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-10

Matrix: Solid

Percent Solids: 84.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.9		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	15.1		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-011

Date Collected: 05/29/18 09:05

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-11

Matrix: Solid

Percent Solids: 88.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.7		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	11.3		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-012

Date Collected: 05/29/18 09:10

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-12

Matrix: Solid

Percent Solids: 90.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.3		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	9.7		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-014

Date Collected: 05/29/18 09:20

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-14

Matrix: Solid

Percent Solids: 88.3

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.3		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	11.7		0.1	0.1	%			06/05/18 13:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Client Sample ID: S-17322A-052918-SK-015

Date Collected: 05/29/18 09:25

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-15

Matrix: Solid

Percent Solids: 90.7

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.7		0.1	0.1	%			06/05/18 13:14	1
Percent Moisture	9.3		0.1	0.1	%			06/05/18 13:14	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

GC Semi VOA

Prep Batch: 331447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-96374-1	S-17322A-052918-SK-001	Total/NA	Solid	3540C	
240-96374-2	S-17322A-052918-SK-002	Total/NA	Solid	3540C	
240-96374-3	S-17322A-052918-SK-003	Total/NA	Solid	3540C	
240-96374-4	S-17322A-052918-SK-004	Total/NA	Solid	3540C	
240-96374-5	S-17322A-052918-SK-005	Total/NA	Solid	3540C	
240-96374-6	S-17322A-052918-SK-006	Total/NA	Solid	3540C	
240-96374-7	S-17322A-052918-SK-007	Total/NA	Solid	3540C	
240-96374-8	S-17322A-052918-SK-008	Total/NA	Solid	3540C	
240-96374-9	S-17322A-052918-SK-009	Total/NA	Solid	3540C	
240-96374-10	S-17322A-052918-SK-010	Total/NA	Solid	3540C	
240-96374-11	S-17322A-052918-SK-011	Total/NA	Solid	3540C	
240-96374-12	S-17322A-052918-SK-012	Total/NA	Solid	3540C	
240-96374-14	S-17322A-052918-SK-014	Total/NA	Solid	3540C	
240-96374-15	S-17322A-052918-SK-015	Total/NA	Solid	3540C	
MB 240-331447/23-A	Method Blank	Total/NA	Solid	3540C	
LCS 240-331447/24-A	Lab Control Sample	Total/NA	Solid	3540C	
240-96374-15 MS	S-17322A-052918-SK-015	Total/NA	Solid	3540C	
240-96374-15 MSD	S-17322A-052918-SK-015	Total/NA	Solid	3540C	

Analysis Batch: 331533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-96374-7	S-17322A-052918-SK-007	Total/NA	Solid	8082A	331447
240-96374-8	S-17322A-052918-SK-008	Total/NA	Solid	8082A	331447
240-96374-9	S-17322A-052918-SK-009	Total/NA	Solid	8082A	331447
240-96374-10	S-17322A-052918-SK-010	Total/NA	Solid	8082A	331447
240-96374-11	S-17322A-052918-SK-011	Total/NA	Solid	8082A	331447
240-96374-12	S-17322A-052918-SK-012	Total/NA	Solid	8082A	331447
240-96374-14	S-17322A-052918-SK-014	Total/NA	Solid	8082A	331447

Analysis Batch: 331542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-96374-15	S-17322A-052918-SK-015	Total/NA	Solid	8082A	331447
MB 240-331447/23-A	Method Blank	Total/NA	Solid	8082A	331447
LCS 240-331447/24-A	Lab Control Sample	Total/NA	Solid	8082A	331447
MRL 240-331542/2	Lab Control Sample	Total/NA	Solid	8082A	
240-96374-15 MS	S-17322A-052918-SK-015	Total/NA	Solid	8082A	331447
240-96374-15 MSD	S-17322A-052918-SK-015	Total/NA	Solid	8082A	331447

Analysis Batch: 331545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-96374-1	S-17322A-052918-SK-001	Total/NA	Solid	8082A	331447
240-96374-2	S-17322A-052918-SK-002	Total/NA	Solid	8082A	331447
240-96374-3	S-17322A-052918-SK-003	Total/NA	Solid	8082A	331447
240-96374-4	S-17322A-052918-SK-004	Total/NA	Solid	8082A	331447
240-96374-5	S-17322A-052918-SK-005	Total/NA	Solid	8082A	331447
240-96374-6	S-17322A-052918-SK-006	Total/NA	Solid	8082A	331447

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

General Chemistry

Analysis Batch: 330128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-96374-1	S-17322A-052918-SK-001	Total/NA	Solid	Moisture	
240-96374-2	S-17322A-052918-SK-002	Total/NA	Solid	Moisture	
240-96374-3	S-17322A-052918-SK-003	Total/NA	Solid	Moisture	
240-96374-4	S-17322A-052918-SK-004	Total/NA	Solid	Moisture	
240-96374-5	S-17322A-052918-SK-005	Total/NA	Solid	Moisture	
240-96374-6	S-17322A-052918-SK-006	Total/NA	Solid	Moisture	
240-96374-7	S-17322A-052918-SK-007	Total/NA	Solid	Moisture	
240-96374-8	S-17322A-052918-SK-008	Total/NA	Solid	Moisture	
240-96374-9	S-17322A-052918-SK-009	Total/NA	Solid	Moisture	
240-96374-10	S-17322A-052918-SK-010	Total/NA	Solid	Moisture	
240-96374-11	S-17322A-052918-SK-011	Total/NA	Solid	Moisture	
240-96374-12	S-17322A-052918-SK-012	Total/NA	Solid	Moisture	
240-96374-14	S-17322A-052918-SK-014	Total/NA	Solid	Moisture	
240-96374-15	S-17322A-052918-SK-015	Total/NA	Solid	Moisture	
240-96374-8 DU	S-17322A-052918-SK-008	Total/NA	Solid	Moisture	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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

Lab Sample ID: MB 240-331447/23-A

Matrix: Solid

Analysis Batch: 331542

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 331447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	50	U	50	22	ug/Kg		06/13/18 10:32	06/14/18 10:38	1
Aroclor-1221	50	U	50	24	ug/Kg		06/13/18 10:32	06/14/18 10:38	1
Aroclor-1232	50	U	50	23	ug/Kg		06/13/18 10:32	06/14/18 10:38	1
Aroclor-1242	50	U	50	19	ug/Kg		06/13/18 10:32	06/14/18 10:38	1
Aroclor-1248	50	U	50	24	ug/Kg		06/13/18 10:32	06/14/18 10:38	1
Aroclor-1254	50	U	50	23	ug/Kg		06/13/18 10:32	06/14/18 10:38	1
Aroclor-1260	50	U	50	22	ug/Kg		06/13/18 10:32	06/14/18 10:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	68		14 - 128	06/13/18 10:32	06/14/18 10:38	1
DCB Decachlorobiphenyl	77		10 - 132	06/13/18 10:32	06/14/18 10:38	1

Lab Sample ID: LCS 240-331447/24-A

Matrix: Solid

Analysis Batch: 331542

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 331447

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	1000	657		ug/Kg		66	47 - 120
Aroclor-1260	1000	784		ug/Kg		78	46 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	73		14 - 128
DCB Decachlorobiphenyl	78		10 - 132

Lab Sample ID: 240-96374-15 MS

Matrix: Solid

Analysis Batch: 331542

Client Sample ID: S-17322A-052918-SK-015

Prep Type: Total/NA

Prep Batch: 331447

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	54	U	1110	547		ug/Kg	☼	49	31 - 120
Aroclor-1260	54	U	1110	583		ug/Kg	☼	53	21 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	61		14 - 128
DCB Decachlorobiphenyl	52		10 - 132

Lab Sample ID: 240-96374-15 MSD

Matrix: Solid

Analysis Batch: 331542

Client Sample ID: S-17322A-052918-SK-015

Prep Type: Total/NA

Prep Batch: 331447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor-1016	54	U	1070	704		ug/Kg	☼	66	31 - 120	25	30
Aroclor-1260	54	U	1070	721		ug/Kg	☼	67	21 - 122	21	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Tetrachloro-m-xylene	80		14 - 128
DCB Decachlorobiphenyl	65	p	10 - 132

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Lab Sample ID: MRL 240-331542/2

Matrix: Solid

Analysis Batch: 331542

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	0.0500	0.0513		ng/uL		103	
Aroclor-1260	0.0500	0.0494		ng/uL		99	

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Tetrachloro-m-xylene	99		14 - 128
DCB Decachlorobiphenyl	102		10 - 132

Method: Moisture - Percent Moisture

Lab Sample ID: 240-96374-8 DU

Matrix: Solid

Analysis Batch: 330128

Client Sample ID: S-17322A-052918-SK-008

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.6		89.3		%		0.4	20
Percent Moisture	10.4		10.7		%		3	20

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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)
240-96374-1	S-17322A-052918-SK-001	66	85 p
240-96374-2	S-17322A-052918-SK-002	83	107 p
240-96374-3	S-17322A-052918-SK-003	68	94 p
240-96374-4	S-17322A-052918-SK-004	62	72 p
240-96374-5	S-17322A-052918-SK-005	72	104 p
240-96374-6	S-17322A-052918-SK-006	61	89 p

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

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)
240-96374-7	S-17322A-052918-SK-007	58	57 p
240-96374-8	S-17322A-052918-SK-008	94	73 p
240-96374-9	S-17322A-052918-SK-009	63	69 p
240-96374-10	S-17322A-052918-SK-010	112	79 p
240-96374-11	S-17322A-052918-SK-011	55	64 p
240-96374-12	S-17322A-052918-SK-012	96	106 p
240-96374-14	S-17322A-052918-SK-014	83	81 p
240-96374-15	S-17322A-052918-SK-015	66	58
240-96374-15 MS	S-17322A-052918-SK-015	61	52
240-96374-15 MSD	S-17322A-052918-SK-015	80	65 p
LCS 240-331447/24-A	Lab Control Sample	73	78
MB 240-331447/23-A	Method Blank	68	77
MRL 240-331542/2	Lab Control Sample	99	102

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-001

Date Collected: 05/29/18 08:15

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-001

Date Collected: 05/29/18 08:15

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-1

Matrix: Solid

Percent Solids: 88.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331545	06/14/18 11:34	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-002

Date Collected: 05/29/18 08:20

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-002

Date Collected: 05/29/18 08:20

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-2

Matrix: Solid

Percent Solids: 86.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331545	06/14/18 11:52	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-003

Date Collected: 05/29/18 08:25

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-003

Date Collected: 05/29/18 08:25

Date Received: 05/31/18 10:30

Lab Sample ID: 240-96374-3

Matrix: Solid

Percent Solids: 82.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331545	06/14/18 12:09	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-004

Lab Sample ID: 240-96374-4

Date Collected: 05/29/18 08:30

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-004

Lab Sample ID: 240-96374-4

Date Collected: 05/29/18 08:30

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331545	06/14/18 12:27	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-005

Lab Sample ID: 240-96374-5

Date Collected: 05/29/18 08:35

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-005

Lab Sample ID: 240-96374-5

Date Collected: 05/29/18 08:35

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331545	06/14/18 12:44	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-006

Lab Sample ID: 240-96374-6

Date Collected: 05/29/18 08:40

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-006

Lab Sample ID: 240-96374-6

Date Collected: 05/29/18 08:40

Matrix: Solid

Date Received: 05/31/18 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	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331545	06/14/18 13:02	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-007

Lab Sample ID: 240-96374-7

Date Collected: 05/29/18 08:45

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-007

Lab Sample ID: 240-96374-7

Date Collected: 05/29/18 08:45

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331533	06/14/18 11:46	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-008

Lab Sample ID: 240-96374-8

Date Collected: 05/29/18 08:50

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-008

Lab Sample ID: 240-96374-8

Date Collected: 05/29/18 08:50

Matrix: Solid

Date Received: 05/31/18 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			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		20	331533	06/14/18 12:04	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-009

Lab Sample ID: 240-96374-9

Date Collected: 05/29/18 08:55

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-009

Lab Sample ID: 240-96374-9

Date Collected: 05/29/18 08:55

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 89.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331533	06/14/18 12:21	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-010

Lab Sample ID: 240-96374-10

Date Collected: 05/29/18 09:00

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-010

Lab Sample ID: 240-96374-10

Date Collected: 05/29/18 09:00

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		10	331533	06/14/18 12:39	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-011

Lab Sample ID: 240-96374-11

Date Collected: 05/29/18 09:05

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-011

Lab Sample ID: 240-96374-11

Date Collected: 05/29/18 09:05

Matrix: Solid

Date Received: 05/31/18 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	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331533	06/14/18 12:56	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-012

Lab Sample ID: 240-96374-12

Date Collected: 05/29/18 09:10

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-012

Lab Sample ID: 240-96374-12

Date Collected: 05/29/18 09:10

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331533	06/14/18 13:13	LSH	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

Client Sample ID: S-17322A-052918-SK-014

Lab Sample ID: 240-96374-14

Date Collected: 05/29/18 09:20

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-014

Lab Sample ID: 240-96374-14

Date Collected: 05/29/18 09:20

Matrix: Solid

Date Received: 05/31/18 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			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331533	06/14/18 13:31	LSH	TAL CAN

Client Sample ID: S-17322A-052918-SK-015

Lab Sample ID: 240-96374-15

Date Collected: 05/29/18 09:25

Matrix: Solid

Date Received: 05/31/18 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	330128	06/05/18 13:14	BWL	TAL CAN

Client Sample ID: S-17322A-052918-SK-015

Lab Sample ID: 240-96374-15

Date Collected: 05/29/18 09:25

Matrix: Solid

Date Received: 05/31/18 10:30

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3540C			331447	06/13/18 10:32	DVT	TAL CAN
Total/NA	Analysis	8082A		1	331542	06/14/18 11:17	LSH	TAL CAN

Laboratory References:

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

TestAmerica Canton

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 17322A-T06, PCC Validation

TestAmerica Job ID: 240-96374-1

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	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-18 *
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
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	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax:

MICHIGAN
190

Chain of Custody Record

264946

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

T.A.# 24020174

28/C29

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Company Name: GHD		Client Contact		Project Manager: M. Caram		Site Contact: S. Kipper		COC No: 1 of 2 COCs	
Address: 26250 Haggerty Rd.				Tel/Fax: (248) 390-5748		Lab Contact: J. Abston		Date: 5-30-18	
City/State/Zip: Farmington Hills, MI				☐ CALENDAR DAYS		Carrier: FedEx			
Phone: 248.893-3400				☐ WORKING DAYS					
Fax: 248.893-3400				TAT if different from Below					
Project Name: PCC Validation				☐ 2 weeks					
Site: Pontiac, MI				☐ 1 week					
PO # 550W 17322-006-T06Y18				☐ 2 days					
				☐ 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)	Sample Specific Notes:
S-17322A-052918-SK-001	002	5-29-18	8:15	G	Soil	1			
	003		8:20			1			
	004		8:25			1			
	005		8:30			1			
	006		8:35			1			
	007		8:40			1			
	008		8:45			1			
	009		8:50			1			
	010		8:55			1			
	011		9:00			1			
	012		9:05			1			
			9:10			1			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other									
Possible Hazard Identification: 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									
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: ☐ Yes ☐ No									
Custody Seal No.:									
Relinquished by: GHD									
Date/Time: 5/30/18									
Company: GHD									
Received by: PCC									
Date/Time: 5/31/18									
Company: TAL									
Received in Laboratory by:									
Date/Time: 1030									
Company:									



TestAmerica Canton Sample Receipt Form/Narrative Login # : 96374

Canton Facility

Client GAD Site Name Cooler unpacked by: POP

Cooler Received on 5-31-18 Opened on 5-31-18

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # TA 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 +0.1 °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 2.9 °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 No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No No NA

-Were tamper/custody seals intact and uncompromised? Yes No No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No No

4. Did custody papers accompany the sample(s)? Yes No No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No No

7. Did all bottles arrive in good condition (Unbroken)? Yes No No

8. Could all bottle labels be reconciled with the COC? Yes No No

9. Were correct bottle(s) used for the test(s) indicated? Yes No No

10. Sufficient quantity received to perform indicated analyses? Yes No No

11. Are these work share samples? Yes No 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# HC740840

13. Were VOAs on the COC? Yes No 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 No

16. Was a LL Hg or Me Hg trip blank present? Yes No No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: POP

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) 013 were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

July 20, 2018

Tom Kinney
GHD
26850 Haggerty Road
Farmington, MI 48331

RE: Project: PCC Validation
Pace Project No.: 4614538

Dear Tom Kinney:

Enclosed are the analytical results for sample(s) received by the laboratory on July 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

051710-E201072-028

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Will Cole
will.cole@pacelabs.com
(616)975-4500
Project Manager

Enclosures

cc: James Abston, GHD-Farmington Hills, Michigan
Detroit Chemistry, GHD



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: PCC Validation

Pace Project No.: 4614538

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512

Minnesota Department of Health, Certificate #1385941

Arkansas Department of Environmental Quality, Certificate
#18-046-0

Georgia Environmental Protection Division, Stipulation

Illinois Environmental Protection Agency, Certificate

#004325

Michigan Department of Environmental Quality, Laboratory

#0034

New York State Department of Health, Serial #57971 and
57972

North Carolina Division of Water Resources, Certificate
#659

Virginia Department of General Services, Certificate #9780

Wisconsin Department of Natural Resources, Laboratory
#999472650

U.S. Department of Agriculture Permit to Receive Soil,
Permit #P330-17-00278

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: PCC Validation

Pace Project No.: 4614538

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4614538001	50-17322A-070518-D5-001	Solid	07/05/18 08:45	07/06/18 08:50
4614538002	50-17322A-070518-D5-002	Solid	07/05/18 08:50	07/06/18 08:50
4614538003	50-17322A-070518-D5-003	Solid	07/05/18 08:55	07/06/18 08:50
4614538004	50-17322A-070518-D5-004	Solid	07/05/18 09:10	07/06/18 08:50
4614538005	50-17322A-070518-D5-005	Solid	07/05/18 09:15	07/06/18 08:50
4614538006	50-17322A-070518-D5-006	Solid	07/05/18 09:20	07/06/18 08:50
4614538007	50-17322A-070518-D5-007	Solid	07/05/18 09:25	07/06/18 08:50
4614538008	50-17322A-070518-D5-008	Solid	07/05/18 09:35	07/06/18 08:50
4614538009	50-17322A-070518-D5-009	Solid	07/05/18 09:40	07/06/18 08:50
4614538010	50-17322A-070518-D5-010	Solid	07/05/18 09:45	07/06/18 08:50
4614538011	50-17322A-070518-D5-011	Solid	07/05/18 09:50	07/06/18 08:50
4614538012	50-17322A-070518-D5-013	Solid	07/05/18 10:30	07/06/18 08:50
4614538013	50-17322A-070518-D5-014	Solid	07/05/18 10:35	07/06/18 08:50
4614538014	50-17322A-070518-D5-015	Solid	07/05/18 10:40	07/06/18 08:50
4614538015	50-17322A-070518-D5-016	Solid	07/05/18 10:45	07/06/18 08:50
4614538016	50-17322A-070518-D5-017	Solid	07/05/18 10:50	07/06/18 08:50
4614538017	50-17322A-070518-D5-018	Solid	07/05/18 10:55	07/06/18 08:50
4614538018	50-17322A-070518-D5-019	Solid	07/05/18 11:00	07/06/18 08:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: PCC Validation
Pace Project No.: 4614538

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4614538001	50-17322A-070518-D5-001	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538002	50-17322A-070518-D5-002	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538003	50-17322A-070518-D5-003	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538004	50-17322A-070518-D5-004	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538005	50-17322A-070518-D5-005	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538006	50-17322A-070518-D5-006	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538007	50-17322A-070518-D5-007	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538008	50-17322A-070518-D5-008	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538009	50-17322A-070518-D5-009	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538010	50-17322A-070518-D5-010	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538011	50-17322A-070518-D5-011	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538012	50-17322A-070518-D5-013	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538013	50-17322A-070518-D5-014	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538014	50-17322A-070518-D5-015	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538015	50-17322A-070518-D5-016	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538016	50-17322A-070518-D5-017	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538017	50-17322A-070518-D5-018	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1
4614538018	50-17322A-070518-D5-019	EPA 8082A	MSZ	10
		SM 2540 G-11/3550	NS1	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-001 **Lab ID:** 4614538001 Collected: 07/05/18 08:45 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.036 U	mg/kg	0.036	0.0038	1	07/09/18 11:33	07/10/18 16:56	12674-11-2	
PCB-1221 (Aroclor 1221)	0.036 U	mg/kg	0.036	0.0095	1	07/09/18 11:33	07/10/18 16:56	11104-28-2	
PCB-1232 (Aroclor 1232)	0.036 U	mg/kg	0.036	0.0059	1	07/09/18 11:33	07/10/18 16:56	11141-16-5	
PCB-1242 (Aroclor 1242)	0.036 U	mg/kg	0.036	0.0046	1	07/09/18 11:33	07/10/18 16:56	53469-21-9	
PCB-1248 (Aroclor 1248)	0.036 U	mg/kg	0.036	0.0045	1	07/09/18 11:33	07/10/18 16:56	12672-29-6	
PCB-1254 (Aroclor 1254)	0.021J	mg/kg	0.036	0.0034	1	07/09/18 11:33	07/10/18 16:56	11097-69-1	
PCB-1260 (Aroclor 1260)	0.0050J	mg/kg	0.036	0.0035	1	07/09/18 11:33	07/10/18 16:56	11096-82-5	
PCB, Total (Aroclor)	0.026J	mg/kg	0.036	0.0095	1	07/09/18 11:33	07/10/18 16:56	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	85	%.	45-135		1	07/09/18 11:33	07/10/18 16:56	2051-24-3	
Tetrachloro-m-xylene (S)	94	%.	56-123		1	07/09/18 11:33	07/10/18 16:56	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	8.6	%	0.10	0.10	1		07/11/18 18:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-002 **Lab ID:** 4614538002 Collected: 07/05/18 08:50 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.038 U	mg/kg	0.038	0.0040	1	07/09/18 11:33	07/10/18 17:29	12674-11-2	
PCB-1221 (Aroclor 1221)	0.038 U	mg/kg	0.038	0.0099	1	07/09/18 11:33	07/10/18 17:29	11104-28-2	
PCB-1232 (Aroclor 1232)	0.038 U	mg/kg	0.038	0.0062	1	07/09/18 11:33	07/10/18 17:29	11141-16-5	
PCB-1242 (Aroclor 1242)	0.038 U	mg/kg	0.038	0.0048	1	07/09/18 11:33	07/10/18 17:29	53469-21-9	
PCB-1248 (Aroclor 1248)	0.038 U	mg/kg	0.038	0.0047	1	07/09/18 11:33	07/10/18 17:29	12672-29-6	
PCB-1254 (Aroclor 1254)	0.050	mg/kg	0.038	0.0035	1	07/09/18 11:33	07/10/18 17:29	11097-69-1	
PCB-1260 (Aroclor 1260)	0.014J	mg/kg	0.038	0.0036	1	07/09/18 11:33	07/10/18 17:29	11096-82-5	
PCB, Total (Aroclor)	0.063	mg/kg	0.038	0.0099	1	07/09/18 11:33	07/10/18 17:29	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	75	%.	45-135		1	07/09/18 11:33	07/10/18 17:29	2051-24-3	
Tetrachloro-m-xylene (S)	88	%.	56-123		1	07/09/18 11:33	07/10/18 17:29	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	11.3	%	0.10	0.10	1		07/11/18 18:22		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-003 **Lab ID:** 4614538003 Collected: 07/05/18 08:55 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.042 U	mg/kg	0.042	0.0044	1	07/09/18 11:33	07/10/18 18:02	12674-11-2	
PCB-1221 (Aroclor 1221)	0.042 U	mg/kg	0.042	0.011	1	07/09/18 11:33	07/10/18 18:02	11104-28-2	
PCB-1232 (Aroclor 1232)	0.042 U	mg/kg	0.042	0.0068	1	07/09/18 11:33	07/10/18 18:02	11141-16-5	
PCB-1242 (Aroclor 1242)	0.042 U	mg/kg	0.042	0.0053	1	07/09/18 11:33	07/10/18 18:02	53469-21-9	
PCB-1248 (Aroclor 1248)	0.042 U	mg/kg	0.042	0.0052	1	07/09/18 11:33	07/10/18 18:02	12672-29-6	
PCB-1254 (Aroclor 1254)	0.23	mg/kg	0.042	0.0039	1	07/09/18 11:33	07/10/18 18:02	11097-69-1	
PCB-1260 (Aroclor 1260)	0.042J	mg/kg	0.042	0.0041	1	07/09/18 11:33	07/10/18 18:02	11096-82-5	
PCB, Total (Aroclor)	0.28	mg/kg	0.042	0.011	1	07/09/18 11:33	07/10/18 18:02	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	84	%.	45-135		1	07/09/18 11:33	07/10/18 18:02	2051-24-3	
Tetrachloro-m-xylene (S)	91	%.	56-123		1	07/09/18 11:33	07/10/18 18:02	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	22.2	%	0.10	0.10	1		07/11/18 18:23		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-004 **Lab ID:** 4614538004 Collected: 07/05/18 09:10 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.037 U	mg/kg	0.037	0.0039	1	07/09/18 11:33	07/10/18 18:36	12674-11-2	
PCB-1221 (Aroclor 1221)	0.037 U	mg/kg	0.037	0.0097	1	07/09/18 11:33	07/10/18 18:36	11104-28-2	
PCB-1232 (Aroclor 1232)	0.037 U	mg/kg	0.037	0.0060	1	07/09/18 11:33	07/10/18 18:36	11141-16-5	
PCB-1242 (Aroclor 1242)	0.037 U	mg/kg	0.037	0.0047	1	07/09/18 11:33	07/10/18 18:36	53469-21-9	
PCB-1248 (Aroclor 1248)	0.037 U	mg/kg	0.037	0.0045	1	07/09/18 11:33	07/10/18 18:36	12672-29-6	
PCB-1254 (Aroclor 1254)	0.034J	mg/kg	0.037	0.0034	1	07/09/18 11:33	07/10/18 18:36	11097-69-1	
PCB-1260 (Aroclor 1260)	0.0087J	mg/kg	0.037	0.0036	1	07/09/18 11:33	07/10/18 18:36	11096-82-5	
PCB, Total (Aroclor)	0.043	mg/kg	0.037	0.0097	1	07/09/18 11:33	07/10/18 18:36	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	77	%.	45-135		1	07/09/18 11:33	07/10/18 18:36	2051-24-3	
Tetrachloro-m-xylene (S)	84	%.	56-123		1	07/09/18 11:33	07/10/18 18:36	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	9.6	%	0.10	0.10	1		07/11/18 18:23		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-005 **Lab ID:** 4614538005 Collected: 07/05/18 09:15 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.040 U	mg/kg	0.040	0.0042	1	07/09/18 11:33	07/10/18 19:09	12674-11-2	
PCB-1221 (Aroclor 1221)	0.040 U	mg/kg	0.040	0.010	1	07/09/18 11:33	07/10/18 19:09	11104-28-2	
PCB-1232 (Aroclor 1232)	0.040 U	mg/kg	0.040	0.0065	1	07/09/18 11:33	07/10/18 19:09	11141-16-5	
PCB-1242 (Aroclor 1242)	0.040 U	mg/kg	0.040	0.0051	1	07/09/18 11:33	07/10/18 19:09	53469-21-9	
PCB-1248 (Aroclor 1248)	0.040 U	mg/kg	0.040	0.0049	1	07/09/18 11:33	07/10/18 19:09	12672-29-6	
PCB-1254 (Aroclor 1254)	0.30	mg/kg	0.040	0.0037	1	07/09/18 11:33	07/10/18 19:09	11097-69-1	
PCB-1260 (Aroclor 1260)	0.038J	mg/kg	0.040	0.0039	1	07/09/18 11:33	07/10/18 19:09	11096-82-5	
PCB, Total (Aroclor)	0.34	mg/kg	0.040	0.010	1	07/09/18 11:33	07/10/18 19:09	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	89	%.	45-135		1	07/09/18 11:33	07/10/18 19:09	2051-24-3	
Tetrachloro-m-xylene (S)	97	%.	56-123		1	07/09/18 11:33	07/10/18 19:09	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	17.4	%	0.10	0.10	1		07/11/18 18:24		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-006 **Lab ID:** 4614538006 Collected: 07/05/18 09:20 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.037 U	mg/kg	0.037	0.0039	1	07/09/18 11:33	07/10/18 19:42	12674-11-2	
PCB-1221 (Aroclor 1221)	0.037 U	mg/kg	0.037	0.0098	1	07/09/18 11:33	07/10/18 19:42	11104-28-2	
PCB-1232 (Aroclor 1232)	0.037 U	mg/kg	0.037	0.0061	1	07/09/18 11:33	07/10/18 19:42	11141-16-5	
PCB-1242 (Aroclor 1242)	0.037 U	mg/kg	0.037	0.0047	1	07/09/18 11:33	07/10/18 19:42	53469-21-9	
PCB-1248 (Aroclor 1248)	0.037 U	mg/kg	0.037	0.0046	1	07/09/18 11:33	07/10/18 19:42	12672-29-6	
PCB-1254 (Aroclor 1254)	0.037 U	mg/kg	0.037	0.0035	1	07/09/18 11:33	07/10/18 19:42	11097-69-1	
PCB-1260 (Aroclor 1260)	0.037 U	mg/kg	0.037	0.0036	1	07/09/18 11:33	07/10/18 19:42	11096-82-5	
PCB, Total (Aroclor)	0.037 U	mg/kg	0.037	0.0098	1	07/09/18 11:33	07/10/18 19:42	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	79	%.	45-135		1	07/09/18 11:33	07/10/18 19:42	2051-24-3	
Tetrachloro-m-xylene (S)	67	%.	56-123		1	07/09/18 11:33	07/10/18 19:42	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	12.0	%	0.10	0.10	1		07/11/18 18:25		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-007 **Lab ID:** 4614538007 Collected: 07/05/18 09:25 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.037 U	mg/kg	0.037	0.0039	1	07/09/18 11:33	07/10/18 20:15	12674-11-2	
PCB-1221 (Aroclor 1221)	0.037 U	mg/kg	0.037	0.0098	1	07/09/18 11:33	07/10/18 20:15	11104-28-2	
PCB-1232 (Aroclor 1232)	0.037 U	mg/kg	0.037	0.0061	1	07/09/18 11:33	07/10/18 20:15	11141-16-5	
PCB-1242 (Aroclor 1242)	0.037 U	mg/kg	0.037	0.0047	1	07/09/18 11:33	07/10/18 20:15	53469-21-9	
PCB-1248 (Aroclor 1248)	0.037 U	mg/kg	0.037	0.0046	1	07/09/18 11:33	07/10/18 20:15	12672-29-6	
PCB-1254 (Aroclor 1254)	0.037 U	mg/kg	0.037	0.0035	1	07/09/18 11:33	07/10/18 20:15	11097-69-1	
PCB-1260 (Aroclor 1260)	0.037 U	mg/kg	0.037	0.0036	1	07/09/18 11:33	07/10/18 20:15	11096-82-5	
PCB, Total (Aroclor)	0.037 U	mg/kg	0.037	0.0098	1	07/09/18 11:33	07/10/18 20:15	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	88	%.	45-135		1	07/09/18 11:33	07/10/18 20:15	2051-24-3	
Tetrachloro-m-xylene (S)	88	%.	56-123		1	07/09/18 11:33	07/10/18 20:15	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	12.7	%	0.10	0.10	1		07/11/18 18:25		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-008 **Lab ID:** 4614538008 Collected: 07/05/18 09:35 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.035 U	mg/kg	0.035	0.0037	1	07/09/18 11:33	07/10/18 20:48	12674-11-2	
PCB-1221 (Aroclor 1221)	0.035 U	mg/kg	0.035	0.0091	1	07/09/18 11:33	07/10/18 20:48	11104-28-2	
PCB-1232 (Aroclor 1232)	0.035 U	mg/kg	0.035	0.0057	1	07/09/18 11:33	07/10/18 20:48	11141-16-5	
PCB-1242 (Aroclor 1242)	0.035 U	mg/kg	0.035	0.0044	1	07/09/18 11:33	07/10/18 20:48	53469-21-9	
PCB-1248 (Aroclor 1248)	0.035 U	mg/kg	0.035	0.0043	1	07/09/18 11:33	07/10/18 20:48	12672-29-6	
PCB-1254 (Aroclor 1254)	0.074	mg/kg	0.035	0.0033	1	07/09/18 11:33	07/10/18 20:48	11097-69-1	
PCB-1260 (Aroclor 1260)	0.018J	mg/kg	0.035	0.0034	1	07/09/18 11:33	07/10/18 20:48	11096-82-5	
PCB, Total (Aroclor)	0.092	mg/kg	0.035	0.0091	1	07/09/18 11:33	07/10/18 20:48	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	69	%.	45-135		1	07/09/18 11:33	07/10/18 20:48	2051-24-3	
Tetrachloro-m-xylene (S)	88	%.	56-123		1	07/09/18 11:33	07/10/18 20:48	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	6.6	%	0.10	0.10	1		07/11/18 18:26		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-009 **Lab ID:** 4614538009 Collected: 07/05/18 09:40 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.039 U	mg/kg	0.039	0.0041	1	07/09/18 11:33	07/10/18 22:28	12674-11-2	
PCB-1221 (Aroclor 1221)	0.039 U	mg/kg	0.039	0.010	1	07/09/18 11:33	07/10/18 22:28	11104-28-2	
PCB-1232 (Aroclor 1232)	0.039 U	mg/kg	0.039	0.0064	1	07/09/18 11:33	07/10/18 22:28	11141-16-5	
PCB-1242 (Aroclor 1242)	0.039 U	mg/kg	0.039	0.0050	1	07/09/18 11:33	07/10/18 22:28	53469-21-9	
PCB-1248 (Aroclor 1248)	0.039 U	mg/kg	0.039	0.0049	1	07/09/18 11:33	07/10/18 22:28	12672-29-6	
PCB-1254 (Aroclor 1254)	0.022J	mg/kg	0.039	0.0037	1	07/09/18 11:33	07/10/18 22:28	11097-69-1	
PCB-1260 (Aroclor 1260)	0.0051J	mg/kg	0.039	0.0038	1	07/09/18 11:33	07/10/18 22:28	11096-82-5	
PCB, Total (Aroclor)	0.027J	mg/kg	0.039	0.010	1	07/09/18 11:33	07/10/18 22:28	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	62	%.	45-135		1	07/09/18 11:33	07/10/18 22:28	2051-24-3	
Tetrachloro-m-xylene (S)	47	%.	56-123		1	07/09/18 11:33	07/10/18 22:28	877-09-8	S5
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	16.2	%	0.10	0.10	1		07/11/18 18:27		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-010 **Lab ID:** 4614538010 **Collected:** 07/05/18 09:45 **Received:** 07/06/18 08:50 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.39 U	mg/kg	0.39	0.041	10	07/09/18 11:33	07/11/18 14:06	12674-11-2	
PCB-1221 (Aroclor 1221)	0.39 U	mg/kg	0.39	0.10	10	07/09/18 11:33	07/11/18 14:06	11104-28-2	
PCB-1232 (Aroclor 1232)	0.39 U	mg/kg	0.39	0.063	10	07/09/18 11:33	07/11/18 14:06	11141-16-5	
PCB-1242 (Aroclor 1242)	0.39 U	mg/kg	0.39	0.049	10	07/09/18 11:33	07/11/18 14:06	53469-21-9	
PCB-1248 (Aroclor 1248)	0.39 U	mg/kg	0.39	0.048	10	07/09/18 11:33	07/11/18 14:06	12672-29-6	
PCB-1254 (Aroclor 1254)	0.71	mg/kg	0.39	0.036	10	07/09/18 11:33	07/11/18 14:06	11097-69-1	
PCB-1260 (Aroclor 1260)	2.3	mg/kg	0.39	0.038	10	07/09/18 11:33	07/11/18 14:06	11096-82-5	
PCB, Total (Aroclor)	3.1	mg/kg	0.39	0.10	10	07/09/18 11:33	07/11/18 14:06	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	108	%.	45-135		10	07/09/18 11:33	07/11/18 14:06	2051-24-3	
Tetrachloro-m-xylene (S)	94	%.	56-123		10	07/09/18 11:33	07/11/18 14:06	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	14.4	%	0.10	0.10	1		07/11/18 18:29		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-011 **Lab ID:** 4614538011 Collected: 07/05/18 09:50 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.036 U	mg/kg	0.036	0.0038	1	07/09/18 11:33	07/10/18 23:34	12674-11-2	
PCB-1221 (Aroclor 1221)	0.036 U	mg/kg	0.036	0.0095	1	07/09/18 11:33	07/10/18 23:34	11104-28-2	
PCB-1232 (Aroclor 1232)	0.036 U	mg/kg	0.036	0.0059	1	07/09/18 11:33	07/10/18 23:34	11141-16-5	
PCB-1242 (Aroclor 1242)	0.036 U	mg/kg	0.036	0.0046	1	07/09/18 11:33	07/10/18 23:34	53469-21-9	
PCB-1248 (Aroclor 1248)	0.036 U	mg/kg	0.036	0.0045	1	07/09/18 11:33	07/10/18 23:34	12672-29-6	
PCB-1254 (Aroclor 1254)	0.022J	mg/kg	0.036	0.0034	1	07/09/18 11:33	07/10/18 23:34	11097-69-1	
PCB-1260 (Aroclor 1260)	0.0076J	mg/kg	0.036	0.0035	1	07/09/18 11:33	07/10/18 23:34	11096-82-5	
PCB, Total (Aroclor)	0.030J	mg/kg	0.036	0.0095	1	07/09/18 11:33	07/10/18 23:34	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	88	%.	45-135		1	07/09/18 11:33	07/10/18 23:34	2051-24-3	
Tetrachloro-m-xylene (S)	100	%.	56-123		1	07/09/18 11:33	07/10/18 23:34	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	9.8	%	0.10	0.10	1		07/11/18 18:29		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-013 **Lab ID:** 4614538012 Collected: 07/05/18 10:30 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.072 U	mg/kg	0.072	0.0076	2	07/09/18 11:33	07/11/18 14:39	12674-11-2	
PCB-1221 (Aroclor 1221)	0.072 U	mg/kg	0.072	0.019	2	07/09/18 11:33	07/11/18 14:39	11104-28-2	
PCB-1232 (Aroclor 1232)	0.072 U	mg/kg	0.072	0.012	2	07/09/18 11:33	07/11/18 14:39	11141-16-5	
PCB-1242 (Aroclor 1242)	0.072 U	mg/kg	0.072	0.0091	2	07/09/18 11:33	07/11/18 14:39	53469-21-9	
PCB-1248 (Aroclor 1248)	0.072 U	mg/kg	0.072	0.0089	2	07/09/18 11:33	07/11/18 14:39	12672-29-6	
PCB-1254 (Aroclor 1254)	0.49	mg/kg	0.072	0.0067	2	07/09/18 11:33	07/11/18 14:39	11097-69-1	
PCB-1260 (Aroclor 1260)	0.052J	mg/kg	0.072	0.0070	2	07/09/18 11:33	07/11/18 14:39	11096-82-5	
PCB, Total (Aroclor)	0.54	mg/kg	0.072	0.019	2	07/09/18 11:33	07/11/18 14:39	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	85	%.	45-135		2	07/09/18 11:33	07/11/18 14:39	2051-24-3	
Tetrachloro-m-xylene (S)	92	%.	56-123		2	07/09/18 11:33	07/11/18 14:39	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	7.9	%	0.10	0.10	1		07/11/18 18:30		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-014 **Lab ID:** 4614538013 Collected: 07/05/18 10:35 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.072 U	mg/kg	0.072	0.0077	2	07/09/18 11:33	07/11/18 15:13	12674-11-2	
PCB-1221 (Aroclor 1221)	0.072 U	mg/kg	0.072	0.019	2	07/09/18 11:33	07/11/18 15:13	11104-28-2	
PCB-1232 (Aroclor 1232)	0.072 U	mg/kg	0.072	0.012	2	07/09/18 11:33	07/11/18 15:13	11141-16-5	
PCB-1242 (Aroclor 1242)	0.072 U	mg/kg	0.072	0.0092	2	07/09/18 11:33	07/11/18 15:13	53469-21-9	
PCB-1248 (Aroclor 1248)	0.072 U	mg/kg	0.072	0.0090	2	07/09/18 11:33	07/11/18 15:13	12672-29-6	
PCB-1254 (Aroclor 1254)	0.50	mg/kg	0.072	0.0068	2	07/09/18 11:33	07/11/18 15:13	11097-69-1	
PCB-1260 (Aroclor 1260)	0.057J	mg/kg	0.072	0.0070	2	07/09/18 11:33	07/11/18 15:13	11096-82-5	R1
PCB, Total (Aroclor)	0.55	mg/kg	0.072	0.019	2	07/09/18 11:33	07/11/18 15:13	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	100	%.	45-135		2	07/09/18 11:33	07/11/18 15:13	2051-24-3	
Tetrachloro-m-xylene (S)	99	%.	56-123		2	07/09/18 11:33	07/11/18 15:13	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	8.3	%	0.10	0.10	1		07/11/18 18:31		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-015 **Lab ID:** 4614538014 Collected: 07/05/18 10:40 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.046 U	mg/kg	0.046	0.0048	1	07/09/18 11:33	07/11/18 01:14	12674-11-2	
PCB-1221 (Aroclor 1221)	0.046 U	mg/kg	0.046	0.012	1	07/09/18 11:33	07/11/18 01:14	11104-28-2	
PCB-1232 (Aroclor 1232)	0.046 U	mg/kg	0.046	0.0075	1	07/09/18 11:33	07/11/18 01:14	11141-16-5	
PCB-1242 (Aroclor 1242)	0.046 U	mg/kg	0.046	0.0058	1	07/09/18 11:33	07/11/18 01:14	53469-21-9	
PCB-1248 (Aroclor 1248)	0.046 U	mg/kg	0.046	0.0057	1	07/09/18 11:33	07/11/18 01:14	12672-29-6	
PCB-1254 (Aroclor 1254)	0.018J	mg/kg	0.046	0.0043	1	07/09/18 11:33	07/11/18 01:14	11097-69-1	
PCB-1260 (Aroclor 1260)	0.046 U	mg/kg	0.046	0.0044	1	07/09/18 11:33	07/11/18 01:14	11096-82-5	
PCB, Total (Aroclor)	0.018J	mg/kg	0.046	0.012	1	07/09/18 11:33	07/11/18 01:14	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	76	%.	45-135		1	07/09/18 11:33	07/11/18 01:14	2051-24-3	
Tetrachloro-m-xylene (S)	84	%.	56-123		1	07/09/18 11:33	07/11/18 01:14	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	28.9	%	0.10	0.10	1		07/11/18 18:32		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-016 **Lab ID:** 4614538015 Collected: 07/05/18 10:45 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.036 U	mg/kg	0.036	0.0038	1	07/09/18 11:33	07/11/18 01:47	12674-11-2	
PCB-1221 (Aroclor 1221)	0.036 U	mg/kg	0.036	0.0094	1	07/09/18 11:33	07/11/18 01:47	11104-28-2	
PCB-1232 (Aroclor 1232)	0.036 U	mg/kg	0.036	0.0058	1	07/09/18 11:33	07/11/18 01:47	11141-16-5	
PCB-1242 (Aroclor 1242)	0.036 U	mg/kg	0.036	0.0045	1	07/09/18 11:33	07/11/18 01:47	53469-21-9	
PCB-1248 (Aroclor 1248)	0.036 U	mg/kg	0.036	0.0044	1	07/09/18 11:33	07/11/18 01:47	12672-29-6	
PCB-1254 (Aroclor 1254)	0.036 U	mg/kg	0.036	0.0033	1	07/09/18 11:33	07/11/18 01:47	11097-69-1	
PCB-1260 (Aroclor 1260)	0.036 U	mg/kg	0.036	0.0035	1	07/09/18 11:33	07/11/18 01:47	11096-82-5	
PCB, Total (Aroclor)	0.036 U	mg/kg	0.036	0.0094	1	07/09/18 11:33	07/11/18 01:47	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	89	%.	45-135		1	07/09/18 11:33	07/11/18 01:47	2051-24-3	
Tetrachloro-m-xylene (S)	99	%.	56-123		1	07/09/18 11:33	07/11/18 01:47	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	6.2	%	0.10	0.10	1		07/11/18 18:34		

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-017 **Lab ID:** 4614538016 Collected: 07/05/18 10:50 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.040 U	mg/kg	0.040	0.0042	1	07/09/18 11:33	07/11/18 02:20	12674-11-2	
PCB-1221 (Aroclor 1221)	0.040 U	mg/kg	0.040	0.011	1	07/09/18 11:33	07/11/18 02:20	11104-28-2	
PCB-1232 (Aroclor 1232)	0.040 U	mg/kg	0.040	0.0065	1	07/09/18 11:33	07/11/18 02:20	11141-16-5	
PCB-1242 (Aroclor 1242)	0.040 U	mg/kg	0.040	0.0051	1	07/09/18 11:33	07/11/18 02:20	53469-21-9	
PCB-1248 (Aroclor 1248)	0.040 U	mg/kg	0.040	0.0050	1	07/09/18 11:33	07/11/18 02:20	12672-29-6	
PCB-1254 (Aroclor 1254)	0.0073J	mg/kg	0.040	0.0038	1	07/09/18 11:33	07/11/18 02:20	11097-69-1	
PCB-1260 (Aroclor 1260)	0.020J	mg/kg	0.040	0.0039	1	07/09/18 11:33	07/11/18 02:20	11096-82-5	
PCB, Total (Aroclor)	0.027J	mg/kg	0.040	0.011	1	07/09/18 11:33	07/11/18 02:20	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	88	%.	45-135		1	07/09/18 11:33	07/11/18 02:20	2051-24-3	
Tetrachloro-m-xylene (S)	62	%.	56-123		1	07/09/18 11:33	07/11/18 02:20	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	17.2	%	0.10	0.10	1		07/11/18 18:35		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-018 **Lab ID:** 4614538017 Collected: 07/05/18 10:55 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.039 U	mg/kg	0.039	0.0041	1	07/09/18 11:33	07/11/18 02:53	12674-11-2	
PCB-1221 (Aroclor 1221)	0.039 U	mg/kg	0.039	0.010	1	07/09/18 11:33	07/11/18 02:53	11104-28-2	
PCB-1232 (Aroclor 1232)	0.039 U	mg/kg	0.039	0.0063	1	07/09/18 11:33	07/11/18 02:53	11141-16-5	
PCB-1242 (Aroclor 1242)	0.039 U	mg/kg	0.039	0.0049	1	07/09/18 11:33	07/11/18 02:53	53469-21-9	
PCB-1248 (Aroclor 1248)	0.039 U	mg/kg	0.039	0.0048	1	07/09/18 11:33	07/11/18 02:53	12672-29-6	
PCB-1254 (Aroclor 1254)	0.020J	mg/kg	0.039	0.0036	1	07/09/18 11:33	07/11/18 02:53	11097-69-1	
PCB-1260 (Aroclor 1260)	0.0041J	mg/kg	0.039	0.0038	1	07/09/18 11:33	07/11/18 02:53	11096-82-5	
PCB, Total (Aroclor)	0.025J	mg/kg	0.039	0.010	1	07/09/18 11:33	07/11/18 02:53	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	78	%.	45-135		1	07/09/18 11:33	07/11/18 02:53	2051-24-3	
Tetrachloro-m-xylene (S)	89	%.	56-123		1	07/09/18 11:33	07/11/18 02:53	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	13.5	%	0.10	0.10	1		07/11/18 18:35		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: PCC Validation

Pace Project No.: 4614538

Sample: 50-17322A-070518-D5-019 **Lab ID:** 4614538018 Collected: 07/05/18 11:00 Received: 07/06/18 08:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.038 U	mg/kg	0.038	0.0041	1	07/09/18 11:33	07/11/18 04:33	12674-11-2	
PCB-1221 (Aroclor 1221)	0.038 U	mg/kg	0.038	0.010	1	07/09/18 11:33	07/11/18 04:33	11104-28-2	
PCB-1232 (Aroclor 1232)	0.038 U	mg/kg	0.038	0.0063	1	07/09/18 11:33	07/11/18 04:33	11141-16-5	
PCB-1242 (Aroclor 1242)	0.038 U	mg/kg	0.038	0.0049	1	07/09/18 11:33	07/11/18 04:33	53469-21-9	
PCB-1248 (Aroclor 1248)	0.038 U	mg/kg	0.038	0.0048	1	07/09/18 11:33	07/11/18 04:33	12672-29-6	
PCB-1254 (Aroclor 1254)	0.019J	mg/kg	0.038	0.0036	1	07/09/18 11:33	07/11/18 04:33	11097-69-1	
PCB-1260 (Aroclor 1260)	0.013J	mg/kg	0.038	0.0037	1	07/09/18 11:33	07/11/18 04:33	11096-82-5	
PCB, Total (Aroclor)	0.032J	mg/kg	0.038	0.010	1	07/09/18 11:33	07/11/18 04:33	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	75	%.	45-135		1	07/09/18 11:33	07/11/18 04:33	2051-24-3	
Tetrachloro-m-xylene (S)	94	%.	56-123		1	07/09/18 11:33	07/11/18 04:33	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	13.1	%	0.10	0.10	1		07/11/18 18:36		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PCC Validation
Pace Project No.: 4614538

QC Batch:	27673	Analysis Method:	EPA 8082A
QC Batch Method:	EPA 3545A	Analysis Description:	8082A GCS PCB
Associated Lab Samples:	4614538001, 4614538002, 4614538003, 4614538004, 4614538005, 4614538006, 4614538007, 4614538008, 4614538009, 4614538010, 4614538011, 4614538012, 4614538013, 4614538014, 4614538015, 4614538016, 4614538017, 4614538018		

METHOD BLANK: 110667 Matrix: Solid
Associated Lab Samples: 4614538001, 4614538002, 4614538003, 4614538004, 4614538005, 4614538006, 4614538007, 4614538008, 4614538009, 4614538010, 4614538011, 4614538012, 4614538013, 4614538014, 4614538015, 4614538016, 4614538017, 4614538018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	0.033 U	0.033	0.0035	07/10/18 16:23	
PCB-1221 (Aroclor 1221)	mg/kg	0.033 U	0.033	0.0088	07/10/18 16:23	
PCB-1232 (Aroclor 1232)	mg/kg	0.033 U	0.033	0.0054	07/10/18 16:23	
PCB-1242 (Aroclor 1242)	mg/kg	0.033 U	0.033	0.0042	07/10/18 16:23	
PCB-1248 (Aroclor 1248)	mg/kg	0.033 U	0.033	0.0041	07/10/18 16:23	
PCB-1254 (Aroclor 1254)	mg/kg	0.033 U	0.033	0.0031	07/10/18 16:23	
PCB-1260 (Aroclor 1260)	mg/kg	0.033 U	0.033	0.0032	07/10/18 16:23	
Decachlorobiphenyl (S)	%.	95	45-135		07/10/18 16:23	
Tetrachloro-m-xylene (S)	%.	99	56-123		07/10/18 16:23	

LABORATORY CONTROL SAMPLE: 110668

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	.2	0.20	103	68-129	
PCB-1260 (Aroclor 1260)	mg/kg	.2	0.20	102	60-140	
Decachlorobiphenyl (S)	%.			86	45-135	
Tetrachloro-m-xylene (S)	%.			95	56-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 110669 110670

Parameter	Units	4614538013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/kg	0.072 U	.22	.22	0.23	0.25	106	114	49-128	11	30	
PCB-1260 (Aroclor 1260)	mg/kg	0.057J	.22	.22	0.26	0.35	94	134	48-138	31	30	R1
Decachlorobiphenyl (S)	%.						101	99	45-135			
Tetrachloro-m-xylene (S)	%.						99	104	56-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: PCC Validation

Pace Project No.: 4614538

QC Batch: 27876 Analysis Method: SM 2540 G-11/3550
QC Batch Method: SM 2540 G-11/3550 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 4614538001, 4614538002, 4614538003, 4614538004, 4614538005, 4614538006, 4614538007, 4614538008, 4614538009, 4614538010, 4614538011, 4614538012, 4614538013, 4614538014, 4614538015, 4614538016, 4614538017, 4614538018

SAMPLE DUPLICATE: 111369

Parameter	Units	4614538001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.6	9.7	13	20	

SAMPLE DUPLICATE: 111370

Parameter	Units	4614538013 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	8.3	9.0	8	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: PCC Validation

Pace Project No.: 4614538

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

R1 RPD value was outside control limits.

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: PCC Validation

Pace Project No.: 4614538

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4614538001	50-17322A-070518-D5-001	EPA 3545A	27673	EPA 8082A	27768
4614538002	50-17322A-070518-D5-002	EPA 3545A	27673	EPA 8082A	27768
4614538003	50-17322A-070518-D5-003	EPA 3545A	27673	EPA 8082A	27768
4614538004	50-17322A-070518-D5-004	EPA 3545A	27673	EPA 8082A	27768
4614538005	50-17322A-070518-D5-005	EPA 3545A	27673	EPA 8082A	27768
4614538006	50-17322A-070518-D5-006	EPA 3545A	27673	EPA 8082A	27768
4614538007	50-17322A-070518-D5-007	EPA 3545A	27673	EPA 8082A	27768
4614538008	50-17322A-070518-D5-008	EPA 3545A	27673	EPA 8082A	27768
4614538009	50-17322A-070518-D5-009	EPA 3545A	27673	EPA 8082A	27768
4614538010	50-17322A-070518-D5-010	EPA 3545A	27673	EPA 8082A	27768
4614538011	50-17322A-070518-D5-011	EPA 3545A	27673	EPA 8082A	27768
4614538012	50-17322A-070518-D5-013	EPA 3545A	27673	EPA 8082A	27768
4614538013	50-17322A-070518-D5-014	EPA 3545A	27673	EPA 8082A	27768
4614538014	50-17322A-070518-D5-015	EPA 3545A	27673	EPA 8082A	27768
4614538015	50-17322A-070518-D5-016	EPA 3545A	27673	EPA 8082A	27768
4614538016	50-17322A-070518-D5-017	EPA 3545A	27673	EPA 8082A	27768
4614538017	50-17322A-070518-D5-018	EPA 3545A	27673	EPA 8082A	27768
4614538018	50-17322A-070518-D5-019	EPA 3545A	27673	EPA 8082A	27768
4614538001	50-17322A-070518-D5-001	SM 2540 G-11/3550	27876		
4614538002	50-17322A-070518-D5-002	SM 2540 G-11/3550	27876		
4614538003	50-17322A-070518-D5-003	SM 2540 G-11/3550	27876		
4614538004	50-17322A-070518-D5-004	SM 2540 G-11/3550	27876		
4614538005	50-17322A-070518-D5-005	SM 2540 G-11/3550	27876		
4614538006	50-17322A-070518-D5-006	SM 2540 G-11/3550	27876		
4614538007	50-17322A-070518-D5-007	SM 2540 G-11/3550	27876		
4614538008	50-17322A-070518-D5-008	SM 2540 G-11/3550	27876		
4614538009	50-17322A-070518-D5-009	SM 2540 G-11/3550	27876		
4614538010	50-17322A-070518-D5-010	SM 2540 G-11/3550	27876		
4614538011	50-17322A-070518-D5-011	SM 2540 G-11/3550	27876		
4614538012	50-17322A-070518-D5-013	SM 2540 G-11/3550	27876		
4614538013	50-17322A-070518-D5-014	SM 2540 G-11/3550	27876		
4614538014	50-17322A-070518-D5-015	SM 2540 G-11/3550	27876		
4614538015	50-17322A-070518-D5-016	SM 2540 G-11/3550	27876		
4614538016	50-17322A-070518-D5-017	SM 2540 G-11/3550	27876		
4614538017	50-17322A-070518-D5-018	SM 2540 G-11/3550	27876		
4614538018	50-17322A-070518-D5-019	SM 2540 G-11/3550	27876		

REPORT OF LABORATORY ANALYSIS

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MO#: 4614538

4614538



PT87 L1

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company: GHID	Report To: James Johnston
Address: 26830 Heritage Rd.	Copy To: Michael Corcoran
City/State/Zip: Fort Worth, TX 76131	Purchase Order No.: PLC-Validation
Email To: Michael Corcoran @ghid.com	Project Name: PLC-Validation
Phone: 817-893-3400	Project Number: 012322A-707
Requested Due Date/AT: STD 2-WK	

Section B Invoice Information:

Attention: Accounts Payable
Company Name: GHID
Address: See last
Page: 1 of 1
Reference: See last
Face Project Manager: See last
Face Profile #: See last

Page: **1** of **2**

REGULATORY AGENCY

☐ NPDES	☐ GROUND WATER	☐ DRINKING WATER
☐ UST	☐ RCRA	☐ OTHER
Site Location STATE: TX		

Requested Analysis Filtered (Y/N)

ITEM #	Matrix Codes (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			DATE	TIME						
1	50-12322A-070518-05-001	SL	7-5-18	0845	1	Unpreserved		PCBs		
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)
Sample - 018 does not exist	WWR / GHID	7-5-18	1300	Deane Saliba	7/6	0850			

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: Deane Saliba	DATE Signed (MM/DD/YY): 07/05/18
SIGNATURE of SAMPLER: WWR	

Important Note: By signing this form, you are accepting Pace's NET 30 day payment terms and agreeing to the charges of 1.5% per month for any invoice not paid within 30 days.

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company:	GHD	Report To:	James Ashton
Address:	26850 Hesperity Rd	Copy To:	Michael Caron
Location:	Hampton Hills, N.Y. 11931	Purchase Order No.:	
Email To:	Michael.Caron@ghd.com	Project Name:	PCC - Validation
Phone:	516-263-1400	Project Number:	017328A-707
Fax:		Requested Due Date/AT:	07D 2-4K

Section B

Required Project Information:

Attention:	Accounts Payable
Company Name:	GHD
Address:	26850 Hesperity Rd
Phone:	516-263-1400
Fax:	
Project Manager:	
Price Profile #:	

Page: 2 of 2

Requested Analysis Filtered (Y/N)

REGULATORY AGENCY	NPDES	GROUND WATER	DRINKING WATER
	UST	RORA	OTHER
Site Location	STATE:	MI	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/END	DATE	TIME		Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other						
1	50-17328A-070518-DC-012		5L6				7-516	1030	1	X								PCB's					
2		-014						1035	2	X													
3		-015						1040	1	X													
4		-016						1045	1	X													
5		-017						1050	1	X													
6		-018						1055	1	X													
7		-019						1100	1	X													
8																							
9																							
10																							
11																							
12																							

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Derek Soliba
SIGNATURE of SAMPLER:	[Signature]
DATE Signed (MM/DD/YY):	07/05/08

SAMPLE RECEIVING / LOG-IN CHECKLIST

Client GHD	Receipt Record Page/Line # 1-16	Thermometer Used ☒ IR Gun (#402) ☐ Digital Thermometer (#54)
Work Order # 4614538	001-019	
Recorded by (initials/date) IB 7/6/18		

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	Temp Blank Location is:	Observed	Correction	Actual °C	Temp Blank	Sample 1	Sample 2	Sample 3	When above 6 °C take a	3 Sample Average °C	VOC Trip Blank received?
1131		☒ None ☐ Present / Intact ☐ Present / Not Intact	☒ Loose ice ☐ Bagged ice ☐ Blue ice ☐ None	Dispersed / Top / Middle / Bottom	☒ Yes ☐ No	If Present, Temperature Blank Location is:	Observed	Correction	Actual °C	Temp Blank	Sample 1	Sample 2	Sample 3	When above 6 °C take a	3 Sample Average °C	☐ VOC Trip Blank received?
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose ice ☐ Bagged ice ☐ Blue ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	If Present, Temperature Blank Location is:	Observed	Correction	Actual °C	Temp Blank	Sample 1	Sample 2	Sample 3	When above 6 °C take a	3 Sample Average °C	☐ VOC Trip Blank received?
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose ice ☐ Bagged ice ☐ Blue ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	If Present, Temperature Blank Location is:	Observed	Correction	Actual °C	Temp Blank	Sample 1	Sample 2	Sample 3	When above 6 °C take a	3 Sample Average °C	☐ VOC Trip Blank received?

Paperwork Received

Yes ☐ No ☐ Chain of Custody record(s)? If No, Initiated By _____

Yes ☐ No ☐ Received for Lab Signed/Date/Time? _____

Yes ☐ No ☐ USDA Soil Documents? _____

Yes ☐ No ☐ Sampling / Field Forms? _____

Yes ☐ No ☐ Other _____

COC Information

Yes ☐ No ☐ Pace COC ☐ Other _____

COC ID Numbers: _____

Check COC for Accuracy

Yes ☐ No ☐ Analysis Requested?

Yes ☐ No ☐ Sample ID matches COC?

Yes ☐ No ☐ Sample Date and Time matches COC?

Yes ☐ No ☐ All containers indicated are received?

Sample Condition Summary

Yes ☐ No ☐ Broken containers/lids?

Yes ☐ No ☐ Missing or incomplete labels?

Yes ☐ No ☐ Illegible information on labels?

Yes ☐ No ☐ Low volume received?

Yes ☐ No ☐ Inappropriate or non-Face containers received?

Yes ☐ No ☐ VOC vials have headspace?

Yes ☐ No ☐ Extra sample locations?

Yes ☐ No ☐ Containers not listed on COC?

Check Sample Preservation

N/A ☐ Yes ☐ No ☐ Temperature Blank OR average sample temperature, ≥6 °C?

N/A ☐ Yes ☐ No ☐ If "Yes" was thermal preservation required?

N/A ☐ Yes ☐ No ☐ If "Yes" were ALL samples collected the same day as receipt?

N/A ☐ Yes ☐ No ☐ Completed Sample Preservation Verification Form?

N/A ☐ Yes ☐ No ☐ Samples chemically preserved correctly?

N/A ☐ Yes ☐ No ☐ If "No", add wire tag and fill out Non-Conformance Form?

N/A ☐ Yes ☐ No ☐ Received unpreserved Terracore kit?

N/A ☐ Yes ☐ No ☐ If "Yes" unpreserved vials must be frozen

Work Order Not Logged In with Short Hold / Rush

☐ Copies of COC To Lab Areas

Notes

Initial / Date : IB 7/6/18

Yes ☒ No ☐ Were all samples logged into Epic?

Yes ☒ No ☐ Were all samples labelled?

Yes ☒ No ☐ Were samples placed on scan locations?

GHD Simplified Scope of Work (SSOW)/Laboratory Services Purchase Order

Project Summary:

Project Name: PCC-Validation
 GHD Project No./Phase/Task: 017322A - 107
 Project Location: Pontiac
 Client Name: RACER
 QAPP Title: Sampling and Analysis Plan and
 Fundamental Quality Assurance Project Plan

Database Summary:

Database Maintained: ☒ Yes ☐ No
 Database Facility Code: GM-E-ValidationCntr
 Note: Is there more than one laboratory
 for this event? (SSOW__ of __) ☐ Yes ☐ No

SSOW Ref. Code
 17322-007-T06Y18

FOR INTERNAL USE ONLY - CODING

Event Summary:

Phase/Study Title: Soil Sampling
 Event Description: Soil Sampling
 Start Date: 7-5-2018
 Sampling Duration: 1day
 Sampling Frequency: one-time

Rush TAT: Standard ☐ MA
 Final Report & EDD TAT: Standard
 Date Bottles Required: Tuesday 7/3/2018
 Bottle Shipping Address: GHD- Farmington Hills office
 26850 Haggerty Rd, Farmington Hills, MI 48331
 Phone Number: 734-260-1589 Attention: Derek Saliba

Contacts:

Client Project Manager:

Name	Address	Phone	Cell	Email
GHD				
Consulting Firm:	26850 Haggerty Rd, Farmington Hills, MI 48331			thomas.kinney@ghd.com
Project Manager:	26850 Haggerty Rd, Farmington Hills, MI 48331			michael.coram@ghd.com
Project Coordinator:	26850 Haggerty Rd, Farmington Hills, MI 48331			derek.saliba@ghd.com
Field Leader:	37727 Professional Service Center, Livonia, MI 48154			
Laboratory (Vendor):	248-996-7244			
Lab Project Manager:	26850 Haggerty Rd, Farmington Hills, MI 48331	248-893-3381		james.abston@ghd.com
Chemist:	26850 Haggerty Rd, Farmington Hills, MI 48331	248-893-3424		
Database Analyst:				

Lab Deliverables

EDD Format ☐ BHD EQUIS E2EDD
 Hardcopy Level Requested ☐ BHD Standard

☐ BHD EQUIS 4-file
☒ Expanded ☐ Other (Please Specify) _____

Additional Reporting Requirements
 Form 1's include: ☒ MDS ☐ TICS: ☐ Yes ☐ No
 Soil Reporting: ☒ Dry ☐ Wet

Lab Deliverables Distribution

Rush TAT Data (email deliverable only): _____
 Final EDD & Result Summary (PDF): _____
 Final Lab Report ☒ PDF ☐ CD ☐ Hard Copy : _____
 Mary Cameron (chemdel@ghd.com) thomas.kinney@ghd.com michael.coram@ghd.com kellyn.trestail@ghd.com
 ghespnde@ghd.com

GHD Data Review Level

☐ Compliance ☒ Reduced Validation ☒ Reg III Innovative
☒ Full Validation ☐ 10/90-Full/Innovative ☒ Other (Please Specify) _____
 10% will require exp review

Data Management Deliverables

Data Management Deliverables Distribution

Distribution List: _____
☐ EQUIS Database ☒ Ross Tab Table ☐ Flat File ☐ Databox ☐ Other (Please specify): _____
 Database Exports - Reporting down to MDL ☐ Yes ☐ No

Comments

*** additional Final Lab Report copy (in *.pdf format) is available on GHD's MyPortal Site in the Project File folder or on Program specific SharePoint site, please contact project Chemist

SSOW Email Distribution List: thomas.kinney@ghd.com; derek.saliba@ghd.com; james.abston@ghd.com; Jennifer.Devonshire@ghd.com

Prepared By: K. Trestail Date: 6/28/2018 Revision No.: _____ Revision Date: _____

September 05, 2018

James Abston
GHD-Farmington Hills, Michigan
26850 Haggerty Road
Farmington, MI 48331

RE: Project: Racer-PCC Validation
Pace Project No.: 4616234

Dear James Abston:

Enclosed are the analytical results for sample(s) received by the laboratory on August 11, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

051710-E201072-028

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Will Cole
will.cole@pacelabs.com
(616)975-4500
Project Manager

Enclosures

cc: Detroit Chemistry, GHD



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512

Minnesota Department of Health, Certificate #1385941

Arkansas Department of Environmental Quality, Certificate
#18-046-0

Georgia Environmental Protection Division, Stipulation

Illinois Environmental Protection Agency, Certificate

#004325

Michigan Department of Environmental Quality, Laboratory

#0034

New York State Department of Health, Serial #57971 and
57972

North Carolina Division of Water Resources, Certificate
#659

Virginia Department of General Services, Certificate #9780

Wisconsin Department of Natural Resources, Laboratory
#999472650

U.S. Department of Agriculture Permit to Receive Soil,
Permit #P330-17-00278

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Racer-PCC Validation

Pace Project No.: 4616234

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4616234001	SB-17322A-0818018-KT-001	Solid	08/10/18 10:15	08/11/18 09:10
4616234002	SB-17322A-0818018-KT-002	Solid	08/10/18 10:20	08/11/18 09:10
4616234003	SB-17322A-0818018-KT-003	Solid	08/10/18 10:25	08/11/18 09:10
4616234004	SB-17322A-0818018-KT-004	Solid	08/10/18 10:30	08/11/18 09:10
4616234005	SB-17322A-0818018-KT-005	Solid	08/10/18 10:40	08/11/18 09:10
4616234006	SB-17322A-0818018-KT-006	Solid	08/10/18 10:45	08/11/18 09:10
4616234007	SB-17322A-0818018-KT-007	Solid	08/10/18 10:50	08/11/18 09:10

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SAMPLE ANALYTE COUNT

Project: Racer-PCC Validation

Pace Project No.: 4616234

Lab ID	Sample ID	Method	Analysts	Analytes Reported
4616234001	SB-17322A-0818018-KT-001	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1
4616234002	SB-17322A-0818018-KT-002	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1
4616234003	SB-17322A-0818018-KT-003	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1
4616234004	SB-17322A-0818018-KT-004	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1
4616234005	SB-17322A-0818018-KT-005	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1
4616234006	SB-17322A-0818018-KT-006	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1
4616234007	SB-17322A-0818018-KT-007	EPA 8082A	CAC	10
		SM 2540 G-11/3550	NRC	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-001 **Lab ID:** 4616234001 **Collected:** 08/10/18 10:15 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.035 U	mg/kg	0.035	0.0037	1	08/14/18 14:05	08/25/18 00:15	12674-11-2	
PCB-1221 (Aroclor 1221)	0.035 U	mg/kg	0.035	0.0093	1	08/14/18 14:05	08/25/18 00:15	11104-28-2	
PCB-1232 (Aroclor 1232)	0.035 U	mg/kg	0.035	0.0058	1	08/14/18 14:05	08/25/18 00:15	11141-16-5	
PCB-1242 (Aroclor 1242)	0.035 U	mg/kg	0.035	0.0045	1	08/14/18 14:05	08/25/18 00:15	53469-21-9	
PCB-1248 (Aroclor 1248)	0.035 U	mg/kg	0.035	0.0044	1	08/14/18 14:05	08/25/18 00:15	12672-29-6	
PCB-1254 (Aroclor 1254)	0.035 U	mg/kg	0.035	0.0033	1	08/14/18 14:05	08/25/18 00:15	11097-69-1	
PCB-1260 (Aroclor 1260)	0.035 U	mg/kg	0.035	0.0034	1	08/14/18 14:05	08/25/18 00:15	11096-82-5	
PCB, Total (Aroclor)	0.035 U	mg/kg	0.035	0.0093	1	08/14/18 14:05	08/25/18 00:15	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	102	%	45-135		1	08/14/18 14:05	08/25/18 00:15	2051-24-3	
Tetrachloro-m-xylene (S)	98	%	56-123		1	08/14/18 14:05	08/25/18 00:15	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	10.1	%	0.10	0.10	1		08/17/18 16:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-002 **Lab ID:** 4616234002 **Collected:** 08/10/18 10:20 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE									
Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.037 U	mg/kg	0.037	0.0040	1	08/14/18 14:05	08/25/18 00:45	12674-11-2	
PCB-1221 (Aroclor 1221)	0.037 U	mg/kg	0.037	0.0099	1	08/14/18 14:05	08/25/18 00:45	11104-28-2	
PCB-1232 (Aroclor 1232)	0.037 U	mg/kg	0.037	0.0061	1	08/14/18 14:05	08/25/18 00:45	11141-16-5	
PCB-1242 (Aroclor 1242)	0.037 U	mg/kg	0.037	0.0048	1	08/14/18 14:05	08/25/18 00:45	53469-21-9	
PCB-1248 (Aroclor 1248)	0.037 U	mg/kg	0.037	0.0047	1	08/14/18 14:05	08/25/18 00:45	12672-29-6	
PCB-1254 (Aroclor 1254)	0.12	mg/kg	0.037	0.0035	1	08/14/18 14:05	08/25/18 00:45	11097-69-1	
PCB-1260 (Aroclor 1260)	0.037 U	mg/kg	0.037	0.0036	1	08/14/18 14:05	08/25/18 00:45	11096-82-5	
PCB, Total (Aroclor)	0.12	mg/kg	0.037	0.0099	1	08/14/18 14:05	08/25/18 00:45	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	96	%	45-135		1	08/14/18 14:05	08/25/18 00:45	2051-24-3	
Tetrachloro-m-xylene (S)	92	%	56-123		1	08/14/18 14:05	08/25/18 00:45	877-09-8	
Percent Moisture									
Analytical Method: SM 2540 G-11/3550									
Percent Moisture	14.3	%	0.10	0.10	1		08/17/18 16:41		

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-003 **Lab ID:** 4616234003 **Collected:** 08/10/18 10:25 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE									
Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.038 U	mg/kg	0.038	0.0040	1	08/14/18 14:05	08/25/18 02:16	12674-11-2	
PCB-1221 (Aroclor 1221)	0.038 U	mg/kg	0.038	0.0099	1	08/14/18 14:05	08/25/18 02:16	11104-28-2	
PCB-1232 (Aroclor 1232)	0.038 U	mg/kg	0.038	0.0062	1	08/14/18 14:05	08/25/18 02:16	11141-16-5	
PCB-1242 (Aroclor 1242)	0.038 U	mg/kg	0.038	0.0048	1	08/14/18 14:05	08/25/18 02:16	53469-21-9	
PCB-1248 (Aroclor 1248)	0.038 U	mg/kg	0.038	0.0047	1	08/14/18 14:05	08/25/18 02:16	12672-29-6	
PCB-1254 (Aroclor 1254)	0.038 U	mg/kg	0.038	0.0035	1	08/14/18 14:05	08/25/18 02:16	11097-69-1	
PCB-1260 (Aroclor 1260)	0.038 U	mg/kg	0.038	0.0036	1	08/14/18 14:05	08/25/18 02:16	11096-82-5	
PCB, Total (Aroclor)	0.038 U	mg/kg	0.038	0.0099	1	08/14/18 14:05	08/25/18 02:16	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	94	%	45-135		1	08/14/18 14:05	08/25/18 02:16	2051-24-3	
Tetrachloro-m-xylene (S)	93	%	56-123		1	08/14/18 14:05	08/25/18 02:16	877-09-8	
Percent Moisture									
Analytical Method: SM 2540 G-11/3550									
Percent Moisture	12.5	%	0.10	0.10	1		08/17/18 16:43		

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-004 **Lab ID:** 4616234004 **Collected:** 08/10/18 10:30 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE									
Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.037 U	mg/kg	0.037	0.0039	1	08/14/18 14:05	08/25/18 02:46	12674-11-2	
PCB-1221 (Aroclor 1221)	0.037 U	mg/kg	0.037	0.0098	1	08/14/18 14:05	08/25/18 02:46	11104-28-2	
PCB-1232 (Aroclor 1232)	0.037 U	mg/kg	0.037	0.0061	1	08/14/18 14:05	08/25/18 02:46	11141-16-5	
PCB-1242 (Aroclor 1242)	0.037 U	mg/kg	0.037	0.0047	1	08/14/18 14:05	08/25/18 02:46	53469-21-9	
PCB-1248 (Aroclor 1248)	0.037 U	mg/kg	0.037	0.0046	1	08/14/18 14:05	08/25/18 02:46	12672-29-6	
PCB-1254 (Aroclor 1254)	0.037 U	mg/kg	0.037	0.0035	1	08/14/18 14:05	08/25/18 02:46	11097-69-1	
PCB-1260 (Aroclor 1260)	0.037 U	mg/kg	0.037	0.0036	1	08/14/18 14:05	08/25/18 02:46	11096-82-5	
PCB, Total (Aroclor)	0.037 U	mg/kg	0.037	0.0098	1	08/14/18 14:05	08/25/18 02:46	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	84	%	45-135		1	08/14/18 14:05	08/25/18 02:46	2051-24-3	
Tetrachloro-m-xylene (S)	87	%	56-123		1	08/14/18 14:05	08/25/18 02:46	877-09-8	
Percent Moisture									
Analytical Method: SM 2540 G-11/3550									
Percent Moisture	12.2	%	0.10	0.10	1		08/17/18 16:46		

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-005 **Lab ID:** 4616234005 **Collected:** 08/10/18 10:40 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE									
Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.069 U	mg/kg	0.069	0.0074	2	08/14/18 14:05	08/27/18 16:59	12674-11-2	
PCB-1221 (Aroclor 1221)	0.069 U	mg/kg	0.069	0.018	2	08/14/18 14:05	08/27/18 16:59	11104-28-2	
PCB-1232 (Aroclor 1232)	0.069 U	mg/kg	0.069	0.011	2	08/14/18 14:05	08/27/18 16:59	11141-16-5	
PCB-1242 (Aroclor 1242)	0.069 U	mg/kg	0.069	0.0088	2	08/14/18 14:05	08/27/18 16:59	53469-21-9	
PCB-1248 (Aroclor 1248)	0.069 U	mg/kg	0.069	0.0086	2	08/14/18 14:05	08/27/18 16:59	12672-29-6	
PCB-1254 (Aroclor 1254)	0.47	mg/kg	0.069	0.0065	2	08/14/18 14:05	08/27/18 16:59	11097-69-1	
PCB-1260 (Aroclor 1260)	0.069 U	mg/kg	0.069	0.0067	2	08/14/18 14:05	08/27/18 16:59	11096-82-5	
PCB, Total (Aroclor)	0.47	mg/kg	0.069	0.018	2	08/14/18 14:05	08/27/18 16:59	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	83	%	45-135		2	08/14/18 14:05	08/27/18 16:59	2051-24-3	
Tetrachloro-m-xylene (S)	84	%	56-123		2	08/14/18 14:05	08/27/18 16:59	877-09-8	
Percent Moisture									
Analytical Method: SM 2540 G-11/3550									
Percent Moisture	6.7	%	0.10	0.10	1		08/17/18 16:48		

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-006 **Lab ID:** 4616234006 **Collected:** 08/10/18 10:45 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.036 U	mg/kg	0.036	0.0038	1	08/14/18 14:05	08/25/18 03:46	12674-11-2	
PCB-1221 (Aroclor 1221)	0.036 U	mg/kg	0.036	0.0094	1	08/14/18 14:05	08/25/18 03:46	11104-28-2	
PCB-1232 (Aroclor 1232)	0.036 U	mg/kg	0.036	0.0058	1	08/14/18 14:05	08/25/18 03:46	11141-16-5	
PCB-1242 (Aroclor 1242)	0.036 U	mg/kg	0.036	0.0045	1	08/14/18 14:05	08/25/18 03:46	53469-21-9	
PCB-1248 (Aroclor 1248)	0.036 U	mg/kg	0.036	0.0044	1	08/14/18 14:05	08/25/18 03:46	12672-29-6	
PCB-1254 (Aroclor 1254)	0.036 U	mg/kg	0.036	0.0033	1	08/14/18 14:05	08/25/18 03:46	11097-69-1	
PCB-1260 (Aroclor 1260)	0.036 U	mg/kg	0.036	0.0034	1	08/14/18 14:05	08/25/18 03:46	11096-82-5	
PCB, Total (Aroclor)	0.036 U	mg/kg	0.036	0.0094	1	08/14/18 14:05	08/25/18 03:46	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	94	%	45-135		1	08/14/18 14:05	08/25/18 03:46	2051-24-3	
Tetrachloro-m-xylene (S)	94	%	56-123		1	08/14/18 14:05	08/25/18 03:46	877-09-8	
Percent Moisture Analytical Method: SM 2540 G-11/3550									
Percent Moisture	8.3	%	0.10	0.10	1		08/17/18 16:50		

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ANALYTICAL RESULTS

Project: Racer-PCC Validation

Pace Project No.: 4616234

Sample: SB-17322A-0818018-KT-007 **Lab ID:** 4616234007 **Collected:** 08/10/18 10:50 **Received:** 08/11/18 09:10 **Matrix:** Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS Solids ASE									
Analytical Method: EPA 8082A Preparation Method: EPA 3545A									
PCB-1016 (Aroclor 1016)	0.037 U	mg/kg	0.037	0.0039	1	08/14/18 14:05	08/25/18 04:16	12674-11-2	
PCB-1221 (Aroclor 1221)	0.037 U	mg/kg	0.037	0.0097	1	08/14/18 14:05	08/25/18 04:16	11104-28-2	
PCB-1232 (Aroclor 1232)	0.037 U	mg/kg	0.037	0.0060	1	08/14/18 14:05	08/25/18 04:16	11141-16-5	
PCB-1242 (Aroclor 1242)	0.037 U	mg/kg	0.037	0.0047	1	08/14/18 14:05	08/25/18 04:16	53469-21-9	
PCB-1248 (Aroclor 1248)	0.037 U	mg/kg	0.037	0.0046	1	08/14/18 14:05	08/25/18 04:16	12672-29-6	
PCB-1254 (Aroclor 1254)	0.037 U	mg/kg	0.037	0.0035	1	08/14/18 14:05	08/25/18 04:16	11097-69-1	
PCB-1260 (Aroclor 1260)	0.037 U	mg/kg	0.037	0.0036	1	08/14/18 14:05	08/25/18 04:16	11096-82-5	
PCB, Total (Aroclor)	0.037 U	mg/kg	0.037	0.0097	1	08/14/18 14:05	08/25/18 04:16	1336-36-3	N2
Surrogates									
Decachlorobiphenyl (S)	94	%	45-135		1	08/14/18 14:05	08/25/18 04:16	2051-24-3	
Tetrachloro-m-xylene (S)	94	%	56-123		1	08/14/18 14:05	08/25/18 04:16	877-09-8	
Percent Moisture									
Analytical Method: SM 2540 G-11/3550									
Percent Moisture	12.4	%	0.10	0.10	1		08/17/18 16:53		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Racer-PCC Validation
Pace Project No.: 4616234

QC Batch: 30665 Analysis Method: EPA 8082A
QC Batch Method: EPA 3545A Analysis Description: 8082A GCS PCB
Associated Lab Samples: 4616234001, 4616234002, 4616234003, 4616234004, 4616234005, 4616234006, 4616234007

METHOD BLANK: 123501 Matrix: Solid
Associated Lab Samples: 4616234001, 4616234002, 4616234003, 4616234004, 4616234005, 4616234006, 4616234007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	0.033 U	0.033	0.0035	08/24/18 23:45	
PCB-1221 (Aroclor 1221)	mg/kg	0.033 U	0.033	0.0087	08/24/18 23:45	
PCB-1232 (Aroclor 1232)	mg/kg	0.033 U	0.033	0.0054	08/24/18 23:45	
PCB-1242 (Aroclor 1242)	mg/kg	0.033 U	0.033	0.0042	08/24/18 23:45	
PCB-1248 (Aroclor 1248)	mg/kg	0.033 U	0.033	0.0041	08/24/18 23:45	
PCB-1254 (Aroclor 1254)	mg/kg	0.033 U	0.033	0.0031	08/24/18 23:45	
PCB-1260 (Aroclor 1260)	mg/kg	0.033 U	0.033	0.0032	08/24/18 23:45	
Decachlorobiphenyl (S)	%.	99	45-135		08/24/18 23:45	
Tetrachloro-m-xylene (S)	%.	96	56-123		08/24/18 23:45	

LABORATORY CONTROL SAMPLE: 123502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	mg/kg	.2	0.19	95	68-129	
PCB-1260 (Aroclor 1260)	mg/kg	.2	0.20	98	60-140	
Decachlorobiphenyl (S)	%.			94	45-135	
Tetrachloro-m-xylene (S)	%.			93	56-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 123503 123504

Parameter	Units	4616234007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	mg/kg	0.037 U	.23	.23	0.23	0.22	101	98	49-128	2	30	
PCB-1260 (Aroclor 1260)	mg/kg	0.037 U	.23	.23	0.23	0.20	101	89	48-138	11	30	
Decachlorobiphenyl (S)	%.						97	78	45-135			
Tetrachloro-m-xylene (S)	%.						96	93	56-123			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Racer-PCC Validation

Pace Project No.: 4616234

QC Batch: 30999 Analysis Method: SM 2540 G-11/3550
QC Batch Method: SM 2540 G-11/3550 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 4616234001, 4616234002, 4616234003, 4616234004, 4616234005, 4616234006, 4616234007

SAMPLE DUPLICATE: 124797

Parameter	Units	4616234007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.4	12.2	2	20	

SAMPLE DUPLICATE: 125192

Parameter	Units	4616450001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.8	9.7	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Racer-PCC Validation

Pace Project No.: 4616234

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Racer-PCC Validation

Pace Project No.: 4616234

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4616234001	SB-17322A-0818018-KT-001	EPA 3545A	30665	EPA 8082A	30746
4616234002	SB-17322A-0818018-KT-002	EPA 3545A	30665	EPA 8082A	30746
4616234003	SB-17322A-0818018-KT-003	EPA 3545A	30665	EPA 8082A	30746
4616234004	SB-17322A-0818018-KT-004	EPA 3545A	30665	EPA 8082A	30746
4616234005	SB-17322A-0818018-KT-005	EPA 3545A	30665	EPA 8082A	30746
4616234006	SB-17322A-0818018-KT-006	EPA 3545A	30665	EPA 8082A	30746
4616234007	SB-17322A-0818018-KT-007	EPA 3545A	30665	EPA 8082A	30746
4616234001	SB-17322A-0818018-KT-001	SM 2540 G-11/3550	30999		
4616234002	SB-17322A-0818018-KT-002	SM 2540 G-11/3550	30999		
4616234003	SB-17322A-0818018-KT-003	SM 2540 G-11/3550	30999		
4616234004	SB-17322A-0818018-KT-004	SM 2540 G-11/3550	30999		
4616234005	SB-17322A-0818018-KT-005	SM 2540 G-11/3550	30999		
4616234006	SB-17322A-0818018-KT-006	SM 2540 G-11/3550	30999		
4616234007	SB-17322A-0818018-KT-007	SM 2540 G-11/3550	30999		

REPORT OF LABORATORY ANALYSIS

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SAMPLE RECEIVING / LOG-IN CHECKLIST

Pace Analytical

Client **GAD**

Work Order # **4616234**

Receipt Record Page/Line # **47-1**

Recorded by (initials/date)

PS 8/11/18

☒ Cooler

Qty Received

1

☒ IR Gun (#202)

☐ Box

Thermometer Used

☐ Digital Thermometer (#54)

☐ Other

☐ IR Gun (#402)

Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
Blue	0921						
Custody Seals:		Custody Seals:		Custody Seals:		Custody Seals:	
☒ None		☐ None		☐ None		☐ None	
☐ Present / Intact		☐ Present / Intact		☐ Present / Intact		☐ Present / Intact	
☐ Present / Not Intact		☐ Present / Not Intact		☐ Present / Not Intact		☐ Present / Not Intact	
Coolant Type:		Coolant Type:		Coolant Type:		Coolant Type:	
☐ Loose Ice		☐ Loose Ice		☐ Loose Ice		☐ Loose Ice	
☒ Bagged Ice		☐ Bagged Ice		☐ Bagged Ice		☐ Bagged Ice	
☐ Blue Ice		☐ Blue Ice		☐ Blue Ice		☐ Blue Ice	
☐ None		☐ None		☐ None		☐ None	
Coolant Location:		Coolant Location:		Coolant Location:		Coolant Location:	
Dispersed / Top / <u>Middle</u> / Bottom		Dispersed / Top / Middle / Bottom		Dispersed / Top / Middle / Bottom		Dispersed / Top / Middle / Bottom	
Temp Blank Present: ☐ Yes ☒ No		Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No	
If Present, Temperature Blank Location is:		If Present, Temperature Blank Location is:		If Present, Temperature Blank Location is:		If Present, Temperature Blank Location is:	
☐ Representative ☐ Not Representative		☐ Representative ☐ Not Representative		☐ Representative ☐ Not Representative		☐ Representative ☐ Not Representative	
	Observed °C	Correction Factor °C	Actual °C		Observed °C	Correction Factor °C	Actual °C
Temp Blank:				Temp Blank:			
Sample 1:	1.9		1.9	Sample 1:			
Sample 2:	2.7		2.7	Sample 2:			
Sample 3:	2.5		2.5	Sample 3:			
When above 6 °C take a				When above 6 °C take a			
3 Sample Average °C:				3 Sample Average °C:			
☐ VOC Trip Blank received?				☐ VOC Trip Blank received?			

If any shaded areas checked, complete Sample Receiving Non-Conformance

Paperwork Received

Yes No

☒ ☐ Chain of Custody record(s)? If No, Initiated By _____

☒ Received for Lab Signed/Date/Time?

☐ ☒ USDA Soil Documents?

☐ ☒ Sampling / Field Forms?

☐ ☒ Other _____

COC Information

☒ Pace COC ☐ Other _____

COC ID Numbers:

Check COC for Accuracy

Yes No

☒ ☐ Analysis Requested?

☒ ☐ Sample ID matches COC?

☒ ☐ Sample Date and Time matches COC?

☒ ☐ All containers indicated are received?

Sample Condition Summary

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

Check Sample Preservation

N/A	Yes	No	
☒	☐	☒	Temperature Blank OR average sample temperature, ≥6° C?
☒	☐	☐	If "Yes" was thermal preservation required?
☒	☐	☐	If "Yes" were ALL samples collected the same day as receipt?
☒	☐	☐	Completed Sample Preservation Verification Form?
☒	☐	☐	Samples chemically preserved correctly?
☒	☐	☐	If "No", add wire tag and fill out Non-Conformance Form?
☒	☐	☐	Received unpreserved Terracore kit?
			If "Yes" unpreserved vials must be frozen

Work Order Not Logged In with Short Hold / Rush

☐ Copies of COC To Lab Areas

Notes

PS 8/11

Yes	No	
☐	☐	Were all samples logged into Epic?
☐	☐	Were all samples labelled?
☐	☐	Were samples placed on scan locations?

Initial / Date :

Appendix C

**U.S. EPA Approval Under 40 CFR 761.61 © -
M1 Concourse Phase 4 Development,
October 28, 2019**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

OCT 28 2013

LU-16J

CERTIFIED MAIL 7017 0530 0000 1267 6311
RETURN RECEIPT REQUESTED

Mr. Roger Zlotoff
M1 Concourse, LLC
c/o Uniprop
280 Daines Street, Suite 300
Birmingham, Michigan 48009

Re: Request for Approval Under 40 CFR §761.61(c)
M1 Concourse – Phase 4 Development
One Concourse Drive, Pontiac, Michigan
EPA ID: MID 980 568 836

Dear Mr. Zlotoff:

I am writing in response to the September 18, 2019 letter, submitted on your behalf by SME, requesting approval under 40 Code of Federal Regulations (CFR) § 761.61 for the disposal of polychlorinated biphenyl (PCB) containing soils. Your letter identifies measures to manage PCB-impacted soil which may be encountered during redevelopment work at M1 Concourse (M1) in Pontiac, Michigan.

Between 2015 and 2018, the Revitalizing Auto Communities Environmental Response (RACER) Trust performed an investigation and remediation of PCB-impacted soil within this M1 redevelopment area as part of Resource Conservation and Recovery Act (RCRA) Corrective Action work at this former General Motors PCC-Validation property (Site). RACER Trust delineated PCB contamination in soils to less than 1 part per million (ppm) and targeted soils in excess of 100 ppm for removal. Samples collected after RACER's removal of ≥ 100 ppm soils identified remaining residual PCB soil concentrations present up to 40 ppm and located approximately 8 to 14 feet below current grade.

Your application indicates you plan to redevelop the south-central area of the M1 Concourse development with three multiunit vehicle garage storage buildings (Buildings 16, 17, and 18), paved parking and drives, and limited landscaping. Construction activities at the PCB impacted area include grading, utility installation, installation of a portion of Building 16 and 17 foundations and floor slabs, paving, and landscaping. The proposed use is for individually owned automotive garages with paved parking and drives. The occupancy and use of the garage units is occasional. The current Declaration of Restrictive Covenant for the Property restricts land use to non-residential.

Subject to the conditions of Attachment, this approval is granted in accordance with the federal PCB regulations codified at 40 CFR §761.61(c), under which the Regional Administrator may approve a method to dispose of PCB Remediation Waste if it is found that the method will not pose an unreasonable risk of injury to human health or the environment. The Regional Administrator has redelegated this approval authority to the Director of the Land, Chemicals and Redevelopment Division. This approval is based on our finding that the use of off-site disposal for excavated PCB soils, installation of engineered barriers, and the use of institutional controls (i.e., Declaration of Restrictive Covenant) to limit human exposure to the remaining on-site PCB-contaminated soil will not pose an unreasonable risk to human health and the environment. Compliance with the specific conditions of this approval will also ensure the continued maintenance of these specific engineering and institutional controls. This approval is effective as of the date of this letter.

EPA shall not consider this project complete until it has received all submittals required under this Approval, including review and approval of the amended Declaration of Restrictive Covenant. Upon EPA receipt and review of the submittals, we may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Application, and this Approval.

M1 Concourse is responsible for ensuring continued compliance with all applicable provisions of the TSCA, the federal PCB regulations, and the conditions of this Approval. Any departure from the conditions of this Approval must receive prior written authorization from this office. Further, this Approval does not relieve M1 Concourse from compliance with any other federal, state, or local regulatory requirements. This Approval does not preclude EPA from initiating any enforcement action, including an action seeking civil penalties, suspension or termination of the Approval for any violation, or requiring additional cleanup should the property owner fail to abide by this Approval. All conditions of this Approval and other applicable requirements of TSCA and its implementing regulations will continue to apply to the Site after any transfer in ownership.

If you have any questions regarding this approval, please do not hesitate to contact Peter Ramanauskas, of my staff, at (312) 886-7890 or ramanauskas.peter@epa.gov.

Sincerely,



Edward Nam
Director
Land, Chemicals and Redevelopment Division

cc: Andrew Bertapelle, EGLE
Peter Felitti, U.S. EPA Office of Regional Counsel

**ATTACHMENT
APPROVAL CONDITIONS**

M1 Concourse – Phase 4 Development
Pontiac, Michigan

A. Authorized Remedial Action

M1 Concourse is authorized to dispose of PCB remediation waste generated during Phase 4 Development activities within the PCB Restriction Area according to the procedures described in the September 18, 2019 Application and according to the conditions below:

1. Soils targeted for excavation as part of grading, utility, trenching, or building foundation work shall be sampled in accordance with 40 CFR §761.61(a)(2) prior to excavation to properly characterize the soils for disposal.
2. Solid wastes containing PCB at levels greater than or equal to 50 parts per million (≥ 50 ppm) shall be disposed of in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(iii).
3. Solid wastes containing PCB less than 50 ppm (< 50) shall be disposed of in accordance with 40 CFR §§ 761.61(a)(5)(i)(B)(2)(ii) and (a)(5)(v)(A).
4. Any PCB impacted water removed from the excavation must be decontaminated or disposed of as allowed under 40 CFR §§761.79(b) or 761.61(b)(1).
5. M1 Concourse shall provide written notice to the receiving facilities, including the quantity to be shipped and highest concentration of PCBs at least 15 days before the first shipment of bulk PCB remediation waste from the cleanup in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(iv).
6. M1 Concourse shall cap residual PCB remediation wastes in excess of 1 ppm with a minimum thickness of 12 inches of one or more of the following materials: asphalt pavement, cement concrete, imported engineering backfill, and topsoil. Additionally, a polyethylene geotextile or similar material shall be placed on the top surface of the remaining PCB impacted soils in areas not covered by pavement or buildings (e.g. landscaping and greenbelt areas). The geotextile shall serve as a visual demarcation barrier for potential future landscaping and subsurface work.
7. Any imported clay, common fill, or topsoil material shall not be contaminated at a Level of ≥ 1 ppm PCB.
8. All waste generated as a result of future work activities involving excavation into the PCB Restricted Area waste materials shall be properly characterized in-situ for disposal in accordance with Condition A.1 and 40 CFR §761.61.
9. M1 Concourse shall maintain the engineered barriers and repair any breaches which would impair the integrity of the capped areas within 72 hours of discovery.

B. Property Use and Restrictions

M1 Concourse shall provide to EPA a draft copy of the Declaration of Restrictive Covenant for review.

C. Recordkeeping and Reporting

1. M1 Concourse shall submit a completion report to EPA upon the completion of work described in the Application which will include at a minimum: any characterization sampling data collected, disposal documentation, and engineered barrier construction documentation.
2. M1 Concourse shall maintain all records and documents required by 40 CFR Part 761 including records required by Subparts J and K.



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➔ **The Power of Commitment**