

Soil and Sediment Investigation Summary Report

**Munger Landing
Duluth, Minnesota**

June 2021



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Prepared for:



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Acronyms and Abbreviations

µg/kg	micrograms per kilogram	MSD	matrix spike duplicate
%	percent	ng/kg	nanograms per kilogram
AOC.....	Area of Concern	Pace.....	Pace Analytical Services, Inc.
ASTM	American Society for Testing and Materials	PAH.....	polycyclic aromatic hydrocarbon
Bay West.....	Bay West LLC	PCB.....	polychlorinated biphenyl
bgs.....	below ground surface	PES.....	performance evaluation sample
BTV	background threshold value	QA.....	quality assurance
CoC	chain of custody	QAPP	Quality Assurance Project Plan
COC	contaminants of concern	QC.....	quality control
CSM	conceptual site model	QC Plan	Quality Control Plan
DRO	diesel range organics	RI	remedial investigation
EDL	estimation detection limit	SLR	St. Louis River
FFS.....	Focused Feasibility Study	SLV	soil leaching value
GPS.....	Global Positioning System	SQT.....	sediment quality target
HH	human health	SRV.....	soil reference value
IDW	investigation derived waste	TSCA.....	Toxic Substances Control Act
KM	Kaplan-Meier	TEF	toxicity equivalency factor
LCS	laboratory control sample	TEQ.....	toxicity equivalent
LCSD.....	laboratory control sample duplicates	TOC	total organic carbon
MDL.....	method detection limit	USACE.....	U.S. Army Corps of Engineers
mg/kg.....	milligrams per kilogram	USDA	U.S. Department of Agriculture
MPCA.....	Minnesota Pollution Control Agency	USEPA.....	U.S. Environmental Protection Agency
MS	matrix spike	VOC	volatile organic compound
		WHO	World Health Organization
		WWTP.....	wastewater treatment plant

1.0 INTRODUCTION

Bay West LLC (Bay West) has completed this Soil and Sediment Investigation Summary Report (Summary Report) to investigate the extent and volume of contaminated sediment, evaluate risks to human health and the environment, and support remedial design for SR#1015 Munger Landing (the Site; **Figure 1**), located in the St. Louis River Area of Concern (SLR AOC), under contract with the Minnesota Pollution Control Agency (MPCA).

This Summary Report describes investigation field activities conducted during field events that occurred in August and October of 2020, presents chemical and physical site data collected during these events, discusses data results and conclusions, and presents recommendations.

1.1 Purpose and Objectives

The purpose of this sediment investigation was to collect new data and supplement existing information gathered during the 2016 Remedial Investigation (RI; Bay West, 2015), 2019 Focused Feasibility Study (FFS; Bay West, 2019), and 2020 Upland and Sediment Investigation Summary Report (Bay West, 2020a). Data collected during this investigation will ultimately be used to define the remedial footprint and aid in remedial design.

Specific objectives for the investigation were to:

- Refine site-specific information regarding the contaminants of concern (COCs; i.e., polychlorinated biphenyls [PCBs] and dioxins/furans as defined within the FFS) to further define the vertical extent of contamination in the sediment, specifically in the areas around the discharge locations of a former sewage treatment plant and current boat launch;
- Screen COC concentrations against site-specific sediment comparison criteria to refine the remedial footprint and conceptual site model (CSM) that evaluates contaminant fate and transport.

1.2 Site Setting

The Site is located approximately 6 to 7 miles upstream of the Blatnik Bridge, which crosses from Rice's Point in Minnesota to Conner's Point in Wisconsin (**Figure 1**). The nearest identifiable landmark is the Munger Landing boat launch and the Smithville neighborhood of Duluth directly west of the Site. Directly upstream of the Site is Spirit Lake, the location of the former U.S. Steel plant and current U.S. Steel Superfund site. The Site is a cut-off channel, separated from the current shipping channel by a long, narrow island that runs north to south along the majority of the length of the channel. The southern portion of the Site is divided by the Minnesota-Wisconsin state border. A site map is included as **Figure 2**.

A former wastewater treatment plant (WWTP) was located in the area of the Munger Landing Boat launch. Based on historical imagery, the former wastewater treatment plant appears to have operated between approximately 1961 and 1981. Based on historical drawings and aerials, the former WWTP included several settling lagoons, storage tanks, and discharge lines to the SLR. The operational history of the former WWTP is not currently well understood.

2.0 FIELD ACTIVITIES AND METHODS

Sampling activities and procedures were conducted in accordance with the August 2020 Munger Landing Sediment Sampling and Preparation Quality Control Plan (QC Plan; Bay West, 2020b) and the 2014 Bay West Quality Assurance Project Plan (QAPP; Bay West, 2014). The following section describes applicable physical site data, sediment sampling and procedure, and analytical results evaluation procedures.

All sample locations were pre-determined and aerial background maps were loaded onto a Global Positioning System (GPS) unit with sub-meter accuracy prior to site mobilization. The GPS was used to navigate as close to the pre-determined sample locations as possible, and GPS locational data was also collected at each of the sampled locations.

2.1 Upland Soil Sampling Overview

On August 11 and August 12, 2020, Bay West oversaw the advancement of two soil borings, BW20ML-129 and BW20ML-142, using hand augers in the upland soil adjacent to a sediment PCB hotspot located in the area of the boat launch (**Figure 3D**). The following sections describe the methods, procedures, and equipment used during soil sample collection. Sample locations are shown on **Figure 2, 3D, and 4**. Field notes are presented in **Appendix A**.

2.1.1 Soil Sampling and Processing

Soil samples were collected from three distinct intervals at each location based on lithology to gather additional chemical data for a potential upland PCB source that may be contributing to PCB contamination in adjacent sediments. Soil samples were collected using a 2-inch diameter hand auger sampler. The following activities were conducted during sample processing:

- Recording of visual and physical observations of the sample on the log sheet in accordance with the QAPP and QC Plan following the Unified Soil Classification System descriptor classification, including color, material composition, grain size, firmness, cohesiveness, odor, and any other notable observations such as sheen.
- Analytical sample intervals were determined in accordance with the QC Plan;
- Sample material was placed in appropriate laboratory-supplied containers, labeled, and placed on ice for delivery to Pace Analytical Services, Inc. (Pace);
- The hand auger was decontaminated after each location in a solution of Alconox and distilled water using procedures described in **Section 2.3**.

Soil generally consisted of loamy sand and clay containing fine gravel from 0 to 0.7 meters below ground surface (bgs), underlain by sandy clay and sandy loam to a depth of approximately 1.22 meters bgs.

A summary of these samples, including depth intervals and analytical methods is included in **Table 1**. Field notes and soil boring logs from soil sampling activities are included in **Appendix A**.

2.1.2 Soil Physical/Chemical Analysis

In accordance with the QC Plan, soil samples from the hand auger locations were submitted to the laboratory for the following analysis:

- Total organic carbon [TOC; United States Environmental Protection Agency (USEPA) 9060A];
- PCBs; USEPA 8082A.

During the hand auger activities at location BW20ML-142, a distinct petrol-chemical odor was noted by the field staff in the 1.0–1.22-meter interval. Under direction from the MPCA, additional chemical analyses were submitted from BW20ML-142 for the following:

- Polycyclic aromatic hydrocarbon (PAHs; USEPA 8270D SIM);
- Volatile organic compounds (VOCs; USEPA 8260B); and,
- Diesel-range organics (DRO; Wisconsin DRO).

Each sample was accounted for on a chain of custody (CoC) form completed during sample processing. All samples were stored on ice and delivered to the appropriate laboratory. A summary of sample analysis and analytical methods is included in **Table 1**.

2.2 Sediment Sampling Overview

In August and October 2020, Bay West conducted sediment sampling to further define the extent of PCB and dioxin/furans remedial footprint areas. Additional sampling was focused along the western shoreline of the Site as well as the boat launch to help define an area with PCB concentrations exceeding 50 milligrams per kilogram (mg/kg), requiring management under the USEPA's Toxic Substances Control Act (TSCA). In total, 82 sediment samples were collected from different intervals of sediment for chemical analysis. A summary of these samples, including depth intervals and analytical methods is included in **Table 1**. An additional nine samples were collected on May 12, 2021, for grain size and specific gravity analysis to characterize sediment along the western edge of the planned dredging prism. A summary of these samples is included in **Table 5**. Any variations in the sampling intervals were made at the discretion of the samplers based on any physical variations found in the sediment probes during the sediment logging process.

The following sections describe the methods, procedures, and equipment used during sediment sample collection as well as a summary of analyses performed. Sample locations are shown on **Figures 2, 3A, 3B, 3C, and 4**. Field notes are presented in **Appendix A**.

2.2.1 Check Valve Push Core Collection Equipment and Procedure

Samples to be analyzed for physical and chemical parameters were collected using a 3-inch (inner diameter) check valve push core sampler. The check valve push core sampler used disposable acetate liners that minimized equipment decontamination and facilitated easy transport and storage of samples.

To begin sampling at a location, the water column depth was measured using a weighted 100-foot measuring tape. The water depth was then added to the desired depth of sampler advancement (i.e., desired core length), and this value was marked on the sampler's extension rods using marking tape. To collect the core, the sampler was lowered through the water column and advanced into the sediment until the mark met the water surface indicating that a full push had been achieved, or until refusal was encountered. If refusal was encountered, the push was recorded by subtracting the distance between the mark and the water surface from the desired depth of sampler advancement.

Once the push was complete, the sampler was retracted while remaining in a vertical orientation. The recovery goal of the sampling event was 80 percent (%). If less than 80% recovery was achieved after three push attempts, or if refusal was encountered, the team attempted to obtain a core with the best feasible length and percent recovery based on Site conditions. Once the Site Supervisor determined that the sample recovery was acceptable, the sample core was prepared for transport by draining excess overlying water, removing any excess core tubing to limit head

space, and sealing both ends using disposable plastic caps. The core was then measured and identifying information was recorded on the core using an indelible ink marker.

The recorded field data included sample location, sample date/time, push, recovery, and any other observations that occurred during sampling, such as refusal. Core collection information is found in the field notes included in **Appendix A**. The locations of push core locations are shown on **Figure 2**. **Table 1** also lists all the locations where this method was used to collect samples.

2.2.2 Russian Peat Borer Equipment Description and Procedure

A Russian peat borer was used to collect sediment samples from material that was not able to be collected with the check valve push core. Specific sampling procedure utilized during the August sampling event is described as follows.

Once the boat was anchored above the sample location, the water depth was measured using a weighted 100-foot measuring tape and electrical tape used to mark out the desired length of each push. For instance, if water depth was recorded at 1.0 meter and refusal was found at 0.5 meter, electrical tape was used to mark distances of 1.5 meters on the sampler's extension rods, as measured from the bottom of the side filling chamber.



Photo showing discrete sample collected with Russian Peat Borer.

Sediment samples were collected using the Russian Peat Borer from varied depths depending on the location and the depth of refusal found with the check-valve sampler. To collect the deep interval samples, the sampler was advanced into the sediment until the mark reached the water's surface, indicating that the sampler had been advanced a distance greater than 0.5 meter into the sediment. The "T" handle was then turned to collect the sample, and the sampler retrieved. The sampler was laid horizontal within the boat and the side filling chamber was opened. The sample was then retrieved from the bottommost 0.25 meter. All samples were placed directly into separate Ziploc bags and labeled with identifying information, and later stored on ice until they could be processed.

Core collection information is found in the field notes included in **Appendix A**. The locations of peat borer locations are shown on **Figure 2**. **Table 1** also lists all the locations where this method was used to collect samples.

2.2.3 Direct Push Core Collection Equipment and Procedure

Some locations throughout the Site contained material that provided too much resistance to push through by hand methods; therefore, a barge-mounted direct-push drill rig was used for sample collection in these areas. Samples were collected using a 2-inch (inner diameter) macro-core sampler advanced using direct push technology. This macro-core sampler used disposable polycarbonate liners that minimized equipment decontamination and facilitated easy transport and storage of sediment cores.

The water column depth was measured using a weighted 100-foot measuring tape. The water depth was then added to the desired depth of push and this value was marked on the rods using marking tape. To collect the core, the macro-core was advanced into the sediment by the weight of the rig until the mark met the water surface (indicating that a full push had been achieved).

Once the push was complete, the macro-core sample was retracted by the drill rig while remaining in a vertical orientation. The recovery goal of the sampling event was 80%. If less than 80% recovery was achieved after three push attempts, or if refusal was encountered, the team attempted to obtain a core with the best feasible length and percent recovery based on Site conditions. Once the Site Supervisor determined that the sample recovery was acceptable, the polycarbonate liner was cut open and processed.

The recorded field data included sample location, sample date/time, push, recovery, and any other observations that occurred during sampling, such as refusal. Core collection information is found in the field notes included in **Appendix A**. Locations where direct push technology was used is presented in **Table 1** and **Figure 2**.

2.2.4 Sediment Sample Processing

Sediment samples were processed in accordance with the QC Plan. The following was documented during sample processing:

- Sample collection information (e.g., location identification, sample time, water depth, push, recovery, interval depth, etc.) was noted on Bay West's Sediment Sampling Log Sheet;
- Each sample was photographed during field sampling or during processing;
- Visual and physical observations of the sample were recorded on the log sheet in accordance with the QC Plan following the American Society for Testing and Materials (ASTM) D 2488 and the United States Department of Agriculture (USDA) descriptor classification, including sample color, material composition, grain size, firmness, cohesiveness, odor, and any other notable observations such as sheen.
- Analytical sample intervals were determined for core samples in accordance with the site-specific QC Plan; and
- Sample material was placed in appropriate laboratory-supplied containers, labeled, and placed on ice for delivery to the laboratory.

Sediment encountered during this investigation generally consisted of silt loams and fine sand; however, sediment stratigraphy varied based on depositional environments. Completed sediment collection logs and photographs of sediment prior to processing are included in **Appendix A**.

2.2.5 Sediment Physical/Chemical Analysis

Each sample was accounted for on the CoC completed during sample processing. All samples were stored on ice and delivered to the appropriate laboratory. Samples were submitted for laboratory analysis of the following methods:

- Dioxins/furans as congeners (USEPA 8290A);

- PCBs as aroclors (USEPA 8082A);
- Grain size (ASTM D6913/D7928); and/or
- Specific Gravity (ASTM D2974/D854).

Deep interval sediment samples (intervals greater than 1.52 meters) were collected and held for chemical analysis from BW20ML117, and BW20ML-140. The deep sample intervals collected were not analyzed due to the contaminant concentrations in intervals above were less than the remedial footprint criteria.

Quality control (QC) samples collected by the processing team consisted of duplicates and matrix spikes/matrix spike duplicates (MS/MSDs). Only four field duplicate samples were collected and analyzed. Three additional sediment samples (BW20ML-005, BW20ML-006, and BW20ML-007) were intended to be collected as duplicate samples but were not included in the total duplicate count and are instead treated as discrete samples due to an error in field duplicate collection procedures. The resulting duplicate frequency for this sampling program was 5%. Matrix MS/MSD samples were collected for sediments at a frequency of 5%. Quality assurance (QA) samples were not collected for grain size or specific gravity analysis.

2.3 Poling Data Collection

In addition to the collected chemical data, each direct push was paired with a poling location to correlate the depth of poling refusal with the depth of hard layers being encountered in the direct push macro-core to verify our sample depths. Five poling transects were also completed north of the boat launch to find the transition from sand and gravel to softer sediments as water depth increases in order to assist in refining dredge prisms adjacent to the shoreline.

To collect poling data, the water column depth was measured using a weighted tape and marked on a 1-inch diameter solid aluminum pole. The pole was advanced by hand through the water column until reaching the sediment surface. The pole was then advanced by hand until a change in sediment had been felt by the field technician (i.e., increased/decreasing difficulty in pushing or a feeling of “grit”). At each change in sediment noted by the field technician, a section of waterproof tape was added to the pole along with a description called out by the field technician. The pole was then advanced further until a new layer was encountered, and a new section of tape was added to the pole. This process continued until refusal was encountered or the pole wasn’t long enough to be pushed any further.

Tabulated data from these efforts are included in **Table 4**. Poling locations and transect cross sections are shown on **Figure 5** and **Figure 6A** through **Figure 6E**. Field notes are presented in **Appendix A**.

2.4 Equipment Decontamination

After each sample collection attempt, all materials in contact with soil or sediments were washed with water to remove visible sediments. After each sample location, sampling equipment was decontaminated using Alconox, water and a stiff bristled brush.

2.5 Waste Characterization and Disposal

Investigation-derived waste (IDW) consisting of excess soil, sediment and disposable sampling supplies was placed in one 55-gallon steel drums along with the IDW generated during the sampling event submitted for analysis of landfill disposal parameters. The drum was transported to the MPCA office in Duluth, under MPCA approval, and stored until IDW sample results were obtained. All IDW was characterized as PCB-containing hazardous waste based on analytical

results and disposed of by Veolia ES Technical Solutions. Disposal documentation is included in **Appendix B**.

3.0 SUMMARY OF RESULTS

This section summarizes the results obtained from field activities.

3.1 Data Interpretation

3.1.1 Soil Comparison Criteria

Soil analytical results were compared to MPCA industrial soil reference values (SRVs) and soil leaching values (SLVs). SRVs are a screening tool used to evaluate potential human health risks from soil exposure. They are based on USEPA Superfund methodology using exposure assumptions based on land use categories depicting a specific soil land use scenario and set of receptors.

SLVs are risk-based screening criteria developed by the MPCA to evaluate risks posed to groundwater by soil leaching. The SLV is an estimation of the unsaturated soil contaminant concentration for a given compound above which may result in groundwater contamination in excess of chemical-specific drinking water criteria.

SRVs or SLVs have not been established for DRO; however, the MPCA has defined limits for DRO in the Guidance Document C REM1 01, “Best Management Practices for the Off Site Reuse of Unregulated Fill” (MPCA, 2012; MPCA Unregulated Fill BMPs) of 100 mg/kg in soil. Soil with concentrations of DRO exceeding 100 mg/kg must be handled as regulated fill.

While the focus of the upland soil investigation was to evaluate the potential for upland soil contamination to migrate to adjacent sediment and the potential to impact benthic organisms, soil data was screened against SRVs and SLVs to evaluate the potential risk to human health and need for further upland investigation.

Soil data was also compared to sediment quality targets (SQTs; described below) and site-specific remedial footprint criteria to determine if there is a potential pathway between the upland soil contamination and sediment contamination.

3.1.2 Sediment Comparison Criteria

Sediment samples were compared to criteria established to define the remedial footprint. The criteria used to define the remedial footprint was developed based on stakeholder input, SLR-specific background threshold values (BTVs), and projects of similar size, environment, and COCs. The following criteria was used to define the remedial footprint and hotspot footprint:

- Remedial footprint
 - BTV of 24.9 nanograms per kilogram (ng/kg) toxic equivalency (TEQ) for dioxins
 - Total PCBs midpoint SQT of 370 micrograms per kilogram (µg/kg)
- Hotspot footprint
 - 50 ng/kg TEQ for dioxins
 - 1,000 µg/kg for PCBs

3.1.3 Treatment of Non-Detect Data

Scaling censored (non-detected) data was performed for dioxin/furan TEQ calculations for soil and sediment with the goal of eliminating false positives and false negatives from the final data set.

For soil and sediment, unless otherwise noted, the dioxin/furan data was input into a USEPA TEQ Kaplan-Meier (KM) calculator, which includes calculations that support a simple, quasi-sensitivity

analysis that examines the effect of various ways of handling non-detect or rejected (R-flagged) analytical data results within a sample's congener profile. The TEQ KM calculator utilized 1998 World Health Organization (WHO) toxicity equivalency factors (TEFs) for fish (TEQ KM fish value) and WHO 2005 TEFs for human health (TEQ KM Human Health [HH] value).

3.1.4 Data Qualifiers

Routine analytical laboratory procedures involve evaluation and quantitation of concentrations at levels below the stated reporting limits, but greater than the stated method detection limit (MDL) or estimation detection limit (EDL; for dioxins). In these cases, data are qualified with a "J." All estimated concentrations were reported as detects for the purposes of summations, calculations, and risk-screening evaluation.

3.1.5 Sample Interval Categorization

Sediment samples were collected from specific intervals within the sediment core, in accordance with the QC Plan. Intervals were determined by core length, recovery, and the observation of anthropogenic materials, such as sheens, staining, or non-native debris. Because of varying core lengths, recovery, and lithological differences, the sediment sample collection depth was not consistent between sample locations. To spatially evaluate analytical results and sediment screening criteria comparisons between sample locations, sediment samples were categorized into depth intervals. Sediment intervals and the methods for categorizing sediment samples into intervals were determined through discussions with the MPCA. Sediment samples collected were categorized into multiple intervals based on the depth of collection. **Table 1** presents each sampled interval per location. Generally, the intervals collected for analysis followed the following:

- 0.0–0.30 meters;
- 0.30–0.61 meters;
- 0.61–0.91 meters;
- 0.91–1.22 meters; and
- 1.22–1.52 meters.

3.2 Upland Soil Analytical Results

The following discussion presents the summarized analytical results from six soil samples obtained from two hand auger locations collected during the August 2020 sampling event at the Site. Analytical results are presented in **Table 2** and shown on **Figure 3D**. Laboratory analytical reports are included in **Appendix C**.

3.2.1 VOCs

One sample was submitted for VOC analysis due to an olfactory indication of contamination between 1.0 and 1.2 meters bgs at BW20ML-142. While multiple analytes were detected at concentrations exceeding laboratory reporting limits, the concentrations did not exceed applicable screening criteria.

3.2.2 PAHs

One sample was submitted for PAH analysis due to an olfactory indication of contamination between 1.0 and 1.2 meters bgs at BW20ML-142. Multiple compounds were detected at concentrations exceeding laboratory reporting limits; however, concentrations did not exceed applicable screening criteria with the exception of acenaphthylene, which exceeded the Level 1 SQT.

3.2.3 Diesel Range Organics

One sample was submitted for DRO analysis due to an olfactory indication of contamination between 1.0 and 1.2 meters bgs at BW20ML-142. DRO was detected at a concentration exceeding the laboratory reporting limit; however, it did not exceed MPCA regulated fill criteria.

3.2.4 PCBs

Six soil samples were submitted for PCB analysis. Multiple PCB aroclors were detected at concentrations exceeding laboratory reporting limits. Total PCB concentrations in all samples exceeded the SLV, Residential SRV, or Industrial SRV. Total PCB concentrations exceed the Remedial Footprint criteria in one sample, and the remaining five exceed the Hotspot criteria. For both soil sample locations, total PCB concentrations increased with depth.

3.2.5 TOC

TOC analysis was performed on five soil samples. Generally, the organic content concentrations decreased with depth.

3.3 Sediment Analytical Results

The following discussion presents the summarized analytical results from 80 samples obtained from 36 locations collected during the August and October 2020 sampling events at the Site.

Sediment analytical results are presented in **Tables 3 and 5** and shown on **Figures 2, 3A, 3B, 3C, 3D, and 4**. Laboratory analytical reports are included in **Appendix C**. The following sections present a summary of analytical results.

3.3.1 Dioxins/Furans

Various dioxin compounds were detected at concentrations exceeding laboratory reporting limits; however, SQTs have only been developed for TEQ values. TEQ KM fish values exceeded Remedial Footprint criteria in two samples and Hot Spot criteria in two samples. Exceedances occurred in the uppermost sediment intervals near the current boat landing and near the southern extent of the remedial footprint. TEQ concentrations near the boat landing ranged between 51.7 and 199 ng/kg. TEQ concentrations to the south of Munger Landing ranged between 37.2 and 43.2 ng/kg. TEQ calculations are included in **Appendix C**.

3.3.2 PCBs

Multiple PCB aroclors were detected in sediment samples at concentrations exceeding laboratory reporting limits. Total PCB concentrations exceeded the Remedial Footprint criteria in 6 samples and the Hot Spot criteria in 24 samples. Criteria exceedances generally occurred in the upper intervals of sediment. The area of PCB contamination exceeding the Remedial Footprint is widespread, extending from the channel on the Wisconsin side of Munger Landing to the western shoreline. The northern and southern extents are roughly the same as the emergent vegetation owned by the Bureau of Land Management. Concentrations exceeding the Hotspot criteria were localized near the boat launch and fishing dock, the mouth of Snively Creek, and upstream from Snively Creek near the emergent vegetation. The TSCA area extends from BW20ML-109 to the north, BW20ML-111 to the south, BW20ML-116 to the east and into the soil beyond BW20ML-142 to the west.

3.3.3 Total Organic Carbon

TOC analyses were performed on 72 sediment samples. Generally, TOC decreases with depth below the sediment surface.

3.3.4 Grain Size

Sediment samples were collected at nine locations selected by MPCA and U.S. Army Corps of Engineers (USACE) and analyzed for grain size. Organic clay was the major component in the seven southern-most sample locations, whereas sand was the major component in the northern two sample locations. Sand was found in seven of the nine sampled locations. Gravel, also detected, was more likely to be described in the northern locations.

These results are presented in **Table 5**.

3.3.5 Specific Gravity

Sediment samples were collected at nine locations selected by MPCA and USACE and analyzed for specific gravity. Specific gravity of sediment is a ratio of the sediment's weight to the weight of an equal volume of water. Across the sample locations, the specific gravity ranged from 2.15 to 2.57. The values generally decreased across the Site from the north to the south. Results are presented in **Table 5**.

3.4 Sediment Poling Data

Throughout the Site, poling refusal depths were visually compared with layering that was logged in the cores. These refusal depths were found to correlate to the clay intervals logged during the direct push work. Tabulated data from these efforts are included in **Table 4**. **Figure 5** displays pole locations and refusal depths.

The northern poling transects were conducted from the shore out to 100 feet into the water to identify changes in stratigraphy and to define dredge prisms. Poling locations and transect cross sections are shown on **Figure 5** and **Figure 6A** through **Figure 6E**. Field notes are presented in **Appendix A**.

4.0 DATA QUALITY REVIEW

4.1 Analytical Data QA/QC Review

Data verification was performed by a Bay West Chemist and documented using the MPCA Laboratory Data Review Checklist in accordance with the QAPP. Data verification was performed by comparing the contents of the data packages and quality assurance/quality control results to the requirements in the QAPP, the respective analytical methods, and the laboratory standard operating procedures. Additional qualifiers were added, as needed, and summarized in the MPCA Laboratory Data Review Checklists in **Appendix C**.

Samples results were considered estimated if the sample results were associated with laboratory control sample (LCS)/laboratory control sample duplicates (LCSDs) or MS/MSDs recoveries outside QC limits. When LCS or MS/MSD recoveries were biased low, both detected and undetected sample results were flagged with a “J” or “UJ” to indicate the concentration or reporting limit is considered estimated. When LCS or MS/MSD recoveries were biased high, only the detected results were qualified “J” as estimated. Only detected results were qualified “J” when relative percent differences were high in field duplicates, MS/MSDs, and LCS/LCSDs. All ND values were flagged with a “U”.

The MPCA Guidance Laboratory Quality Control and Data Policy requires concentrations less than the RL but above the MDL to be qualified with a “J” because they are considered estimated. Samples below the MDL were qualified with a “U.”

Additional information regarding data verification can be found in Laboratory Data Review Checklists in **Appendix C**.

A third party, APTIM, evaluated PCBs and Dioxin/Furan performance evaluation samples (PESs) on samples analyzed by ALS Life Sciences and Pace Analytical Services. Of the 23 evaluated analytical results, all were classified as passing. A copy of this evaluation is included at the end of **Appendix C**.

5.0 DISCUSSION AND CONCLUSIONS

5.1 Upland Soil Investigation

Soil samples were collected from an upland area at the Site near the boat launch and adjacent to a known PCB sediment hotspot that exceeds TSCA PCB concentrations. Upland soil samples were collected to gather additional chemical data to identify a potential upland PCB source that may be contributing to PCB contamination in adjacent sediments. PCBs were detected consistently throughout multiple depth intervals in both upland soil borings and concentrations exceeded the sediment remedial footprint hotspot criteria of 1,000 µg/kg in all but one sample near the ground surface. Soil that exceeds TSCA limits must be handled as hazardous waste.

During the investigation, a petroleum odor and sheen was noted in a sandy layer toward the bottom of the soil boring BW20ML-142. This sample was submitted for PAH, VOC, and DRO analysis. Concentrations of DRO, chlorobenzene, 1,4-dichlorobenzene were detected but did not exceed applicable criteria. Acenaphthylene was detected at a concentration that exceed the Level 1 SQT. No other PAHs or VOCs were detected at concentrations that exceed laboratory reporting limits.

The presence of PCBs detected in the soil during the upland investigation indicates that upland soil eroding into adjacent sediments may be a contributing source of sediment PCBs. Additional investigation is recommended to delineate PCBs in the upland boat launch area to identify and assess the potential source of PCBs and to assist in remedial design at the Site.

5.2 Sediment Investigation

A total of 82 sediment samples between were collected and analyzed for Site COCs to further define the vertical and horizontal extent of contamination at the Site. The Remedial Footprint, Hotspot, and TSCA areas have been adjusted to include the new PCB and dioxin/furan data collect as part of these sampling events, resulting in the following acreages:

- Remedial Footprint area: 38.1 acres
- Hot Spot area: 23.7 acres
- TSCA area: 0.18 acres

A summary of PCB and dioxin/furans analytical results, along with the updated Remedial Footprint, Hotspot, and TSCA areas, is presented in **Figure 4**.

Sediment samples were analyzed for grain size and specific gravity in nine samples. These areas were chosen to provide geotechnical data along the western edge of the dredging prism. Results from the grain size analysis determined the sediment to primarily be organic clay with sand and gravel content increasing to the north. Specific gravity generally decreased across the Site from the north to the south.

Throughout the Site, poling refusal depths were visually compared with layering that was logged in the cores. These refusal depths were found to correlate to the clay intervals logged during the direct push work. Generally, refusal was encountered in the poling locations nearest to the shoreline between 0.55 meters below sediment surface and 0.33 meters below sediment surface; however, at transect 3, refusal was encountered at 0.14 meters below sediment surface, indicating dredging near the shoreline in this area may be limited. Additionally, conditions encountered during poling from transect to transect appeared to be inconsistent, with variable stratigraphies logged in each area. Additional information may be required for dredge prism design.

6.0 REFERENCES

- Bay West LLC (Bay West), 2014. *Final Quality Assurance Project Plan, St. Louis River Sediment Areas of Concern*. July.
- Bay West, 2015. *Final Sediment Remedial Investigation Report, Munger Landing, Duluth, Minnesota*. December.
- Bay West, 2019. *Focused Feasibility Study, Munger Landing, SR0001015, Duluth, Minnesota*. August.
- Bay West, 2020a. *2020 Upland and Sediment Investigation Summary Report, Munger Landing, Duluth, Minnesota*. June.
- Bay West, 2020b. *Munger Landing Sediment Sampling and Preparation Quality Control Plan, St. Louis River Sediment Areas of Concern*. August 6.
- Minnesota Pollution Control Agency (MPCA), 2012. *Best Management Practices for the Off Site Reuse of Unregulated Fill, c-rem1-01*.

Tables

TABLE 1 -SAMPLE SUMMARY
 Soil and Sediment Investigation Summary Report
 Munger Landing
 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Boring #	Eastings	Northings	Method	Location Type	Sample Intervals (meters)	Sample Analysis								Rationale
						PCB ¹	Dioxin/Furan ²	TOC ³	VOC ⁴	DRO ⁵	PAH ⁶	Grain Size ⁷	Specific Gravity ⁸	
BW20ML-005	560670.2763	5172255.106	Direct Push	Sediment	0.0-0.3	x	x							Collected adjacent to BW20ML-140 (0.0-0.3) with intention to be field replicate; however, collection methods disqualify use as field replicate and result used as discrete sample result.
BW20ML-006	560623.06	5172230.383	Direct Push	Sediment	0.0-0.3	x								Collected adjacent to BW20ML-133 (0.0-0.3) with intention to be field replicate; however, collection methods disqualify use as field replicate and result used as discrete sample result.
BW20ML-007	560631.2439	5172220.573	Direct Push	Sediment	0.0-0.3	x								Collected adjacent to BW20ML-137 (0.0-0.3) with intention to be field replicate; however, collection methods disqualify use as field replicate and result used as discrete sample result.
BW20ML-038	560649.406	5172140.231	Direct Push	Sediment	0.0-0.35	x	x	x						Verticle definition of BW19ML-038
					0.35-0.65	x		x						
BW20ML-049	560673.1458	5172288.28	Direct Push	Sediment	0.0-0.3	x	x	x						Verticle definition of BW19ML-049
					0.3-0.6	x		x						
BW20ML-076	560611.731	5172245.507	Direct Push	Sediment	0.0-0.3	x	x	x						Verticle definition of BW19ML-076
					0.5-0.9	x		x						
BW20ML-114	560664.97	5172584.52	Direct Push	Sediment	0.0-0.3	x	x	x						Verify contamination is present between two hot spot areas in northern portion of large dredge area.
					0.3-0.65	x		x						
BW20ML-115	560664.9675	5172584.523	Direct Push	Sediment	0.0-0.3	x	x	x						Help define dredge prism in southern boundary.
					0.3-0.6	x		x						
BW20ML-116	560631.2439	5172220.573	Direct Push	Sediment	0.0-0.3	x	x	x						Define TSCA sediments to the east and for vertical definition. Have only sampled down to 1.3 feet in this area (BW19-076, BW19-078, BW14-038).
					0.3-0.6	x		x						
BW20ML-117	560647.7779	5172081.797	Direct Push	Sediment	0.0-0.35	x	x	x						Vertical definition between -055 and -056 (was only able to get 1.3 and 1.1 feet, respectively at these locations).
					0.35-0.6	x		x						
BW20ML-118	560574.2034	5172157.587	Push Core	Sediment	0.0-0.3	x	x	x						Assess shoreline concentrations south of boat ramp.
					0.3-0.61	x		x						
					0.61-0.76	x								
BW20ML-119	560632.88	5171840.07	Direct Push	Sediment	0.0-0.5	x	x	x						Vertical definition of BW19ML--089 and -092. Achieved depth of 1.1 and 1.3 feet, respectively, at these locations.
					0.5-0.88	x		x						
BW20ML-120	560705.24	5171856.58	Push Core	Sediment	0.0-0.3	x	x	x						Delineate south portion of dredge area (clean to north/south, contaminated to east/west)
					0.3-0.45	x		x						
BW20ML-121	560606.9225	5172226.176	Direct Push	Sediment	0.0-0.35	x	x	x						Define depth and extent of TSCA sediment. Will need to go deeper than 1.3 feet.
					0.35-0.6	x		x						
					0.6-0.9	x		x						
					0.9-1.2	x								
BW20ML-122	560586.3423	5172411.158	Push Core	Sediment	0.0-0.21	x	x	x						Refine dredge prism along shoreline north of landing.
					0.27-0.46	x		x						
BW20ML-123	560621.6308	5172212.502	Direct Push	Sediment	0.0-0.35	x	x	x						Define depth and extent of TSCA sediment.
					0.35-0.65	x		x						
					0.65-0.95	x		x						
					0.95-1.25	x								
BW20ML-124	560548.7863	5172111.456	Push Core	Sediment	0.0-0.3	x	x	x						Assess shoreline concentrations south of boat ramp.
					0.3-0.61	x		x						
BW20ML-125	560540.1801	5172038.073	Push Core	Sediment	0.0-0.3	x	x	x						Assess shoreline concentrations south of boat ramp.
					0.3-0.61	x		x						
BW20ML-126	560615.0363	5172472.828	Push Core	Sediment	0.0-0.3	x	x	x						Assess area west of MLA-2.
					0.3-0.61	x		x						
BW20ML-127	560880.34	5171871.39	Direct Push	Sediment	0.0-0.35	x	x	x						Define southern dredge area.
					0.35-0.7	x		x						
BW20ML-128	560602.5007	5172575.167	Push Core	Sediment	0.0-0.15	x	x	x						Verify contamination is present along shoreline in northern portion of large dredge area.
					0.15-0.45	x		x						
BW20ML-129	560593.5671	5172211.08	Hand Auger	Upland Soil	0.0-0.3	x	x	x						Investigate upland soil near PCB hotspot (BW19ML-078 of 243 ppm).
					0.3-0.61	x		x						
					0.76-1.2	x		x						
BW20ML-130	560569.98	5171844.13	Push Core	Sediment	0.0-0.3	x	x	x						Assess shoreline PCB and dioxin concentrations.
					0.3-0.61	x		x						
BW20ML-131	560513.53	5171872.06	Push Core	Sediment	0.0-0.15	x	x	x						Assess shoreline PCB concentrations.
					0.15-0.4	x		x						
BW20ML-132	560591.1732	5172504.93	Push Core	Sediment	0.0-0.27	x	x	x						Assess shoreline PCB and dioxin concentrations.
					0.27-0.37	x		x						
BW20ML-133	560623.06	5172230.383	Direct Push	Sediment	0.0-0.3	x	x	x						Define TSCA sediments to the north.
					0.3-0.6	x		x						
BW20ML-134	560728.1	5171731.43	Direct Push	Sediment	0.0-0.42	x	x	x						Assess extent of ML-01 impacts.
					0.42-0.6	x		x						
BW20ML-135	560593.31	5171901.5	Direct Push	Sediment	0.0-0.3	x	x	x						Vertical definition of BW19ML-089 and -092. Achieved depth of 1.1 and 1.3 feet, respectively, at these locations.
					0.3-0.52	x		x						

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 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Boring #	Eastings	Northings	Method	Location Type	Sample Intervals (meters)	Sample Analysis								Rationale
						PCB ¹	Dioxin/Furan ²	TOC ³	VOC ⁴	DRO ⁵	PAH ⁶	Grain Size ⁷	Specific Gravity ⁸	
BW20ML-136	560630.2311	5172609.995	Push Core	Sediment	0.0-0.15	x	x	x						Refine northern footprint
					0.15-0.45	x		x						
BW20ML-137	560643.8191	5172223.864	Direct Push	Sediment	0.0-0.3	x	x	x						Vertical definition in center of dredge area and define TSCA to the east. We have not gotten deeper than 1.2 feet.
					0.3-0.65	x		x						
BW20ML-138	560597.1467	5172540.223	Push Core	Sediment	0.0-0.15	x	x	x						Verify contamination is present along shoreline in northern portion of large dredge area.
					0.15-0.25	x		x						
BW20ML-139	560596.9761	5172445.923	Push Core	Sediment	0.0-0.1	x	x	x						Verify contamination is present along shoreline in northern portion of large dredge area.
					0.1-0.36	x		x						
BW20ML-140	560670.2763	5172255.106	Direct Push	Sediment	0.0-0.3	x	x	x						Vertical definition in center of dredge area We have not gotten deeper than 1.2 feet.
					0.4-0.65	x		x						
					0.65-0.9	x								
					0.9-1.2	x								
BW20ML-141	560607.7021	5172219.187	Direct Push	Sediment	0.0-0.3	x	x	x						Define depth and extent of TSCA sediment. Will need to go deeper than 1.3 feet.
					0.4-0.7	x								
BW20ML-142	560595.1496	5172215.313	Hand Auger	Upland Soil	0.0-0.3	x		x						Investigate upland soil near PCB hotspot (BW19ML-078 of 243 ppm).
					0.45-0.91	x		x						
					1.0-1.2	x			x	x	x			
BW20ML-143	560582.8867	5172377.829	Push Core	Sediment	0.0-0.24	x	x	x						Refine dredge prism along shoreline north of landing.
					0.3-0.61	x		x						
BW20ML-144	560612.4452	5172580.389	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-145	560592.8748	5172481.332	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-146	560585	5172375	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-147	560552.876	5172098.341	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-148	560594.4958	5172053.965	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-149	560560.3758	5171990.101	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-150	560559.903	5171898.233	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-151	560596.9592	5171859.315	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	
BW20ML-152	560616.165	5171816.758	Push Core	Sediment	0-0.15						x	x	Collect sediment characterization data along dredging prism edge.	

Notes:

Direct push soil borings were advanced to 1.2 meters below the mudline to determine stratigraphy and sampled in accordance with the sample intervals detailed above.

1 = PCBs as aroclors by method EPA 8082A

2 = Dioxins/Furans by EPA 8290A

3 = Total organic carbon by method EPA 9060 quad burn

4 = Volatile organic carbon by method EPA 8260

5 = Diesel range organics by method WiDRO

6 = Polynuclear aromatic hydrocarbons by EPA method SW8270D SIM

7 = Grain Size Analysis by ASTM D6913/D7928

8 = Specific Gravity completed by ASTM D854

TABLE 2 - SOIL RESULTS
 Soil and Sediment Investigation Summary Report
 Munger Landing
 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Sample Name							BW20ML-129(0-0.3)	BW20ML-129(0.3-0.61)	BW20ML-129(0.76-1.22)	BW20ML-142(0-0.3)	BW20ML-142(0.45-0.91)	BW20ML-142(1.0-1.2)					
Sample Interval (meters)							0.0-0.3	0.3-0.61	0.76-1.22	0.0-0.3	0.45-0.91	1.0-1.2					
Date Sampled							8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020					
	SRV Residential	SRV Industrial	SLV	SQT Level 1	SQT Level 2	Result unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
VOCs by 8260B																	
1,1,1,2-Tetrachloroethane	31000	51000	410	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,1,1-Trichloroethane	140000	472000	56000	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,1,2,2-Tetrachloroethane	3500	6500	12	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,1,2-Trichloro-1,2,2-trifluoroethane	3745000	5430000	17000000	NE	NE	µg/mg	---		---		---		---		< 301	U	
1,1,2-Trichloroethane	9000	14000	14	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,1-Dichloroethane	34000	55000	410	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,1-Dichloroethene	20000	60000	1400	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,1-Dichloropropene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2,3-Trichlorobenzene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2,3-Trichloropropane	NE	NE	270	NE	NE	µg/mg	---		---		---		---		< 301	U	
1,2,4-Trichlorobenzene	200000	985000	230	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2,4-Trimethylbenzene	8000	25000	2700	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2-Dibromo-3-Chloropropane	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2-Dibromoethane	300	500	0.015	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2-Dichlorobenzene	26000	75000	11000	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2-Dichloroethane	4000	6000	3.8	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,2-Dichloropropane	4000	6000	24	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,3,5-Trimethylbenzene	3000	10000	2700	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,3-Dichlorobenzene	26000	200000	10000	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,3-Dichloropropane	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
1,4-Dichlorobenzene	30000	50000	170	NE	NE	µg/mg	---		---		---		---		131		
2,2-Dichloropropane	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 301	UJ	
2-Butanone (MEK)	5500000	19000000	8800	NE	NE	µg/mg	---		---		---		---		< 376	U	
2-Chlorotoluene	436000	436000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
3-Chloropropene	NE	NE	150	NE	NE	µg/mg	---		---		---		---		< 301	U	
4-Chlorotoluene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
4-Isopropyltoluene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
4-Methyl-2-pentanone (MIBK)	1700000	9000000	760	NE	NE	µg/mg	---		---		---		---		< 376	U	
Acetone	340000	1000000	8400	NE	NE	µg/mg	---		---		---		---		< 1500	U	
Benzene	6000	10000	17	NE	NE	µg/mg	---		---		---		---		< 30.1	U	
Bromobenzene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Bromochloromethane	NE	NE	280	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Bromodichloromethane	10000	17000	21	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Bromoform	370000	650000	130	NE	NE	µg/mg	---		---		---		---		< 301	U	
Bromomethane	700	2000	36	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Carbon tetrachloride	300	900	7.7	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Chlorobenzene	11000	32000	1200	NE	NE	µg/mg	---		---		---		---		282		
Chloroethane	1000000	3000000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	UJ	
Chloroform	2500	4000	110	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Chloromethane	8000	23000	110	NE	NE	µg/mg	---		---		---		---		< 301	U	
cis-1,2-Dichloroethene	8000	22000	210	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
cis-1,3-Dichloropropene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Dibromochloromethane	12000	20000	34	NE	NE	µg/mg	---		---		---		---		< 301	U	

TABLE 2 - SOIL RESULTS
 Soil and Sediment Investigation Summary Report
 Munger Landing
 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Sample Name							BW20ML-129(0-0.3)	BW20ML-129(0.3-0.61)	BW20ML-129(0.76-1.22)	BW20ML-142(0-0.3)	BW20ML-142(0.45-0.91)	BW20ML-142(1.0-1.2)					
Sample Interval (meters)							0.0-0.3	0.3-0.61	0.76-1.22	0.0-0.3	0.45-0.91	1.0-1.2					
Date Sampled							8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020					
	SRV Residential	SRV Industrial	SLV	SQT Level 1	SQT Level 2	Result unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Dibromomethane	260000	1860000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Dichlorodifluoromethane	16000	50000	37000	NE	NE	µg/mg	---		---		---		---		< 301	U	
Dichlorofluoromethane	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 752	UJ	
Diethylether	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 301	U	
Ethylbenzene	200000	200000	1000	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Hexachlorobutadiene	6000	37000	37	NE	NE	µg/mg	---		---		---		---		< 376	U	
Isopropylbenzene	30000	87000	9500	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Methyl tert-butyl ether	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Methylene Chloride	97000	158000	17	NE	NE	µg/mg	---		---		---		---		< 301	U	
Naphthalene	10000	28000	4500	NE	NE	µg/mg	---		---		---		---		< 301	U	
n-Butylbenzene	30000	92000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
n-Propylbenzene	30000	93000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
sec-Butylbenzene	25000	70000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Styrene	210000	600000	2000	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
tert-Butylbenzene	30000	90000	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Tetrachloroethene	72000	131000	42	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Toluene	107000	305000	2500	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
trans-1,2-Dichloroethene	11000	33000	420	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
trans-1,3-Dichloropropene	NE	NE	NE	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Trichloroethene	29000	46000	2.3	NE	NE	µg/mg	---		---		---		---		< 75.2	U	
Trichlorofluoromethane	67000	195000	35000	NE	NE	µg/mg	---		---		---		---		< 301	UJ	
Vinyl chloride	800	2200	1.4	NE	NE	µg/mg	---		---		---		---		< 30.1	U	
Xylenes, Total	45000	130000	5400	NE	NE	µg/mg	---		---		---		---		< 226	U	
DRO by WIDRO																	
Diesel Range Organics	NE	NE	NE	NE	NE	mg/kg	---		---		---		---		58.2		
PAHs by SW8270D SIM																	
Acenaphthene	6.7	48	89	6.7	89	µg/kg	---		---		---		---		6	J	
Acenaphthylene	5.9	67	128	5.9	128	µg/kg	---		---		---		---		18.7		
Anthracene	57	454	850	57	850	µg/kg	---		---		---		---		19.7		
Benzo(a)anthracene	110	605	1100	110	1100	µg/kg	---		---		---		---		18.7		
Benzo(a)pyrene	150	825	1500	150	1500	µg/kg	---		---		---		---		19.7		
Benzo(b)fluoranthene	NE	NE	NE	NE	NE	µg/kg	---		---		---		---		26		
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	µg/kg	---		---		---		---		14.2		
Benzo(k)fluoranthene	NE	NE	NE	NE	NE	µg/kg	---		---		---		---		11.4	J	
Chrysene	170	735	1300	170	1300	µg/kg	---		---		---		---		20.9		
Dibenz(a,h)anthracene	33	84	135	33	135	µg/kg	---		---		---		---		3.7	J	
Fluoranthene	420	1310	2200	420	2200	µg/kg	---		---		---		---		37.9		
Fluorene	77	308	540	77	540	µg/kg	---		---		---		---		5.6	J	
Indeno(1,2,3-cd)pyrene	NE	NE	NE	NE	NE	µg/kg	---		---		---		---		11.3	J	
Naphthalene	180	370	560	180	560	µg/kg	---		---		---		---		5.4	J	
Phenanthrene	200	700	1200	200	1200	µg/kg	---		---		---		---		15.9		
Pyrene	200	750	1500	200	1500	µg/kg	---		---		---		---		31.5		
BaP Equivalence	2000	3000	1400	150	1500	µg/kg	---		---		---		---		35		

TABLE 2 - SOIL RESULTS
Soil and Sediment Investigation Summary Report
Munger Landing
St. Louis River Area of Concern SR1015
Duluth, Minnesota

Sample Name							BW20ML-129(0-0.3)	BW20ML-129(0.3-0.61)	BW20ML-129(0.76-1.22)	BW20ML-142(0-0.3)	BW20ML-142(0.45-0.91)	BW20ML-142(1.0-1.2)					
Sample Interval (meters)							0.0-0.3	0.3-0.61	0.76-1.22	0.0-0.3	0.45-0.91	1.0-1.2					
Date Sampled							8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020					
	SRV Residential	SRV Industrial	SLV	SQT Level 1	SQT Level 2	Result unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
PCBs by SW8082A																	
PCBs, Total ¹	810	<u>10000</u>	125	370	1000	µg/kg	429		13500		25600		2220		2560		64100
PCB 1262	NE	NE	NE	NE	NE	µg/kg	< 43.3		< 43		< 42		< 40.9		< 40.4		< 41
PCB 1268	NE	NE	NE	NE	NE	µg/kg	79.4		859		1650		414		401		7420
PCB-1016	NE	NE	NE	NE	NE	µg/kg	< 43.3		< 43		< 42		< 40.9		< 40.4		< 41
PCB-1221	NE	NE	NE	NE	NE	µg/kg	< 43.3		< 43		< 42		< 40.9		< 40.4		< 41
PCB-1232	NE	NE	NE	NE	NE	µg/kg	< 43.3		< 43		< 42		< 40.9		< 40.4		< 41
PCB-1242	NE	NE	NE	NE	NE	µg/kg	< 43.3		< 43		< 42		< 40.9		< 40.4		< 41
PCB-1248	NE	NE	NE	NE	NE	µg/kg	33.7	J	9860		18300		22.8	J	562		34000
PCB-1254	NE	NE	NE	NE	NE	µg/kg	< 43.3		< 43		< 42		< 40.9		< 40.4		< 41
PCB-1260	NE	NE	NE	NE	NE	µg/kg	316		2820		5680		1790		1600		22700
Total Organic Carbon by TOC Quad Burn																	
Mean Total Organic Carbon	NE	NE	NE	NA	NA	mg/kg	23500		10700		16300		27400		8020		---

NE = Not Established

NA = Not Applicable

Q = Qualifier

< = analyte not detected above laboratory reporting limit

J = estimated value

--- = not analyzed

ug/Kg - micrograms per kilogram

mg/Kg - milligrams per kilogram

¹ Total PCBs calculated by Laboratory

VOCs = volatile organic compounds

DRO = diesel range organics

PAHs = polycyclic aromatic hydrocarbons

PCBs = Polychlorinated biphenyls

SQT = Sediment Quality Target

Bold text indicates exceedance vs MPCA Residential SRVs

Underlined text indicates exceedance vs MPCA Industrial SRVs

Italicized text indicates exceedances vs MPCA SLVs

Values highlighted in yellow indicate concentration exceeding SQT Level I/Remedial Footprint

Values highlighted in red indicate concentration exceeding SQT Level II/Hotspot

TABLE 3 - SEDIMENT RESULTS
Soil and Sediment Investigation Summary Report
Munger Landing
St. Louis River Area of Concern SR1015
Duluth, Minnesota

	Sample Name			BW20ML-123(0.95-1.25)		BW20ML-124(0.0-0.3)		BW20ML-124(0.3-0.61)		BW20ML-125(0.0-0.3)		BW20ML-125(0.3-0.61)		BW20ML-126(0.0-0.3)		BW20ML-126(0.3-0.61)		BW20ML-127(0.0-0.35)		BW20ML-127(0.35-0.7)		BW20ML-128(0.0-0.15)		BW20ML-128(0.15-0.45)			
	Sample Interval (meters)			0.95-1.25		0.0-0.3		0.3-0.61		0.0-0.3		0.3-0.61		0.0-0.3		0.3-0.61		0.0-0.35		0.35-0.7		0.0-0.15		4640			
	Date Sampled			10/22/2020		8/12/2020		8/12/2020		8/12/2020		8/12/2020		8/12/2020		8/12/2020		10/21/2020		10/21/2020		8/12/2020		8/12/2020			
Remedial Footprint	Hotspot	Result Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Dioxins/Furans by 8290																											
1,2,3,4,6,7,8-HpCDD	NE	NE	ng/kg	---		3.4	J	---		11	J	---		81	J	---		768		2.23	J	3.5	J	---			
1,2,3,4,6,7,8-HpCDF	NE	NE	ng/kg	---		6.3	J	---		9	J	---		410	J	---		1600		2.65	J	3.4	J	---			
1,2,3,4,7,8,9-HpCDF	NE	NE	ng/kg	---		1.3	J	---		< 3.2		---		4.5	J	---		10.4		< 3.3		< 0.43		---			
1,2,3,4,7,8-HxCDD	NE	NE	ng/kg	---		< 0.4		---		< 2.5		---		2.3	J	---		6.34		< 3.3		< 0.29		---			
1,2,3,4,7,8-HxCDF	NE	NE	ng/kg	---		1.6	J	---		2.1	J	---		6.7	J	---		12.5		< 3.3		< 0.31		---			
1,2,3,6,7,8-HxCDD	NE	NE	ng/kg	---		0.54	J	---		< 2.6		---		12		---		49.7		< 3.3		< 0.5		---			
1,2,3,6,7,8-HxCDF	NE	NE	ng/kg	---		0.56	J	---		< 1.5		---		10	J	---		30.1		< 3.3		< 0.38		---			
1,2,3,7,8,9-HxCDD	NE	NE	ng/kg	---		< 0.43		---		< 2		---		6.2	J	---		28.7		< 3.3		< 0.43		---			
1,2,3,7,8,9-HxCDF	NE	NE	ng/kg	---		< 0.55		---		< 1.7		---		1.5	J	---		3.74	J	< 3.3		< 0.22		---			
1,2,3,7,8-PeCDD	NE	NE	ng/kg	---		< 0.45		---		< 1		---		1.8	J	---		9.33		< 3.3		< 0.35		---			
1,2,3,7,8-PeCDF	NE	NE	ng/kg	---		< 0.52		---		< 1.3		---		1.4	J	---		1.58	J	< 3.3		< 0.43		---			
2,3,4,6,7,8-HxCDF	NE	NE	ng/kg	---		< 0.44		---		< 1.5		---		4.5	J	---		12.2		< 3.3		< 0.31		---			
2,3,4,7,8-PeCDF	NE	NE	ng/kg	---		< 0.34		---		0.8	J	---		2.2	J	---		3.85	J	< 3.3		< 0.27		---			
2,3,7,8-TCDD	NE	NE	ng/kg	---		< 0.43		---		< 1.4		---		< 0.72		---		4.25		< 0.66		< 0.6		---			
2,3,7,8-TCDF	NE	NE	ng/kg	---		< 0.3		---		< 0.97		---		< 0.74		---		4.79		< 0.66		< 0.58		---			
OCDD	NE	NE	ng/kg	---		21		---		74		---		670	J	---		6310		22.9		29		---			
OCDF	NE	NE	ng/kg	---		15	J	---		20	J	---		180	J	---		611		2.1	JB	3.2	J	---			
Total HpCDD	NE	NE	ng/kg	---		7.5	J	---		22		---		180	J	---		2040		2.23		8.8		---			
Total HpCDF	NE	NE	ng/kg	---		7.6	J	---		19		---		740	J	---		2830		5.46		6.9	J	---			
Total HxCDD	NE	NE	ng/kg	---		3	J	---		< 2.4		---		100		---		571		< 1.0		1.1	J	---			
Total HxCDF	NE	NE	ng/kg	---		6.1	J	---		11	J	---		270	J	---		866		< 1.0		2.9	J	---			
Total PeCDD	NE	NE	ng/kg	---		< 0.45		---		< 1		---		21	J	---		90.7		2.52		< 0.35		---			
Total PeCDF	NE	NE	ng/kg	---		4.2	J	---		7.5	J	---		38	J	---		66.1		0.244		0.82	J	---			
Total TCDD	NE	NE	ng/kg	---		< 0.43		---		< 1.4		---		3.1	J	---		37.2		0.775		< 0.6		---			
Total TCDF	NE	NE	ng/kg	---		5.3		---		11		---		12	J	---		28.4		0.15		0.63	J	---			
TEQ KM Fish	24.9	50	ng/kg	---		0.85	J	---		2.32	J	---		11.1	J	---		43.2		3.42	J	0.68	J	---			
TEQ-KM HH	NE	NE	ng/kg	---		0.97	J	---		2.51	J	---		12.4	J	---		55.4		3.53	J	0.76	J	---			
PCBs by SW8082A																											
PCBs, Total ¹	370	1000	µg/kg	< 124		6030		< 84.5		7460	J	495		3160		32.5	J	35.2	J	< 46.0		109		< 45.8			
PCB 1262	NE	NE	µg/kg	< 124		< 76.7		< 84.5		< 104		< 81		< 71.3		< 65.9		< 56.0		< 46.0		< 46.5		< 45.8			
PCB 1268	NE	NE	µg/kg	< 124		742		< 84.5		964	J	72.2	J	607		< 65.9		< 56.0		< 46.0		20.5	J	< 45.8			
PCB-1016	NE	NE	µg/kg	< 124		< 76.7		< 84.5		< 104		< 81		< 71.3		< 65.9		< 56.0		< 46.0		< 46.5		< 45.8			
PCB-1221	NE	NE	µg/kg	< 124		< 76.7		< 84.5		< 104		< 81		< 71.3		< 65.9		< 56.0		< 46.0		< 46.5		< 45.8			
PCB-1232	NE	NE	µg/kg	< 124		< 76.7		< 84.5		< 104		< 81		< 71.3		< 65.9		< 56.0		< 46.0		< 46.5		< 45.8			
PCB-1242	NE	NE	µg/kg	< 124		< 76.7		< 84.5		< 104		< 81		< 71.3		< 65.9		< 56.0		< 46.0		< 46.5		< 45.8			
PCB-1248	NE	NE	µg/kg	< 124		3030		< 84.5		3660	J	174		333		< 65.9		< 56.0		< 46.0		25.8	J	< 45.8			
PCB-1254	NE	NE	µg/kg	< 124		< 76.7		< 84.5		< 104		< 81		< 71.3		< 65.9		< 56.0		< 46.0		< 46.5		< 45.8			
PCB-1260	NE	NE	µg/kg	< 124		2260	J	< 84.5		2840	J	249		2220		32.5	J	35.2	J	< 46.0		63.1		< 45.8			
Total Organic Carbon by TOC Quad Burn																											
Mean Total Organic Carbon	NE	NE	mg/kg	---		54500		40400		99600		50800		47100		19400		33500		3710		24900		10200			

Notes:
NE = Not Established
NA = Not Applicable
Q = Qualifier
< = analyte not detected above laboratory reporting limit
J = estimated value
JB = estimated value, result associated with method blank cont
--- = not analyzed
ng/Kg = nanograms per kilogram
ug/Kg = micrograms per kilogram
mg/Kg = milligrams per kilogram
TEQ values calculated using the US EPA Advanced Kaplan Meier TEQ Calculator
TEQ = dioxin toxicity equivalency
PCBs = Polychlorinated biphenyls
* = Fewer than 3 detected congeners. TEQ values cannot be ca
¹ Total PCBs calculated by Laboratory
² TEQ KM Fish calculated by Bay West
Values highlighted in yellow indicate concentration exceeding Remedial Footprint
Values highlighted in red indicate concentration exceeding Hotspot

TABLE 3 - SEDIMENT RESULTS
Soil and Sediment Investigation Summary Report
Munger Landing
St. Louis River Area of Concern SR1015
Duluth, Minnesota

	Sample Name			BW20ML-130(0.0-0.3)	BW20ML-130(0.3-0.61)	BW20ML-131(0.0-0.15)	BW20ML-131(0.15-0.4)	BW20ML-132(0.0-0.27)	BW20ML-132(0.27-0.37)	BW20ML-133(0.0-0.3)	BW20ML-133(0.3-0.6)	BW20ML-133(0.6-0.83)	BW20ML-134(0.0-0.42)	BW20ML-134(0.42-0.6)	BW20ML-135(0.0-0.3)	BW20ML-135(0.3-0.52)	BW20ML-136(0.0-0.15)	
	Sample Interval (meters)			0.0-0.3	0.3-0.61	0.0-0.15	0.15-0.4	0.0-0.27	0.27-0.37	0.0-0.3	0.3-0.6	0.6-0.83	0.0-0.42	0.42-0.6	0.0-0.3	0.3-0.52	0.0-0.15	
	Date Sampled			8/12/2020		8/12/2020		8/12/2020		8/12/2020		10/22/2020		10/22/2020		10/21/2020		8/12/2020
	Remedial Footprint	Hotspot	Result Unit	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Dioxins/Furans by 8290																		
1,2,3,4,6,7,8-HpCDD	NE	NE	ng/kg	42		---		39		---		50.1		---		243		17
1,2,3,4,6,7,8-HpCDF	NE	NE	ng/kg	63	J	---		30		---		96.2		---		312		22
1,2,3,4,7,8,9-HpCDF	NE	NE	ng/kg	1.7	J	---		2.2	J	---		21.3		---		8.43		< 0.57
1,2,3,4,7,8-HxCDD	NE	NE	ng/kg	< 1.2		---		0.92	J	---		< 4.5		---		2.46	J	< 0.66
1,2,3,4,7,8-HxCDF	NE	NE	ng/kg	2.3	J	---		3.2	J	---		11.9		---		6.9	J	1
1,2,3,6,7,8-HxCDD	NE	NE	ng/kg	4.4	J	---		3.2	J	---		3.02	J	---		12		1.6
1,2,3,6,7,8-HxCDF	NE	NE	ng/kg	4.2	J	---		3.1	J	---		3.14	J	---		0.935	J	11.1
1,2,3,7,8,9-HxCDD	NE	NE	ng/kg	3.1	J	---		2.2	J	---		< 0.65		---		6.1	J	0.83
1,2,3,7,8,9-HxCDF	NE	NE	ng/kg	< 0.4		---		0.65	J	---		< 0.42		---		2.03	J	< 0.54
1,2,3,7,8-PeCDD	NE	NE	ng/kg	0.92	J	---		1.1	J	---		0.61	J	---		0.532	J	2.59
1,2,3,7,8-PeCDF	NE	NE	ng/kg	< 1.1		---		< 1.7		---		0.573	J	---		0.3	J	1.83
2,3,4,6,7,8-HxCDF	NE	NE	ng/kg	2.1	J	---		3	J	---		2.03	J	---		6.41	J	0.85
2,3,4,7,8-PeCDF	NE	NE	ng/kg	2.8	J	---		5.6	J	---		1.61	J	---		6.82	J	0.46
2,3,7,8-TCDD	NE	NE	ng/kg	< 0.66		---		0.81	J	---		0.28	J	---		1.25	J	< 0.54
2,3,7,8-TCDF	NE	NE	ng/kg	1.4	J	---		3.7		---		0.66	J	---		5.8		0.83
OCDD	NE	NE	ng/kg	310	J	---		340		---		27		---		2150		160
OCDF	NE	NE	ng/kg	38		---		37		---		3.4	J	---		234		14
Total HpCDD	NE	NE	ng/kg	93		---		82		---		8.1		---		45		40
Total HpCDF	NE	NE	ng/kg	120		---		62		---		8		---		554		43
Total HxCDD	NE	NE	ng/kg	41		---		30		---		2.4	J	---		129		10
Total HxCDF	NE	NE	ng/kg	59		---		55		---		4.2	J	---		226		22
Total PeCDD	NE	NE	ng/kg	10	J	---		5.1	J	---		< 0.41		---		27.5		2.3
Total PeCDF	NE	NE	ng/kg	42		---		81		---		0.31	J	---		106		9.4
Total TCDD	NE	NE	ng/kg	1.2	J	---		2.7		---		< 0.52		---		10.8		1.3
Total TCDF	NE	NE	ng/kg	35		---		71		---		1.7		---		111		7.4
TEQ KM Fish	24.9	50	ng/kg	4.33	J	---		6.83	J	---		0.71	J	---		7.63	J	1.94
TEQ-KM HH	NE	NE	ng/kg	4.95	J	---		6.43	J	---		0.83	J	---		17.6		2.24
PCBs by SW8082A																		
PCBs, Total ¹	370	1000	µg/kg	701	J	37.3	J	1770		186		93.7	J	< 42.8		5250		21.1
PCB 1262	NE	NE	µg/kg	< 112		< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB 1268	NE	NE	µg/kg	< 112		< 99.5		321		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1016	NE	NE	µg/kg	< 112		< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1221	NE	NE	µg/kg	< 112		< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1232	NE	NE	µg/kg	< 112		< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1242	NE	NE	µg/kg	< 112		< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1248	NE	NE	µg/kg	132	J	< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1254	NE	NE	µg/kg	< 112		< 99.5		< 69.6		< 41.2		< 44.8		< 42.8		< 53.7		< 49.2
PCB-1260	NE	NE	µg/kg	569	J	37.3	J	1450		186		93.7	J	< 42.8		5250		21.1
Total Organic Carbon by TOC Quad Burn																		
Mean Total Organic Carbon	NE	NE	mg/kg	55700		85000		37200		13700		31200		7730		39000		24800

Notes:
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J = estimated value
JB = estimated value, result associated with method blank cont
--- = not analyzed
ng/Kg = nanograms per kilogram
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TEQ values calculated using the US EPA Advanced Kaplan Meier TEQ Calculator
TEQ = dioxin toxicity equivalency
PCBs = Polychlorinated biphenyls
¹ = Fewer than 3 detected congeners. TEQ values cannot be calculated
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TABLE 3 - SEDIMENT RESULTS
Soil and Sediment Investigation Summary Report
Munger Landing
St. Louis River Area of Concern SR1015
Duluth, Minnesota

Sample Name	Sample Interval (meters)		BW20ML-136(0.15-0.45)	BW20ML-137(0-0.3)	BW20ML-137(0.3-0.65)	BW20ML-137(0.65-0.95)	BW20ML-138(0-0.15)	BW20ML-138(0.15-0.25)	BW20ML-139(0-0.1)	BW20ML-139(0.1-0.36)	BW20ML-140(0-0.3)	BW20ML-140(0.4-0.65)	BW20ML-140(0.65-0.9)	BW20ML-140(0.9-1.2)	BW20ML-141(0-0.3)	BW20ML-141(0.4-0.7)							
	Date Sampled		8/12/2020		10/21/2020		10/21/2020		8/12/2020		8/12/2020		10/21/2020		10/21/2020		10/22/2020		10/22/2020				
	Remedial Footprint	Hotspot	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	
Dioxins/Furans by 8290																							
1,2,3,4,6,7,8-HpCDD	NE	NE	ng/kg	---	1.57	J	---	---	13	---	---	21	---	2320	---	< 3.3	< 3.2	2.41	J	---	---	---	
1,2,3,4,6,7,8-HpCDF	NE	NE	ng/kg	---	3.63	J	---	---	16	---	---	54	---	8850	---	0.17	J	0.18	J	13.6	---	---	
1,2,3,4,7,8,9-HpCDF	NE	NE	ng/kg	---	0.22	J	---	---	< 0.69	---	---	20	---	55.1	---	< 3.3	< 3.2	11	J	---	---	---	
1,2,3,4,7,8-HxCDD	NE	NE	ng/kg	---	< 4	---	---	---	< 0.64	---	---	0.45	J	---	---	< 3.3	< 3.2	< 4.8	---	---	---	---	
1,2,3,4,7,8-HxCDF	NE	NE	ng/kg	---	0.176	J	---	---	< 0.43	---	---	16	---	66.4	---	< 3.3	< 3.2	4.4	J	---	---	---	
1,2,3,6,7,8-HxCDD	NE	NE	ng/kg	---	0.161	J	---	---	1.3	J	---	1.8	J	---	---	< 3.3	< 3.2	0.21	J	---	---	---	
1,2,3,6,7,8-HxCDF	NE	NE	ng/kg	---	0.2	J	---	---	0.87	J	---	3.1	J	---	---	< 3.3	< 3.2	0.73	J	---	---	---	
1,2,3,7,8,9-HxCDD	NE	NE	ng/kg	---	0.14	---	---	---	0.78	J	---	1.2	J	---	---	< 3.3	< 3.2	0.23	---	---	---	---	
1,2,3,7,8,9-HxCDF	NE	NE	ng/kg	---	0.098	J	---	---	< 0.38	---	---	1.7	J	---	---	< 3.3	< 3.2	0.549	J	---	---	---	
1,2,3,7,8-PeCDD	NE	NE	ng/kg	---	0.0679	J	---	---	< 0.41	---	---	0.58	J	---	---	< 3.3	< 3.2	0.062	J	---	---	---	
1,2,3,7,8-PeCDF	NE	NE	ng/kg	---	< 4	---	---	---	< 0.47	---	---	< 0.47	---	10	---	< 3.3	< 3.2	< 4.8	---	---	---	---	
2,3,4,6,7,8-HxCDF	NE	NE	ng/kg	---	0.131	J	---	---	0.36	J	---	1.7	J	---	---	< 3.3	< 3.2	0.42	J	---	---	---	
2,3,4,7,8-PeCDF	NE	NE	ng/kg	---	< 4	---	---	---	0.62	J	---	1.2	J	---	---	< 3.3	< 3.2	0.818	J	---	---	---	
2,3,7,8-TCDD	NE	NE	ng/kg	---	< 0.8	---	---	---	< 0.57	---	---	< 0.46	---	8.74	---	< 0.66	< 0.65	< 0.97	---	---	---	---	
2,3,7,8-TCDF	NE	NE	ng/kg	---	< 0.8	---	---	---	0.9	J	---	< 0.57	---	13.1	---	< 0.66	< 0.65	< 0.97	---	---	---	---	
OCDD	NE	NE	ng/kg	---	18.6	---	---	---	120	---	---	180	---	17800	---	0.795	JB	0.827	JB	22.4	---	---	---
OCDF	NE	NE	ng/kg	---	4.27	J	---	---	12	J	---	220	---	3500	---	< 6.6	< 6.5	152	---	---	---	---	
Total HpCDD	NE	NE	ng/kg	---	1.57	---	---	---	32	---	---	48	---	5720	---	< 1.0	< 1.0	2.41	---	---	---	---	
Total HpCDF	NE	NE	ng/kg	---	3.63	---	---	---	31	---	---	140	---	15900	---	< 1.0	< 1.0	33.8	---	---	---	---	
Total HxCDD	NE	NE	ng/kg	---	3.63	---	---	---	9.6	---	---	18	---	1940	---	1.63	1.67	4.05	---	---	---	---	
Total HxCDF	NE	NE	ng/kg	---	1.46	---	---	---	13	---	---	63	---	4730	---	< 1.0	< 1.0	16	---	---	---	---	
Total PeCDD	NE	NE	ng/kg	---	3.49	---	---	---	1.8	J	---	3.3	J	---	---	0.122	< 1.0	5.22	---	---	---	---	
Total PeCDF	NE	NE	ng/kg	---	< 1	---	---	---	8.1	---	---	25	---	408	---	< 1.0	< 1.0	7.62	---	---	---	---	
Total TCDD	NE	NE	ng/kg	---	3.5	---	---	---	< 0.57	---	---	< 0.46	---	87.8	---	0.159	0.414	6.17	---	---	---	---	
Total TCDF	NE	NE	ng/kg	---	0.284	---	---	---	7.4	---	---	11	---	165	---	< 1.0	< 1.0	4.77	---	---	---	---	
TEQ KM Fish	24.9	50	ng/kg	---	2.22	J	---	---	1.39	J	---	4.62	J	---	---	< 3.3*	< 3.2*	3.90	J	---	---	---	
TEQ-KM HH	NE	NE	ng/kg	---	1.48	J	---	---	1.63	J	---	4.81	---	---	---	< 3.3*	< 3.2*	2.43	J	---	---	---	
PCBs by SW8082A																							
PCBs, Total ¹	370	1000	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	63.1	---	25.5	J	593	< 45.8	< 68.0	3270	< 43.3	< 42.1	2770	< 46.1	---	---	
PCB 1262	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	< 49.1	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB 1268	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	86.6	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1016	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	< 49.1	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1221	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	< 49.1	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1232	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	< 49.1	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1242	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	< 49.1	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1248	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	196	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1254	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	< 44.6	---	< 43.5	---	< 49.1	< 45.8	< 68.0	< 44.7	< 43.3	< 42.1	< 49.5	< 46.1	---	---	
PCB-1260	NE	NE	µg/kg	< 63.4	< 48.1	---	< 48.0	< 47.5	63.1	---	25.5	J	310	< 45.8	< 68.0	3270	< 43.3	< 42.1	2770	< 46.1	---	---	
Total Organic Carbon by TOC Quad Burn																							
Mean Total Organic Carbon	NE	NE	mg/kg	34200	19600	---	14900	17100	18300	---	7970	---	35400	7680	48200	13400	---	---	62000	---	---	---	---

Notes:
 NE = Not Established
 NA = Not Applicable
 Q = Qualifier
 < = analyte not detected above laboratory reporting limit
 J = estimated value
 JB = estimated value, result associated with method blank cont
 --- = not analyzed
 ng/Kg = nanograms per kilogram
 ug/Kg = micrograms per kilogram
 mg/Kg = milligrams per kilogram
 TEQ values calculated using the US EPA Advanced Kaplan Meier TEQ Calculator
 TEQ = dioxin toxicity equivalency
 PCBs = Polychlorinated biphenyls
 * = Fewer than 3 detected congeners. TEQ values cannot be ca
¹ Total PCBs calculated by Laboratory
² TEQ KM Fish calculated by Bay West
 Values highlighted in yellow indicate concentration exceeding Remedial Footprint
 Values highlighted in red indicate concentration exceeding Hotspot

TABLE 3 - SEDIMENT RESULTS
Soil and Sediment Investigation Summary Report
Munger Landing
St. Louis River Area of Concern SR1015
Duluth, Minnesota

	Sample Name			BW20ML-142(0-0.3)	BW20ML-142(0.45-0.91)	BW20ML-142(1.0-1.2)	BW20ML-143(0-0.24)	BW20ML-143(0.3-0.61)				
	Sample Interval (meters)			0.0-0.3	0.45-0.91	1.0-1.2	0.0-0.24	0.3-0.61				
	Date Sampled			8/12/2020	8/12/2020	8/12/2020	8/12/2020	8/12/2020				
	Remedial Footprint	Hotspot	Result Unit	Result	Q	Result	Q	Result	Q	Result	Q	
Dioxins/Furans by 8290												
1,2,3,4,6,7,8-HpCDD	NE	NE	ng/kg	---		---		14	J	---		
1,2,3,4,6,7,8-HpCDF	NE	NE	ng/kg	---		---		27	J	---		
1,2,3,4,7,8,9-HpCDF	NE	NE	ng/kg	---		---		< 2.2		---		
1,2,3,4,7,8-HxCDD	NE	NE	ng/kg	---		---		< 2.3		---		
1,2,3,4,7,8-HxCDF	NE	NE	ng/kg	---		---		< 1.9		---		
1,2,3,6,7,8-HxCDD	NE	NE	ng/kg	---		---		< 1.1		---		
1,2,3,6,7,8-HxCDF	NE	NE	ng/kg	---		---		< 2.1		---		
1,2,3,7,8,9-HxCDD	NE	NE	ng/kg	---		---		< 3.2		---		
1,2,3,7,8,9-HxCDF	NE	NE	ng/kg	---		---		< 3.3		---		
1,2,3,7,8-PeCDD	NE	NE	ng/kg	---		---		< 1.2		---		
1,2,3,7,8-PeCDF	NE	NE	ng/kg	---		---		< 4		---		
2,3,4,6,7,8-HxCDF	NE	NE	ng/kg	---		---		< 1.7		---		
2,3,4,7,8-PeCDF	NE	NE	ng/kg	---		---		< 2.1		---		
2,3,7,8-TCDD	NE	NE	ng/kg	---		---		< 7.2		---		
2,3,7,8-TCDF	NE	NE	ng/kg	---		---		< 9.1		---		
OCDD	NE	NE	ng/kg	---		---		130		---		
OCDF	NE	NE	ng/kg	---		---		25	J	---		
Total HpCDD	NE	NE	ng/kg	---		---		44	J	---		
Total HpCDF	NE	NE	ng/kg	---		---		50	J	---		
Total HxCDD	NE	NE	ng/kg	---		---		15	J	---		
Total HxCDF	NE	NE	ng/kg	---		---		13	J	---		
Total PeCDD	NE	NE	ng/kg	---		---		< 1.2		---		
Total PeCDF	NE	NE	ng/kg	---		---		< 3.1		---		
Total TCDD	NE	NE	ng/kg	---		---		< 7.2		---		
Total TCDF	NE	NE	ng/kg	---		---		< 9.1		---		
TEQ KM Fish	24.9	50	ng/kg	---		---		7.71	J	---		
TEQ-KM HH	NE	NE	ng/kg	---		---		8.15	J	---		
PCBs by SW8082A												
PCBs, Total ¹	370	1000	µg/kg	2220		2560		64100		473		199
PCB 1262	NE	NE	µg/kg	< 40.9		< 40.4		< 41		< 82		< 152
PCB 1268	NE	NE	µg/kg	414		401		7420		< 82		< 152
PCB-1016	NE	NE	µg/kg	< 40.9		< 40.4		< 41		< 82		< 152
PCB-1221	NE	NE	µg/kg	< 40.9		< 40.4		< 41		< 82		< 152
PCB-1232	NE	NE	µg/kg	< 40.9		< 40.4		< 41		< 82		< 152
PCB-1242	NE	NE	µg/kg	< 40.9		< 40.4		< 41		< 82		< 152
PCB-1248	NE	NE	µg/kg	22.8	J	562		34000		255		91.9
PCB-1254	NE	NE	µg/kg	< 40.9		< 40.4		< 41		< 82		< 152
PCB-1260	NE	NE	µg/kg	1790		1600		22700		218		107
Total Organic Carbon by TOC Quad Burn												
Mean Total Organic Carbon	NE	NE	mg/kg	27400		8020		5800		97200		176000

Notes:
 NE = Not Established
 NA = Not Applicable
 Q = Qualifier
 < = analyte not detected above laboratory reporting limit
 J = estimated value
 JB = estimated value, result associated with method blank cont
 --- = not analyzed
 ng/Kg = nanograms per kilogram
 ug/Kg = micrograms per kilogram
 mg/Kg = milligrams per kilogram
 TEQ values calculated using the US EPA Advanced Kaplan Meier TEQ Calculator
 TEQ = dioxin toxicity equivalency
 PCBs = Polychlorinated biphenyls
 * = Fewer than 3 detected congeners. TEQ values cannot be ca
¹ Total PCBs calculated by Laboratory
² TEQ KM Fish calculated by Bay West
 Values highlighted in yellow indicate concentration exceeding Remedial Footprint
 Values highlighted in red indicate concentration exceeding Hotspot

TABLE 4 - POLING DATA
 Soil and Sediment Investigation Summary Report
 Munger Landing
 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Boring	Water depth (m)	Water Depth (ft)	Water Elevation (ft AMSL)*	Sediment Elevation (ft AMSL)	Depth to Bottom of Soft Layer (m bss)	Depth to Bottom of Sand Layer (m bss)	Depth to Bottom of Soft Layer (m bss)	Depth to Bottom of Hard Layer (m bss)	Depth to Bottom of Stiff Layer (m bss)	Depth to Bottom of Intermittent Hard/Soft Layering (m bss)	Refusal Depth (ft bss)	Refusal Depth Below Sediment Surface (m bss)	Refusal Elevation (ft AMSL)
T1P1	0.56	1.84	602.98	601.14	0.44						1.44	0.44	599.7
T1P2	0.72	2.36	603.09	600.73	0.19	0.44					1.44	0.44	599.28
T1P3	0.76	2.49	603.08	600.59	0.52						1.71	0.52	598.88
T1P4	0.68	2.23	603.1	600.87	0.08	0.12	0.61				2	0.61	598.87
T1P5	0.63	2.07	603.11	601.04	0.13	0.56	0.69				2.26	0.69	598.78
T1P6	0.74	2.43	603.33	600.9	0.32				0.86		3.12	0.95	597.79
T2P1	0.52	1.71	603.14	601.43	0.55						1.8	0.55	599.63
T2P2	0.79	2.59	603.14	600.55		0.23		0.42			1.38	0.42	599.17
T2P3	0.97	3.18	603.14	599.96				0.44			1.44	0.44	598.51
T2P4	1.14	3.74	603.12	599.38	0.51						1.67	0.51	597.71
T2P5	1.26	4.13	603.07	598.94						0.32	1.05	0.32	597.89
T2P6	1.39	4.56	603.34	598.78	0.64						2.1	0.64	596.68
T3P1	0.31	1.02	602.96	601.94		0.14					0.46	0.14	601.48
T3P2	0.9	2.95	602.98	600.03		0.31					1.02	0.31	599.01
T3P3	1.15	3.77	603	599.23		0.32					1.05	0.32	598.18
T3P4	1.49	4.89	603	598.11					0.26		0.85	0.26	597.26
T3P5	1.52	4.99	603	598.01	0.34				0.6		1.97	0.6	596.04
T3P6	1.59	5.22	603.2	597.98	0.45						1.48	0.45	596.51
T4P1	0.43	1.41	603	601.59		0.34					1.12	0.34	600.47
T4P2	0.92	3.02	603.02	600					0.43		1.41	0.43	598.59
T4P3	1.15	3.77	603.1	599.33					0.49		1.61	0.49	597.72
T4P4	1.35	4.43	603.11	598.68	0.22				0.7		2.3	0.7	596.38
T4P5	1.5	4.92	603.11	598.19						0.41	1.35	0.41	596.84
T4P6	1.59	5.22	603.2	597.98	0.32				0.86		2.82	0.86	595.16
T5P1	0.33	1.08	603	601.92	0.33						1.08	0.33	600.83
T5P2	0.9	2.95	603.09	600.14	0.29			0.41			1.35	0.41	598.79
T5P3	1.18	3.87	603.14	599.27	0.51				0.68		2.23	0.68	597.04
T5P4	1.29	4.23	603.14	598.91	0.2			0.9			2.95	0.9	595.95
T5P5	1.32	4.33	603.22	598.89	0.73						2.4	0.73	596.49
T5P6	1.35	4.43	603.23	598.8						0.6	1.97	0.6	596.83
BW20ML-038	1.22	4.00	603.17	599.17	0.2						1.64	0.5	597.53
BW20ML-049	2.44	8.01	603.23	595.22	1						Not Reached	Not Reached	Not Reached
BW20ML-076	0.88	2.89	603.45	600.56							4.49	1.37	596.07
BW20ML-114	1.37	4.49	603.11	598.62	0.62						4.53	1.38	594.09
BW20ML-116	1.7	5.58	603.23	597.65							4.43	1.35	593.22
BW20ML-117	1.37	4.49	603.06	598.57	0.3						2.23	0.68	596.33
BW20ML-118	1.16	3.81	603.33	599.52							4.27	1.3	595.26

TABLE 4 - POLING DATA
 Soil and Sediment Investigation Summary Report
 Munger Landing
 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Boring	Water depth (m)	Water Depth (ft)	Water Elevation (ft AMSL)*	Sediment Elevation (ft AMSL)	Depth to Bottom of Soft Layer (m bss)	Depth to Bottom of Sand Layer (m bss)	Depth to Bottom of Soft Layer (m bss)	Depth to Bottom of Hard Layer (m bss)	Depth to Bottom of Stiff Layer (m bss)	Depth to Bottom of Intermittent Hard/Soft Layering (m bss)	Refusal Depth (ft bss)	Refusal Depth Below Sediment Surface (m bss)	Refusal Elevation (ft AMSL)
BW20ML-119	1.13	3.71	602.76	599.05	0.18						4.10	1.25	594.95
BW20ML-121	0.91	2.99	603.28	600.29	0.9						2.95	0.9	597.34
BW20ML-123	1.52	4.99	603.28	598.29	0.65						4.10	1.25	594.19
BW20ML-127	2.08	6.82	603.26	596.44	0.59						5.09	1.55	591.35
BW20ML-133	1.55	5.09	603.5	598.41	0.8						2.79	0.85	595.63
BW20ML-134	1.43	4.69	602.83	598.14	0.57						4.00	1.22	594.14
BW20ML-135	1.1	3.61	602.91	599.30	0.53						5.15	1.57	594.15
BW20ML-137	1.46	4.79	602.85	598.06	0.7						3.94	1.2	594.12
BW20ML-140	2.47	8.10	602.8	594.70	1.12						4.82	1.47	589.87
BW20ML-141	0.76	2.49	603.19	600.70	0						0.00	0	600.70

* Water levels taken from Noaa.gov on 10/29/2020 from station #9099064 in Duluth, MN. Data is considered preliminary as of 10/29/2020.

Not Reached = The depth of refusal was greater than the length of the pole.

m = meters

ft = feet

AMSL = above mean sea level

bss = below sediment surface

TABLE 5 - GEOTECHNICAL DATA
 Soil and Sediment Investigation Summary Report
 Munger Landing
 St. Louis River Area of Concern SR1015
 Duluth, Minnesota

Sample Name	BW21ML-144	BW21ML-145	BW21ML-146	BW21ML-147	BW21ML-148	BW21ML-149	BW21ML-150	BW21ML-151	BW21ML-152											
Sample Interval (meters)	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15	0.0-0.15											
Date Sampled	5/12/2021	5/12/2021	5/12/2021	5/12/2021	5/12/2021	5/12/2021	5/12/2021	5/12/2021	5/12/2021											
Grain Size by D6913/D7928	Sieve Data																			
	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing	Sieve Size	% Passing		
	3"	-	3"	-	3"	-	3"	-	3"	-	3"	-	3"	-	3"	-	3"	-	3"	-
	2"	-	2"	-	2"	-	2"	-	2"	-	2"	-	2"	-	2"	-	2"	-	2"	-
	1 1/2"	100.0	1 1/2"	100.0	1 1/2"	100.0	1 1/2"	100.0	1 1/2"	-	1 1/2"	-	1 1/2"	-	1 1/2"	-	1 1/2"	-	1 1/2"	-
	1"	93.6	1"	99.4	1"	98.9	1"	98.9	1"	-	1"	100.0	1"	-	1"	-	1"	-	1"	-
	3/4"	90.9	3/4"	97.7	3/4"	98.1	3/4"	97.8	3/4"	-	3/4"	99.4	3/4"	-	3/4"	100.0	3/4"	-	3/4"	-
	3/8"	87.7	3/8"	94.0	3/8"	95.3	3/8"	95.2	3/8"	-	3/8"	95.1	3/8"	-	3/8"	99.5	3/8"	-	3/8"	-
	#4	84.6	#4	94.0	#4	94.7	#4	95.1	#4	100.0	#4	94.8	#4	100.0	#4	99.5	#4	100.0	#4	95.6
	#10	81.8	#10	91.7	#10	91.7	#10	92.4	#10	99.9	#10	93.6	#10	99.8	#10	98.8	#10	99.4	#10	99.4
	#20	77.6	#20	85.7	#20	88.5	#20	88.1	#20	99.8	#20	91.1	#20	99.5	#20	97.7	#20	98.7	#20	98.7
	#40	72.2	#40	78.5	#40	84.6	#40	83.5	#40	99.5	#40	88.4	#40	98.2	#40	94.4	#40	95.6	#40	95.6
	#60	62.3	#60	63.4	#60	77.1	#60	80.0	#60	99.2	#60	86.3	#60	96.7	#60	90.6	#60	92.1	#60	92.1
	#100	52.0	#100	48.3	#100	68.9	#100	77.0	#100	98.8	#100	83.2	#100	95.0	#100	86.6	#100	88.1	#100	88.1
	#140	47.2	#140	41.1	#140	65.7	#140	75.2	#140	98.4	#140	80.4	#140	93.6	#140	84.1	#140	85.5	#140	85.5
	#200	42.2	#200	33.4	#200	62.7	#200	72.1	#200	97.8	#200	76.6	#200	91.2	#200	81.4	#200	82.5	#200	82.5
	Hydrometer Data	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	Diameter (mm)	% Passing	
		0.046	36.9	0.051	29.9	0.041	61.1	0.043	68.6	0.043	95.9	0.044	69.8	0.040	84.0	0.047	76.5	0.042	74.4	
		0.033	33.6	0.036	26.6	0.029	59.0	0.031	64.9	0.031	91.6	0.032	62.8	0.030	75.3	0.035	67.5	0.031	67.0	
		0.024	31.1	0.026	25.2	0.021	58.4	0.022	60.3	0.022	84.3	0.023	56.9	0.022	65.5	0.025	59.6	0.023	59.0	
		0.013	28.1	0.014	21.6	0.011	54.7	0.012	54.8	0.012	70.0	0.013	47.0	0.012	56.2	0.014	51.1	0.012	51.0	
		0.009	25.9	0.010	19.8	0.008	53.9	0.009	51.1	0.009	63.5	0.009	41.1	0.009	50.0	0.010	46.1	0.009	47.4	
		0.006	22.3	0.007	15.7	0.006	51.0	0.006	44.1	0.006	53.2	0.007	35.0	0.006	43.2	0.007	39.3	0.006	40.7	
		0.003	17.4	0.004	11.1	0.003	45.9	0.003	32.9	0.003	35.5	0.003	23.5	0.003	32.4	0.004	29.4	0.003	31.0	
		0.001	14.1	0.002	6.2	0.001	39.4	0.001	23.7	0.001	21.9	0.002	15.1	0.001	22.6	0.002	19.0	0.001	22.4	
		Lab Soil Classification																		
	Clayey Sand w/ gravel and organic material		Silty Sand w/a little gravel and organic material		Sandy Organic Clay w/a little gravel and organic material		Organic Clay w/sand, a little gravel and organic material		Organic Clay		Organic Clay w/sand, a little gravel and organic material		Organic Clay		Organic Clay w/sand and organic material		Organic Clay w/sand and organic material			
	USCS																			
SC		SM/SC		OH		OL		OL		OL		OL		OL		OL				
Specific Gravity by D854																				
2.54		2.45		2.57		2.45		2.5		2.44		2.49		2.15		2.4				

USCS = Unified Soil Classification System
 mm = millimeters
 " = inches

Figures

Y:\Clients\MPCA\SLR_Sediment_AOCs\Munger_Landing_MapDocs\J200633\002_June_2021_Report\J200633 FIG 01 Munger Landing - Site Location Map.mxd

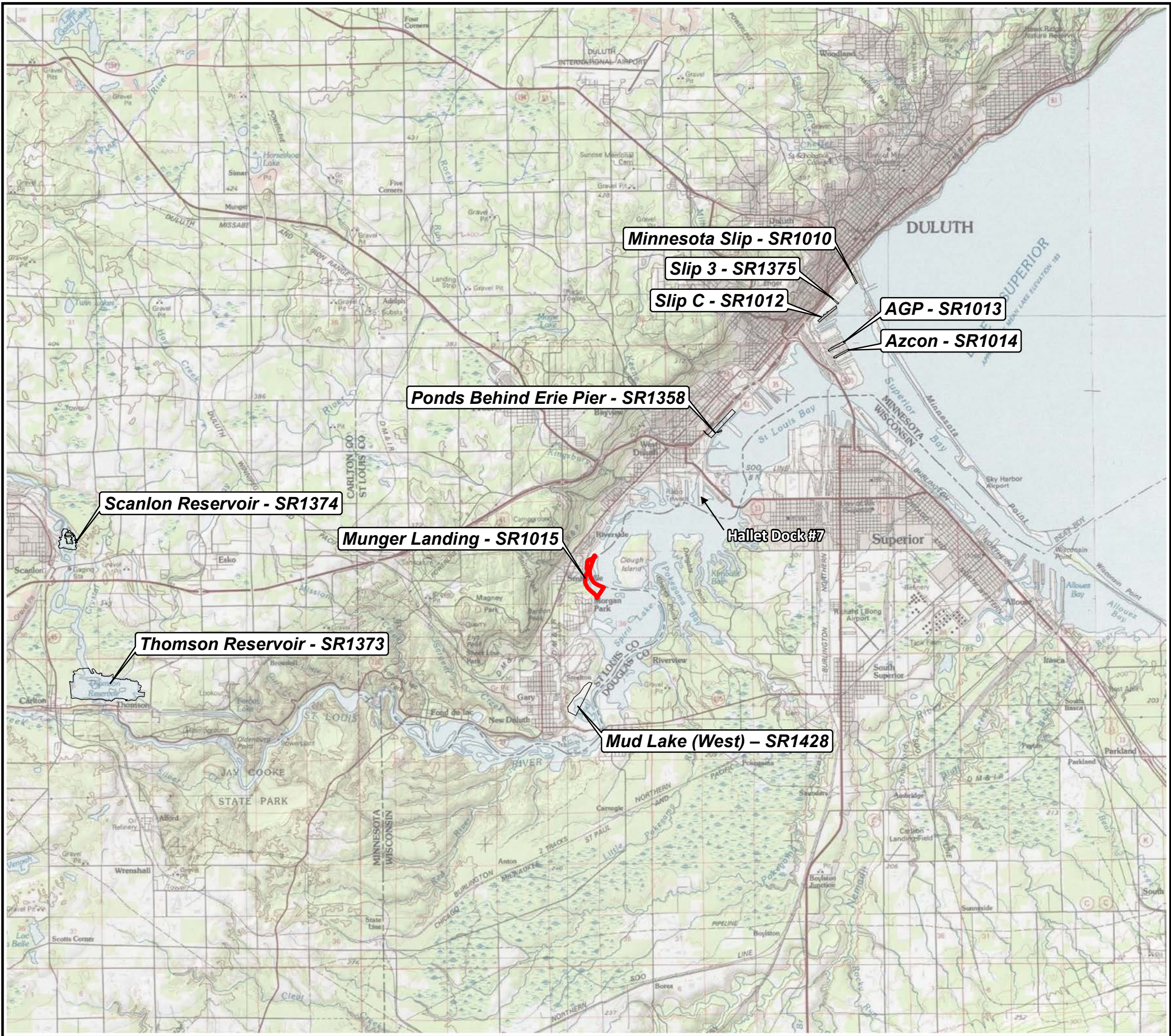


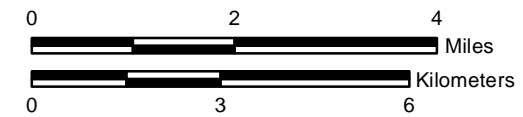
Figure 1

Site Location Map

Munger Landing
SLR Sediment Sites
Duluth, MN



Map Projection: NAD 1983 UTM Zone 15 N
Basemap: National Geographic Society, i-cubed



- Munger Landing - SR1015
- SLR Sediment Sites



Y:\Clients\MP\CA\SLR_Sediment_AOCs\Munger_Landing\MapDocs\J200633\002_June_2021_Report\J200633 FIG 02 Munger Landing - Site Sampling Map.mxd

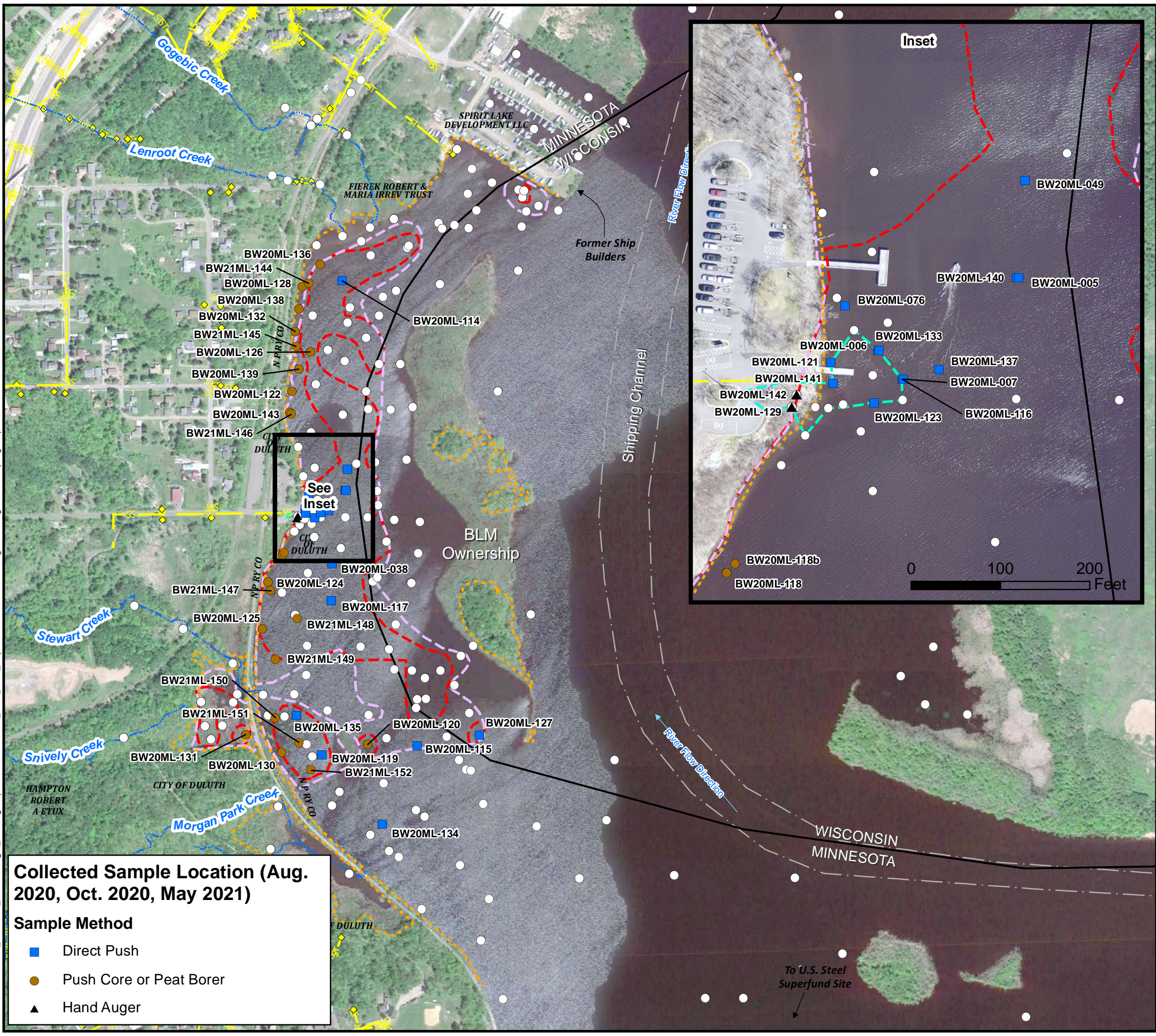
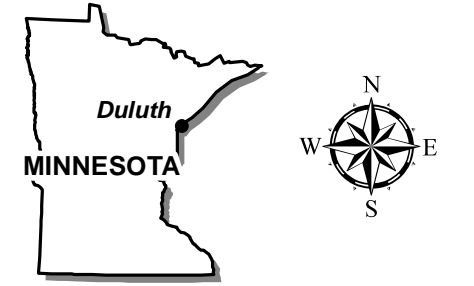
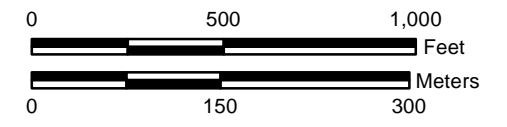





Figure 2
Site Sampling Map
Munger Landing
SLR Sediment Sites
Duluth, MN



Map Projection: NAD 1983 UTM Zone 15 N
 Basemap: Google Earth Aerial Imagery, 6/5/2017



- Collected Sample Location (2019-2020)
- Shipping Channel
- State Border
- Stream
- - - Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- ◆ Sewer Outfall
- SS --- Sanitary Sewer
- ST --- Storm Sewer

-  Remedial Footprint
 TEQ Fish = 24.9 ng/kg (BTV)
 Total PCBs = 370 µg/kg (Midpoint)
 MN Acreage = 30.9
 WI Acreage = 7.2
-  Hotspot
 TEQ Fish = 50 ng/kg
 Total PCBs = 1000 µg/kg
 MN Acreage = 19.8
 WI Acreage = 3.9
-  Toxic Substance Control Act (TSCA) Boundary
 PCB > 50 mg/kg
 MN Acreage = 0.18

Collected Sample Location (Aug. 2020, Oct. 2020, May 2021)

Sample Method

- Direct Push
- Push Core or Peat Borer
- ▲ Hand Auger



Y:\Clients\MP\CA\SLR_Sediment_AOCs\Munger_Landing\MapDocs\J200633\002_June_2021_Report\J200633 FIG 03A Munger Landing - Dioxin Results.mxd

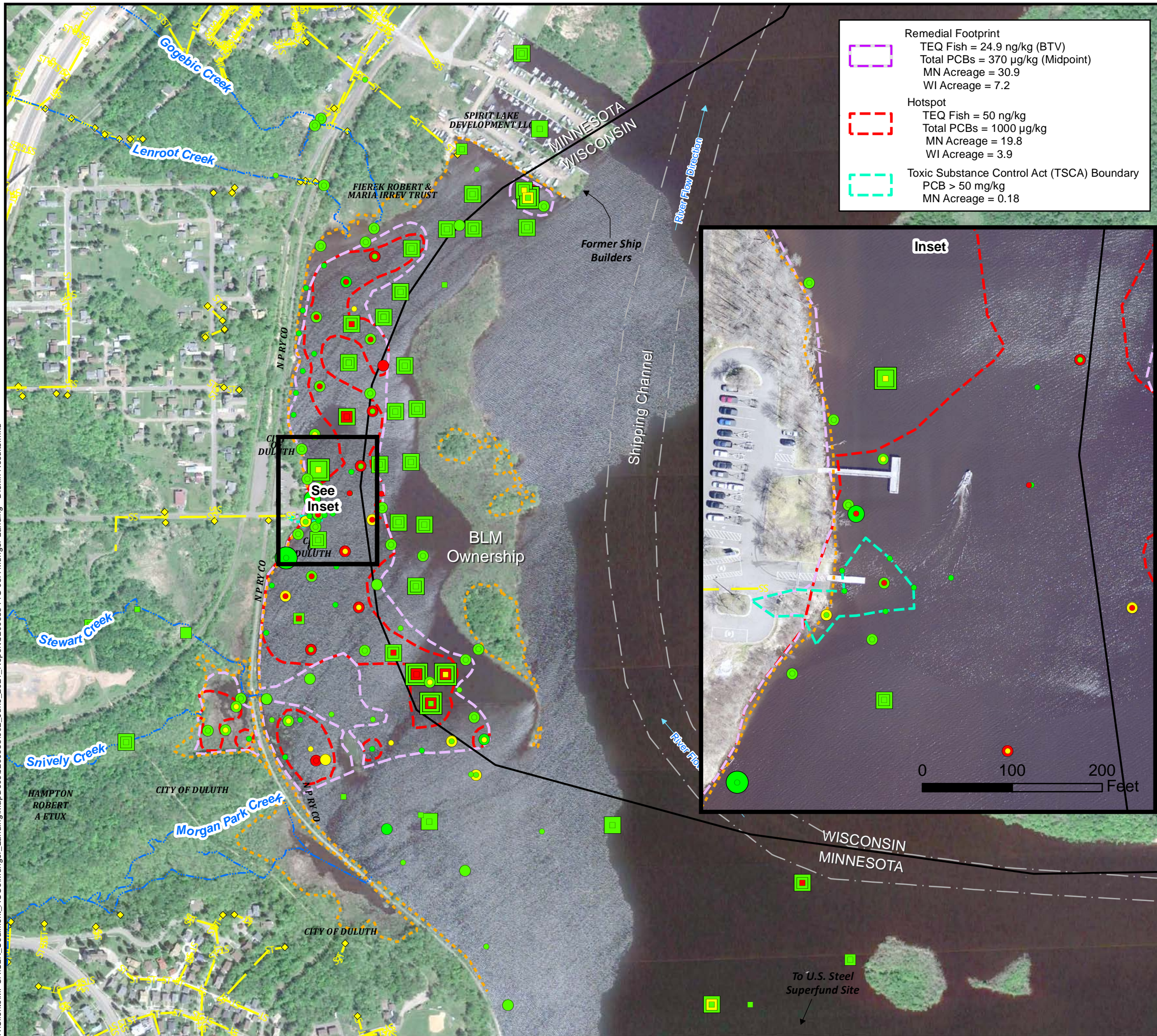
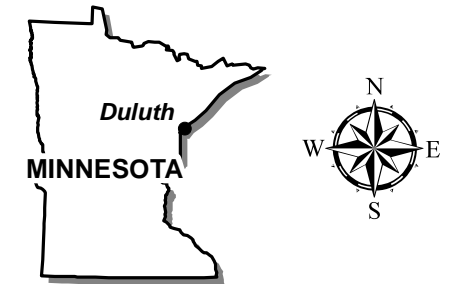


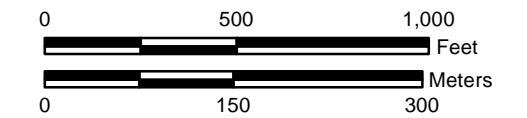
Figure 3A

Dioxin Results

**Munger Landing
SLR Sediment Sites
Duluth, MN**



Map Projection: NAD 1983 UTM Zone 15 N
Basemap: Google Earth Aerial Imagery, 6/5/2017



- Shipping Channel
- State Border
- Stream
- - - Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- ◆ Sewer Outfall
- SS Sanitary Sewer
- ST Storm Sewer

Sample Type

- Sediment Sample (Bay West)
- Historical Sediment Sample

Sample Interval

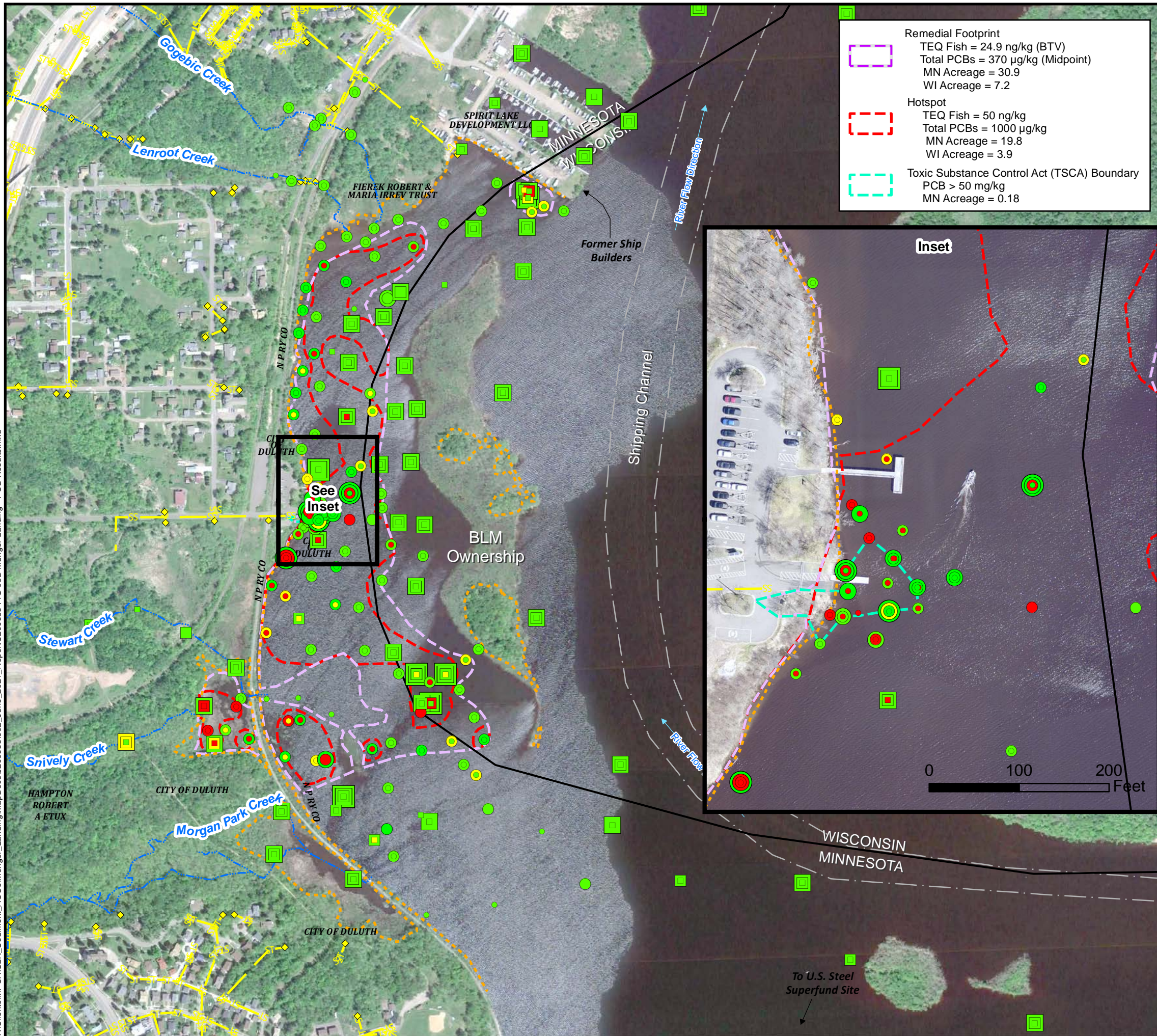
- □ 0-0.15 m
- □ 0.15-0.50 m
- □ 0.50-1.0 m
- □ >1.0 m

Dioxins Result

- TEQ Fish <24.9 ng/kg
- TEQ Fish >24.9 ng/kg
- TEQ Fish >50 ng/kg



Y:\Clients\MP\CA\SLR_Sediment_AOCs\Munger_Landing\MapDocs\J200633\002_June_2021_Report\J200633 FIG 03B Munger Landing - PCB Results.mxd



Remedial Footprint
 TEQ Fish = 24.9 ng/kg (BTV)
 Total PCBs = 370 µg/kg (Midpoint)
 MN Acreage = 30.9
 WI Acreage = 7.2

Hotspot
 TEQ Fish = 50 ng/kg
 Total PCBs = 1000 µg/kg
 MN Acreage = 19.8
 WI Acreage = 3.9

Toxic Substance Control Act (TSCA) Boundary
 PCB > 50 mg/kg
 MN Acreage = 0.18

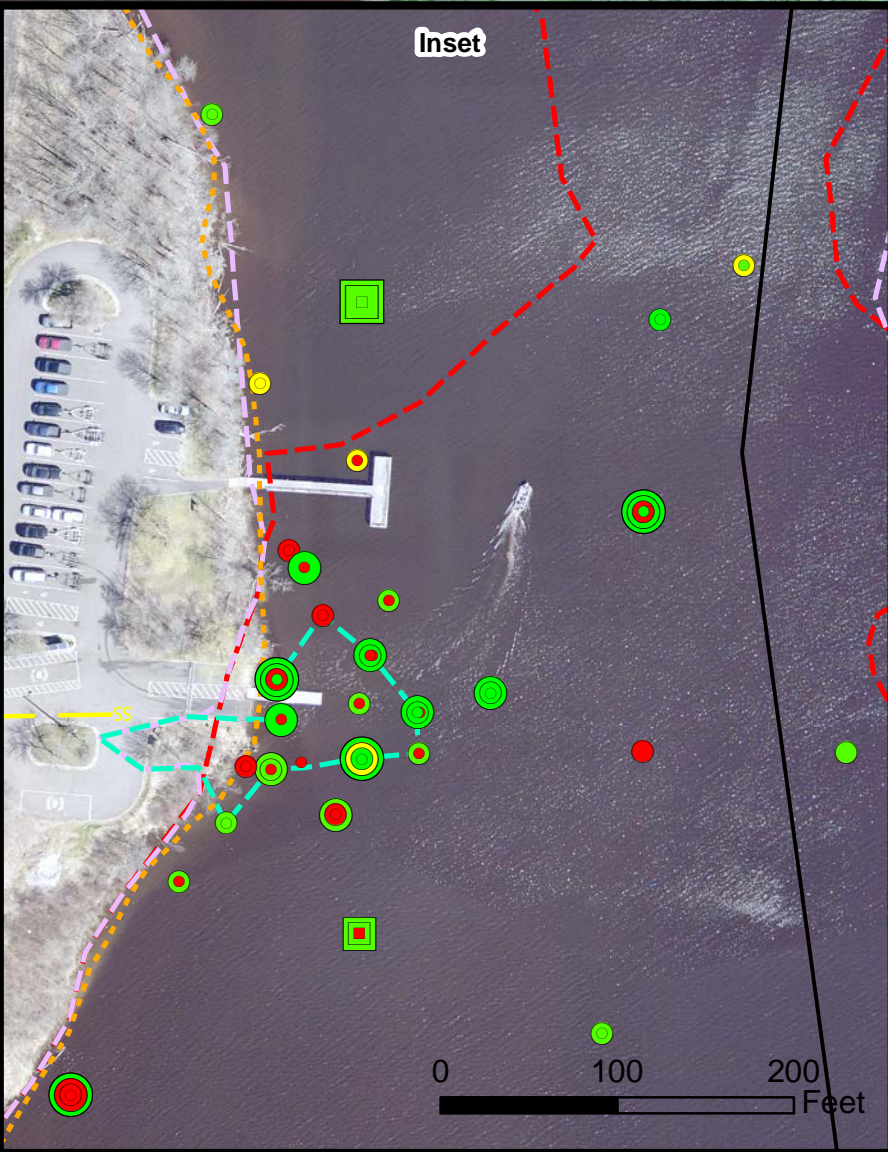
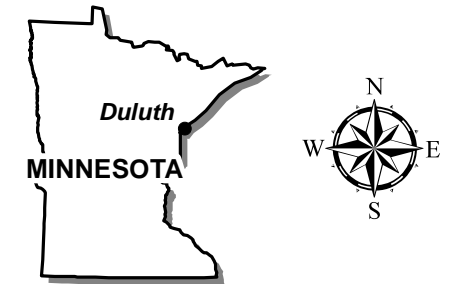


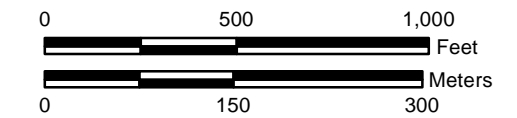
Figure 3B

PCB Results

**Munger Landing
 SLR Sediment Sites
 Duluth, MN**



Map Projection: NAD 1983 UTM Zone 15 N
 Basemap: Google Earth Aerial Imagery, 6/5/2017



- Shipping Channel
- State Border
- Stream
- - - Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- ◆ Sewer Outfall
- SS Sanitary Sewer
- ST Storm Sewer

Sample Type

- Sediment Sample (Bay West)
- Historical Sediment Sample

Sample Interval

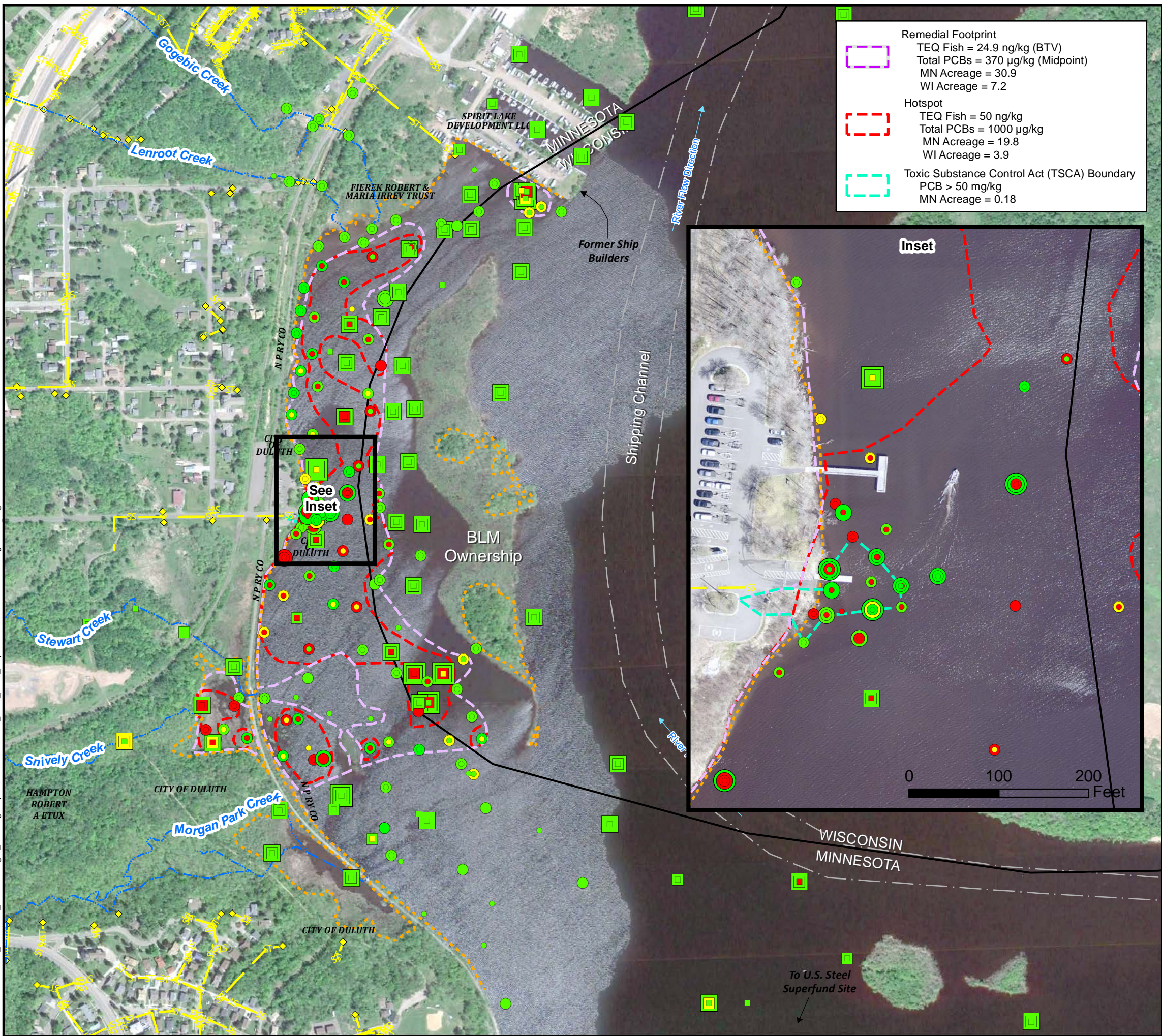
- □ 0-0.15 m
- □ 0.15-0.50 m
- □ 0.50-1.0 m
- □ >1.0 m

PCBs Result

- PCBs <370 µg/kg
- PCBs >370 µg/kg
- PCBs >1,000 µg/kg



Y:\Clients\MP\CA\SLR_Sediment_AOCs\Munger_Landing\MapDocs\J200633\002_June_2021_Report\J200633 FIG 03C Munger Landing - PCB & Dioxin Results.mxd



Remedial Footprint
 TEQ Fish = 24.9 ng/kg (BTV)
 Total PCBs = 370 µg/kg (Midpoint)
 MN Acreage = 30.9
 WI Acreage = 7.2

Hotspot
 TEQ Fish = 50 ng/kg
 Total PCBs = 1000 µg/kg
 MN Acreage = 19.8
 WI Acreage = 3.9

Toxic Substance Control Act (TSCA) Boundary
 PCB > 50 mg/kg
 MN Acreage = 0.18

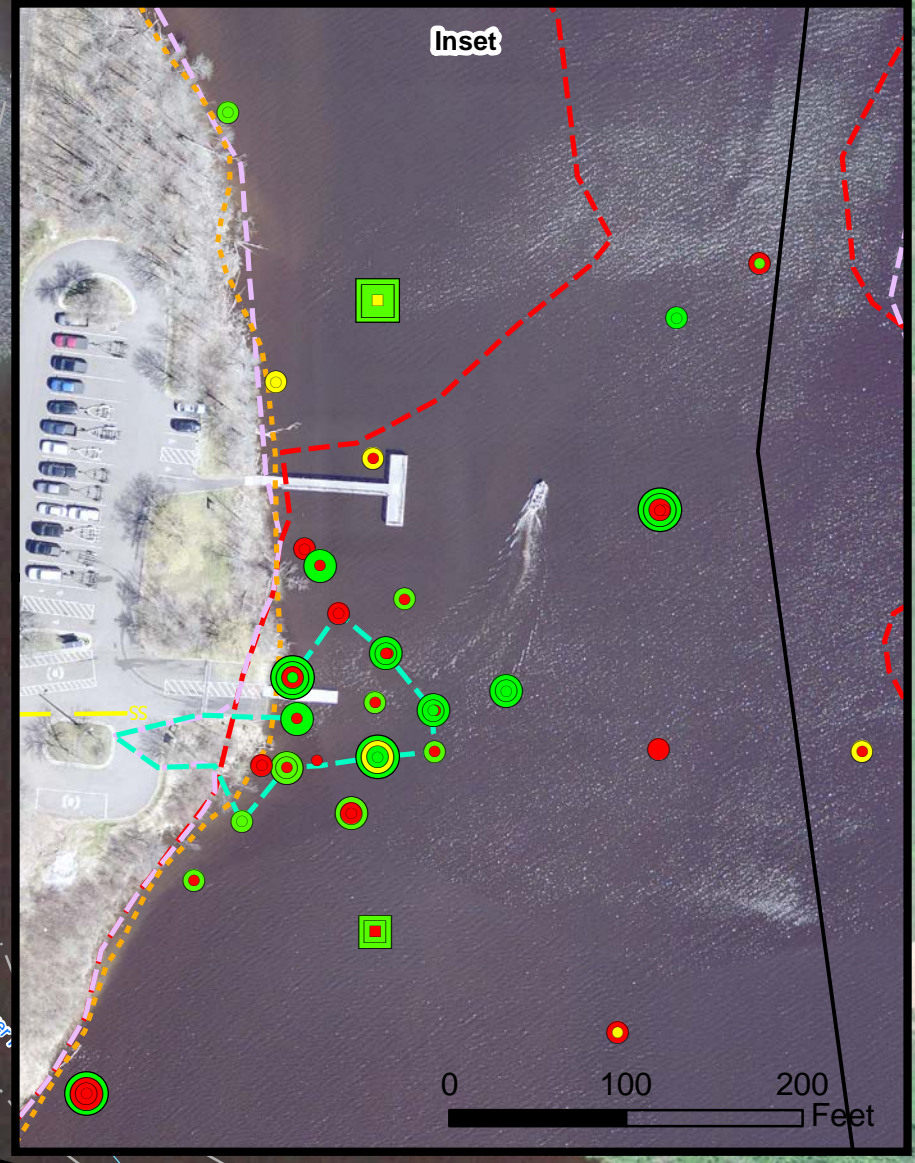
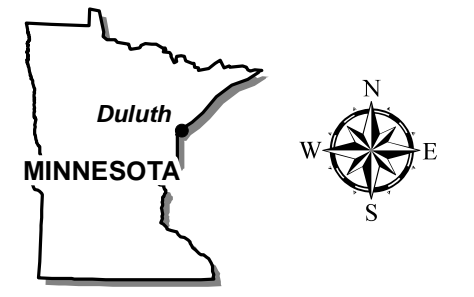


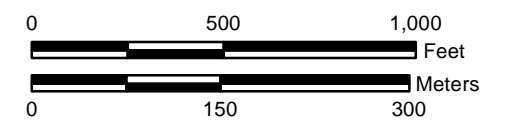
Figure 3C

PCB & Dioxin Results

**Munger Landing
SLR Sediment Sites
Duluth, MN**



Map Projection: NAD 1983 UTM Zone 15 N
 Basemap: Google Earth Aerial Imagery, 6/5/2017



- Shipping Channel
- State Border
- Stream
- - - Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- ◆ Sewer Outfall
- SS Sanitary Sewer
- ST Storm Sewer

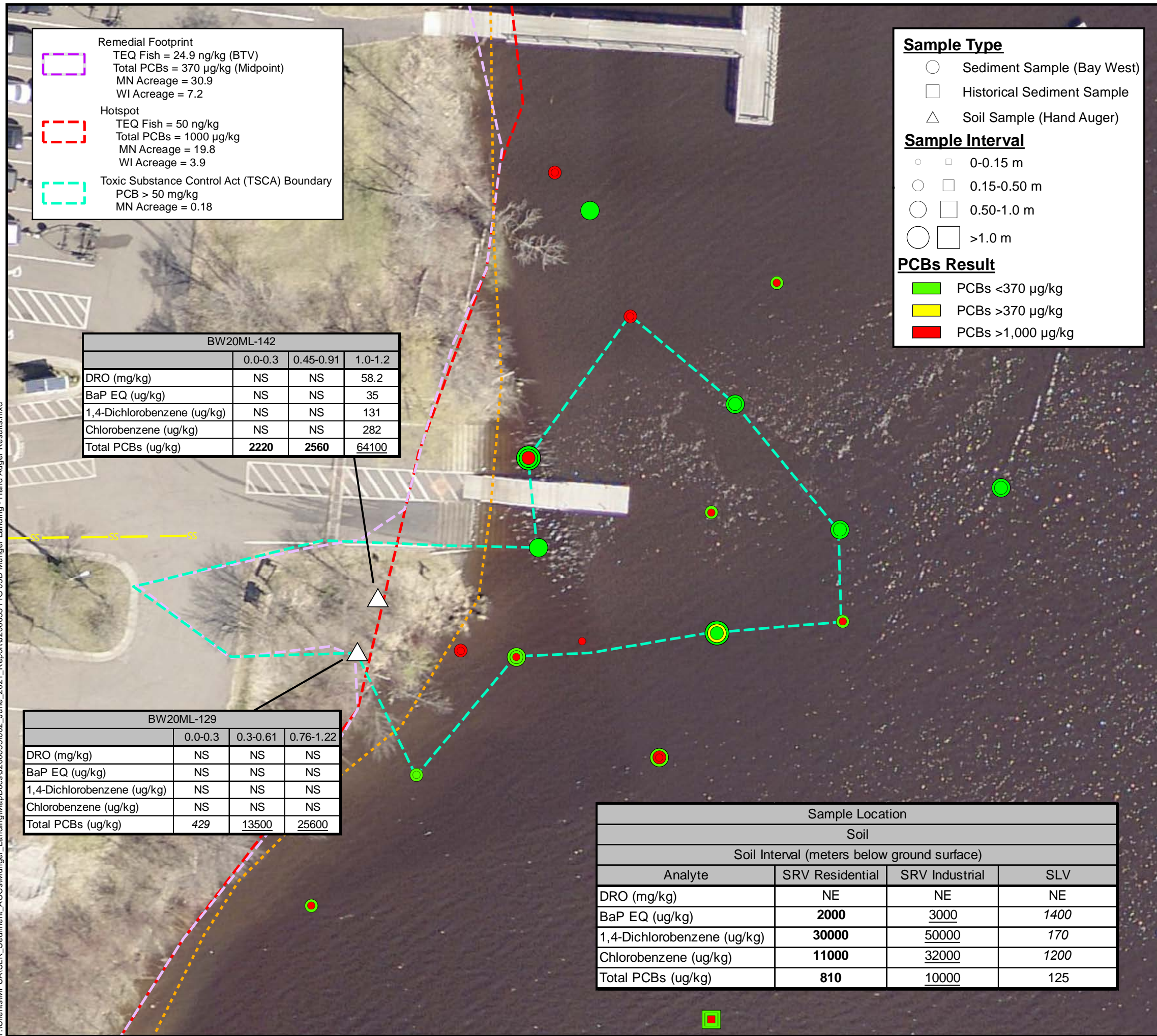
- Sample Type**
- Sediment Sample (Bay West)
 - Historical Sediment Sample

- Sample Interval**
- □ 0-0.15 m
 - □ 0.15-0.50 m
 - □ 0.50-1.0 m
 - □ >1.0 m

- PCBs & Dioxins Result**
- PCBs <370 µg/kg or TEQ Fish <24.9 ng/kg
 - PCBs >370 µg/kg or TEQ Fish >24.9 ng/kg
 - PCBs >1,000 µg/kg or TEQ Fish >50 ng/kg



Y:\Clients\MPCA\SLR_Sediment_AOCs\Munger_Landing_MapDocs\J200633\002_June_2021_Report\J200633 FIG 03D Munger Landing - Hand Auger Results.mxd



Remedial Footprint
 TEQ Fish = 24.9 ng/kg (BTV)
 Total PCBs = 370 µg/kg (Midpoint)
 MN Acreage = 30.9
 WI Acreage = 7.2

Hotspot
 TEQ Fish = 50 ng/kg
 Total PCBs = 1000 µg/kg
 MN Acreage = 19.8
 WI Acreage = 3.9

Toxic Substance Control Act (TSCA) Boundary
 PCB > 50 mg/kg
 MN Acreage = 0.18

Sample Type

- Sediment Sample (Bay West)
- Historical Sediment Sample
- △ Soil Sample (Hand Auger)

Sample Interval

- □ 0-0.15 m
- □ 0.15-0.50 m
- □ 0.50-1.0 m
- □ >1.0 m

PCBs Result

- PCBs <370 µg/kg
- PCBs >370 µg/kg
- PCBs >1,000 µg/kg

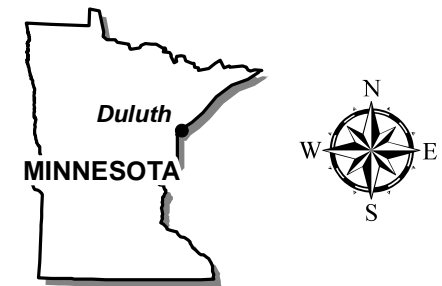
BW20ML-142			
	0.0-0.3	0.45-0.91	1.0-1.2
DRO (mg/kg)	NS	NS	58.2
BaP EQ (ug/kg)	NS	NS	35
1,4-Dichlorobenzene (ug/kg)	NS	NS	131
Chlorobenzene (ug/kg)	NS	NS	282
Total PCBs (ug/kg)	2220	2560	64100

BW20ML-129			
	0.0-0.3	0.3-0.61	0.76-1.22
DRO (mg/kg)	NS	NS	NS
BaP EQ (ug/kg)	NS	NS	NS
1,4-Dichlorobenzene (ug/kg)	NS	NS	NS
Chlorobenzene (ug/kg)	NS	NS	NS
Total PCBs (ug/kg)	429	13500	25600

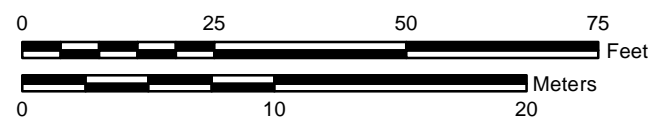
Sample Location			
Soil			
Soil Interval (meters below ground surface)			
Analyte	SRV Residential	SRV Industrial	SLV
DRO (mg/kg)	NE	NE	NE
BaP EQ (ug/kg)	2000	3000	1400
1,4-Dichlorobenzene (ug/kg)	30000	50000	170
Chlorobenzene (ug/kg)	11000	32000	1200
Total PCBs (ug/kg)	810	10000	125

Figure 3D
Hand Auger Results

**Munger Landing
 SLR Sediment Sites
 Duluth, MN**



Map Projection: NAD 1983 UTM Zone 15 N
 Basemap: St. Louis County Aerial Imagery, 2019



- Shipping Channel
- State Border
- Stream
- Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- Sewer Outfall
- Sanitary Sewer
- Storm Sewer

Notes:
 Only detected compounds are displayed
 DRO - diesel range organics
 BaP EQ - benzo(a)pyrene toxic equivalent factor for PAHs
 PAHs - polycyclic aromatic hydrocarbons
 Total PCBs calculated by Laboratory
 ug/Kg - micrograms per kilogram
 mg/Kg - milligrams per kilogram



Y:\Clients\MP\CA\SLR_Sediment_AOCs\Munger_Landing\MapDocs\J200633\002_June_2021_Report\J200633 FIG 04 Munger Landing - Remedial Footprint Map.mxd

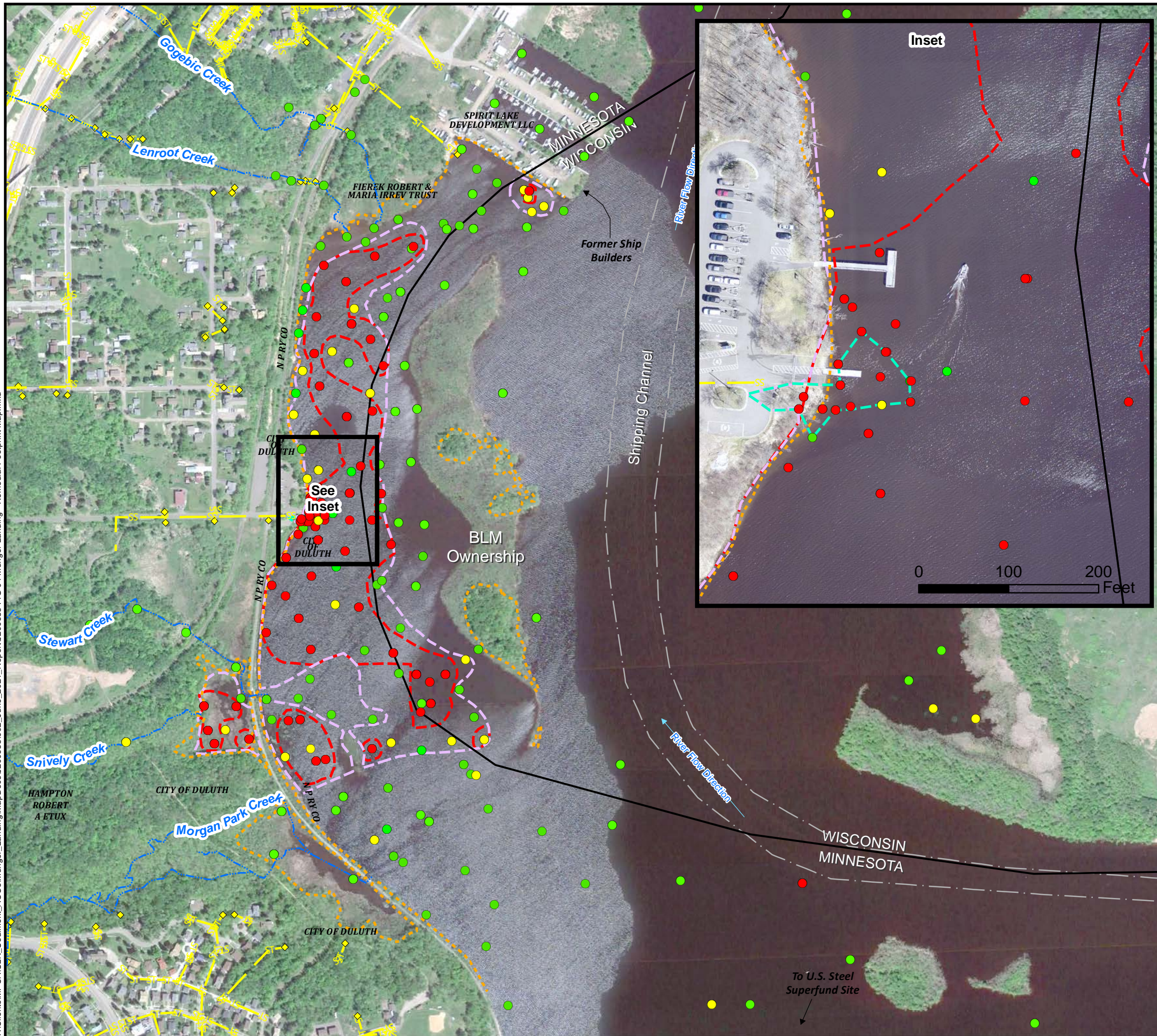


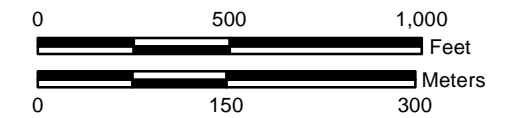
Figure 4

Remedial Footprint Map

**Munger Landing
SLR Sediment Sites
Duluth, MN**



Map Projection: NAD 1983 UTM Zone 15 N
Basemap: Google Earth Aerial Imagery, 6/5/2017



- PCBs >1,000 µg/kg or TEQ Fish >50 ng/kg
- PCBs >370 µg/kg or TEQ Fish >24.9 ng/kg
- PCBs <370 µg/kg and TEQ Fish <24.9 ng/kg
- Shipping Channel
- State Border
- Stream
- Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- ◆ Sewer Outfall
- Sanitary Sewer
- Storm Sewer

- Remedial Footprint
TEQ Fish = 24.9 ng/kg (BTV)
Total PCBs = 370 µg/kg (Midpoint)
MN Acreage = 30.9
WI Acreage = 7.2
- Hotspot
TEQ Fish = 50 ng/kg
Total PCBs = 1000 µg/kg
MN Acreage = 19.8
WI Acreage = 3.9
- Toxic Substance Control Act (TSCA) Boundary
PCB > 50 mg/kg
MN Acreage = 0.18



Y:\Clients\MP\CA\SLR_Sediment_AOCs\Munger_Landing_MapDocs\J200633\002_June_2021_Report\J200633 FIG 05 Munger Landing - Poling Refusal Depth Map.mxd

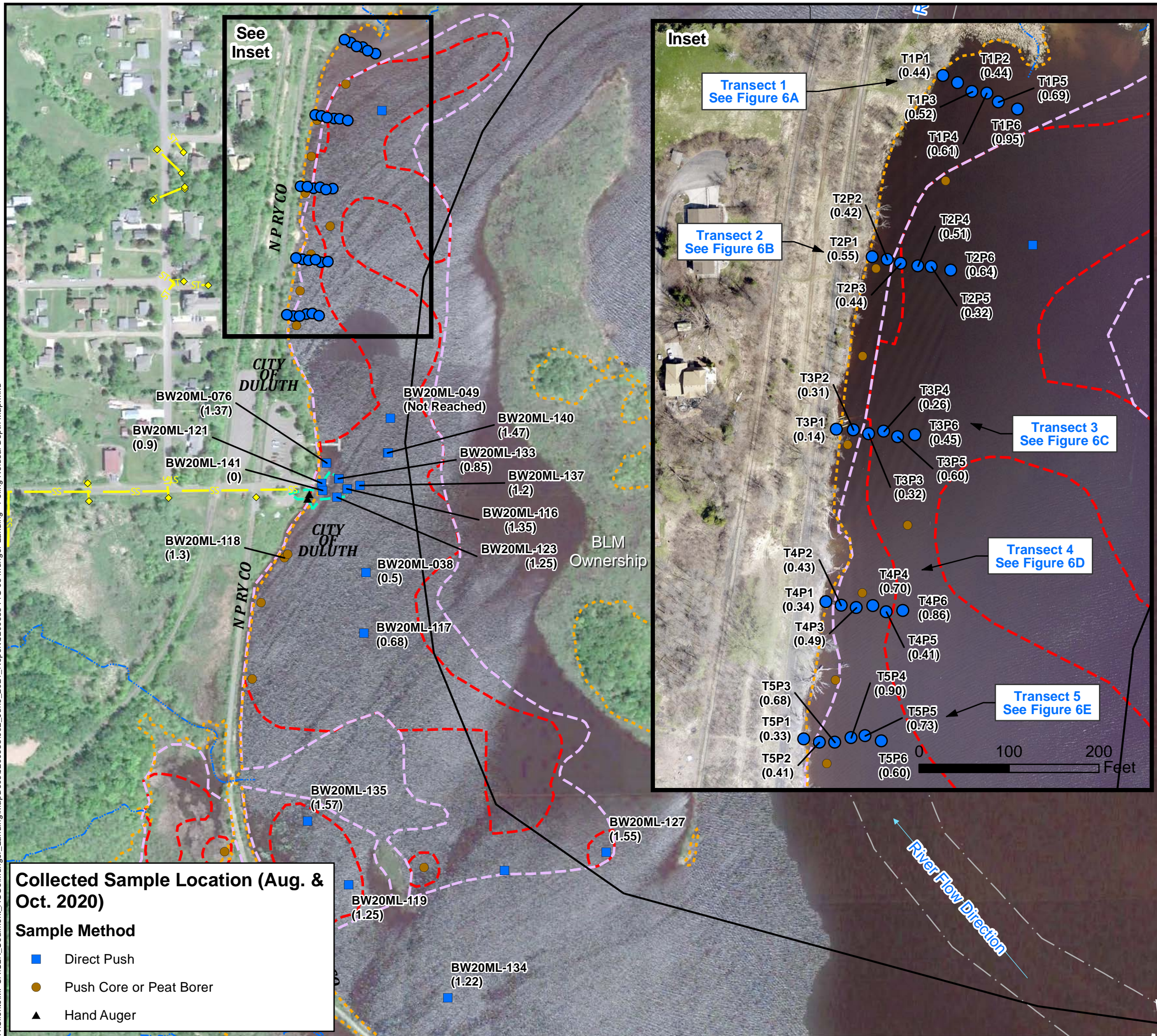
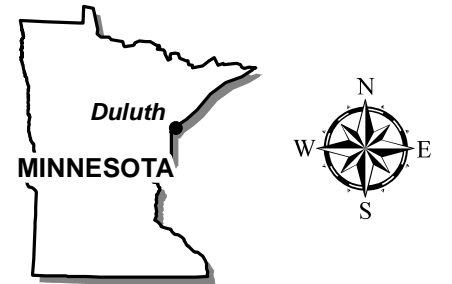
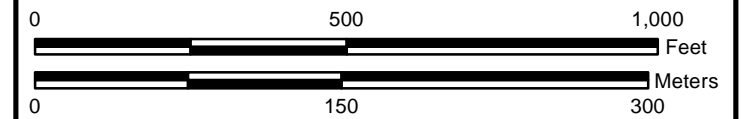


Figure 5
Poling Refusal Depth Map

**Munger Landing
SLR Sediment Sites
Duluth, MN**



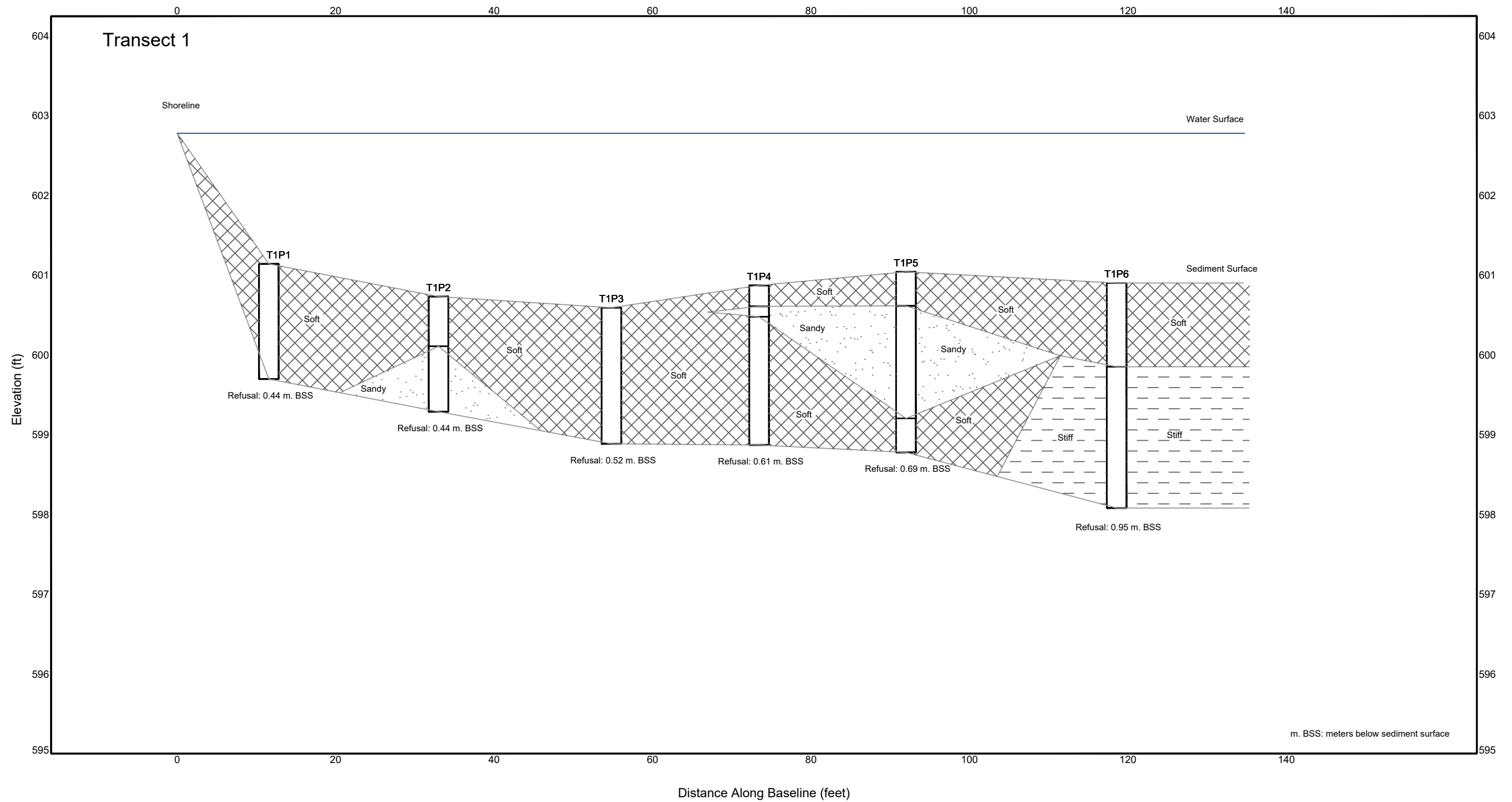
Map Projection: NAD 1983 UTM Zone 15 N
Basemap: Google Earth Aerial Imagery, 6/5/2017




- Shipping Channel
- State Border
- Stream
- Ordinary High Water (OHW) Level at 602.8 ft (Vertical datum of IGLD85)
- Sewer Outfall
- Sanitary Sewer
- Storm Sewer
- Poling Location (Refusal Depth Below Sediment Surface - m bss)
- m bss - meters below sediment surface

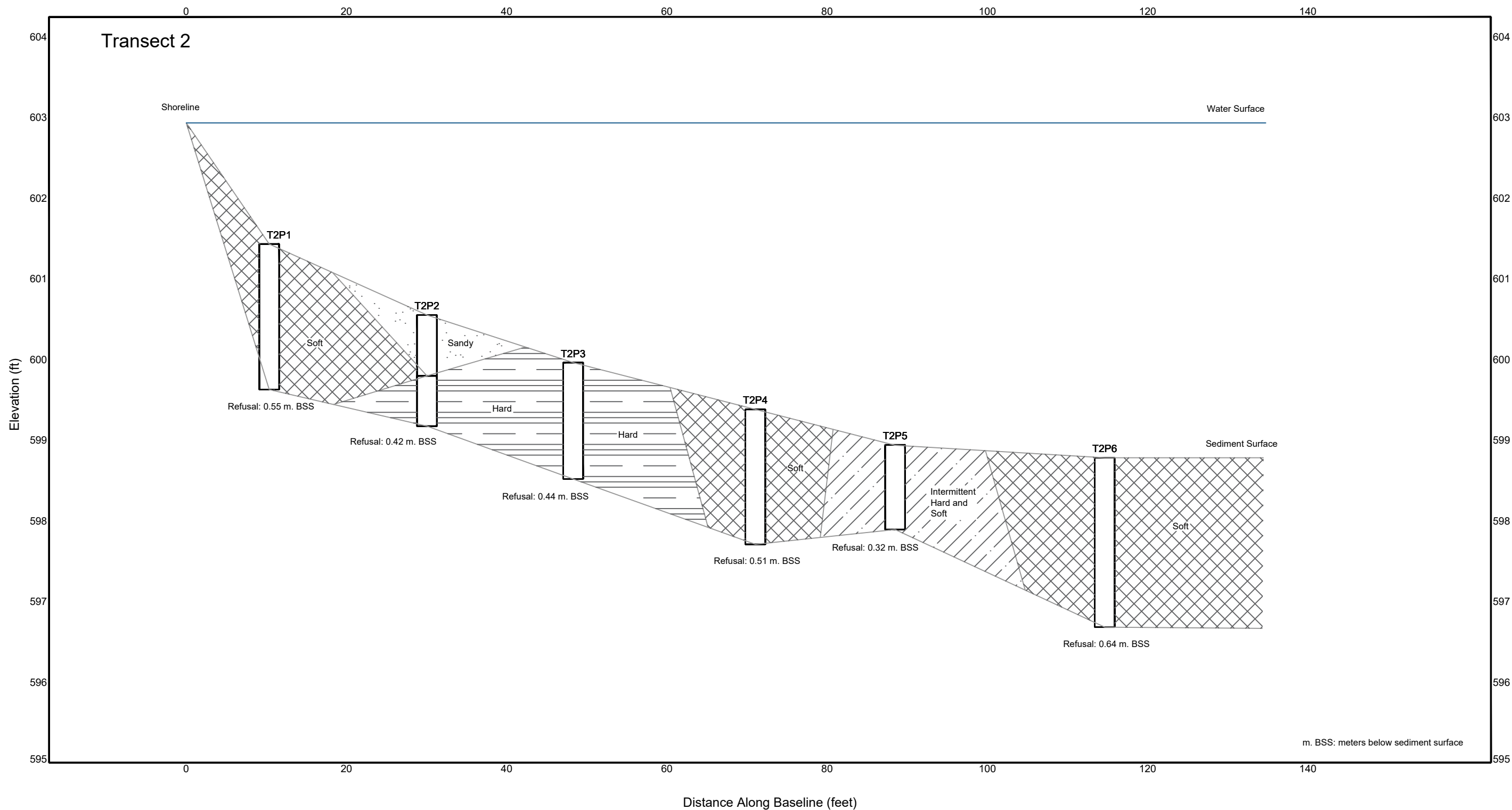
	Remedial Footprint TEQ Fish = 24.9 ng/kg (BTV) Total PCBs = 370 µg/kg (Midpoint) MN Acreage = 30.9 WI Acreage = 7.2
	Hotspot TEQ Fish = 50 ng/kg Total PCBs = 1000 µg/kg MN Acreage = 19.8 WI Acreage = 3.9
	Toxic Substance Control Act (TSCA) Boundary PCB > 50 mg/kg MN Acreage = 0.18






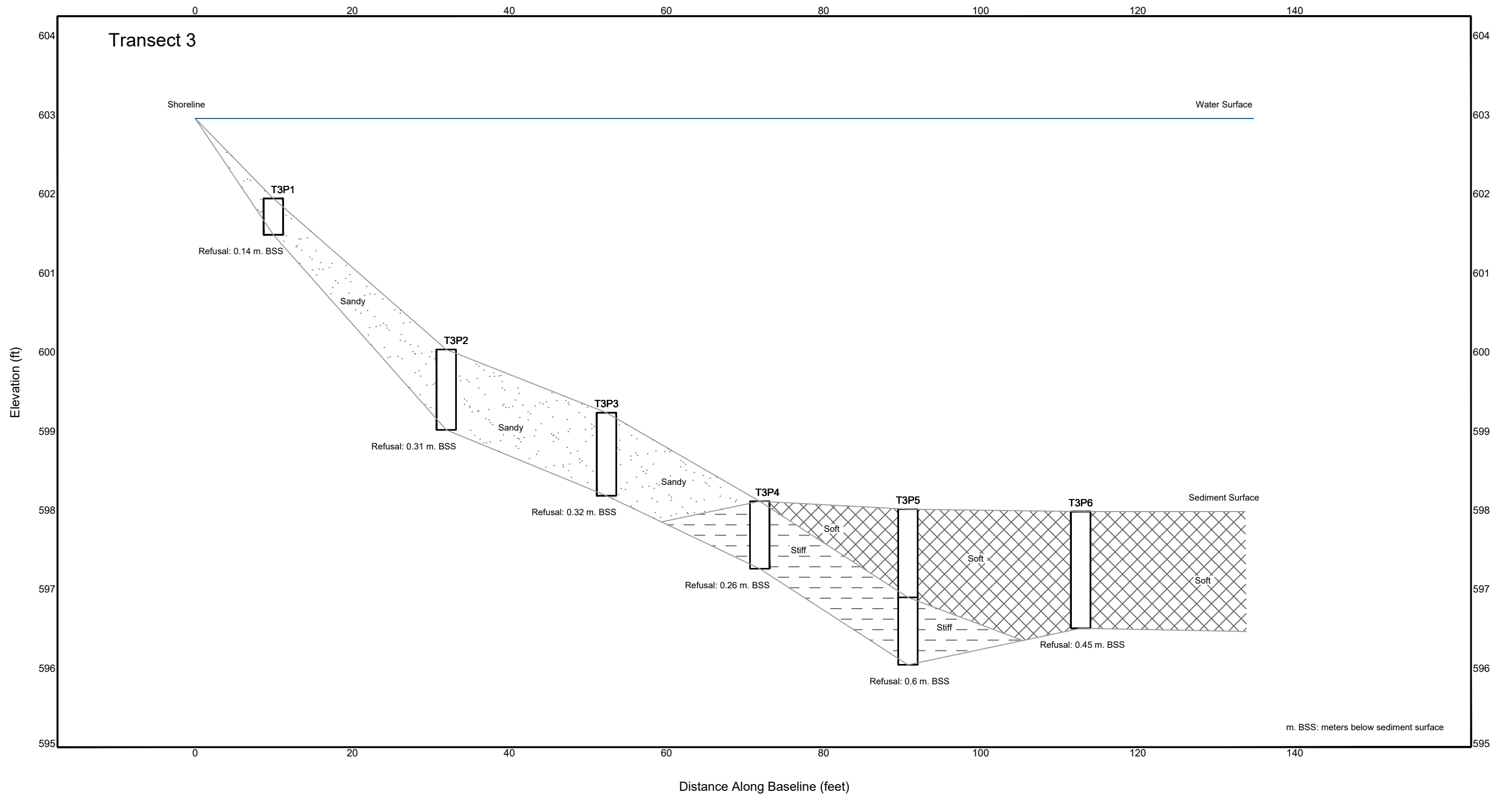
C:\Users\P.Sweeney\Desktop\SLR_ML_Piling_Transsects.dwg

ENGR'G	PLS	 Bay West Customer-Focused Environmental & Industrial Solutions
DRAWN	7-Mar-21	
REV.	v5	
PROJECT NAME		SR#1015 Munger Landing
TITLE		Poling Transect 1
DWG. NO.	SCALE	FIGURE # 6A
SLR_ML_Piling_Transsects.dwg	AS SHOWN	




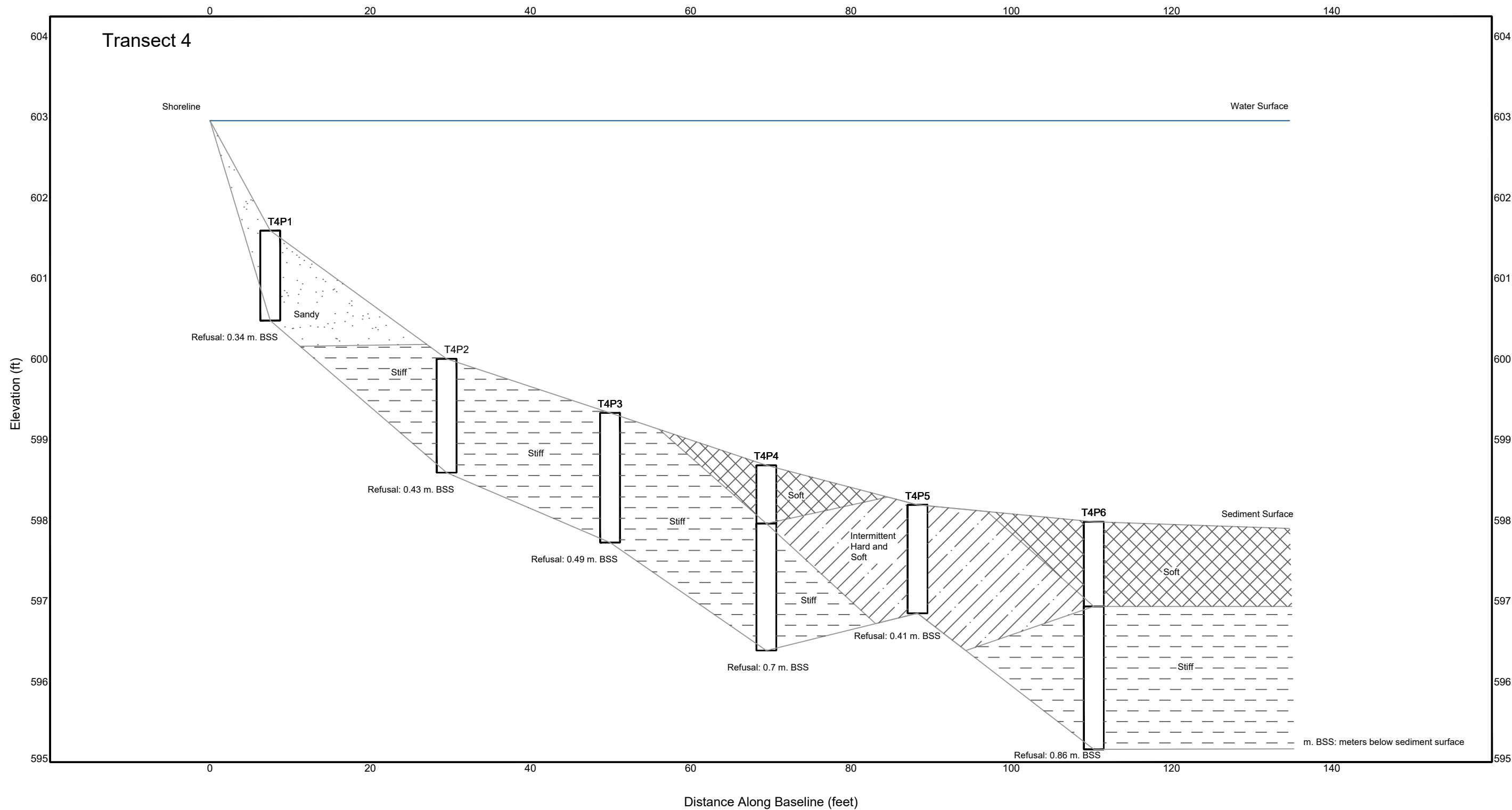
C:\Users\P.Sweeney\Desktop\SLR_ML_Poling_Transects.dwg

ENGR'G	PLS	 Bay West Customer-Focused Environmental & Industrial Solutions
DRAWN	7-Mar-21	
REV.	v5	
PROJECT NAME		SR#1015 Munger Landing
TITLE		Poling Transect 2
DWG. NO.	SCALE	FIGURE # 6B
SLR_ML_Poling_Transects.dwg	AS SHOWN	




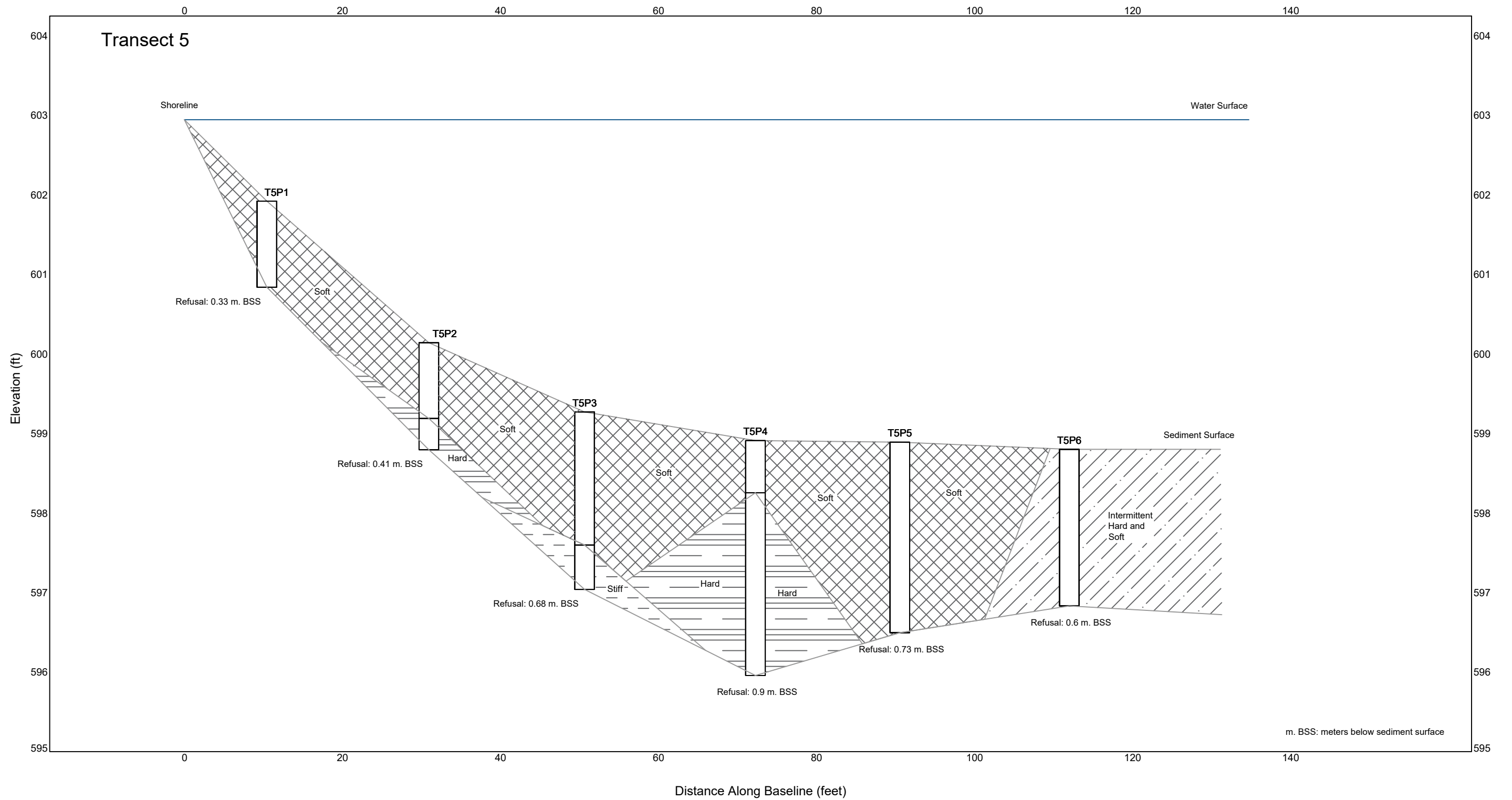
C:\Users\P.Sweeney\Desktop\SLR_ML_Poling_Transsects.dwg

ENGR'G	PLS	 Customer-Focused Environmental & Industrial Solutions
DRAWN	7-Mar-21	
REV.	v5	
PROJECT NAME		SR#1015 Munger Landing
TITLE		Poling Transect 3
DWG. NO.	SCALE	FIGURE # 6C
SLR_ML_Poling_Transsects.dwg	AS SHOWN	




C:\Users\P.Sweeney\Desktop\SLR_ML_Poling_Transects.dwg

ENGR'G	PLS	 Bay West Customer-Focused Environmental & Industrial Solutions
DRAWN	7-Mar-21	
REV.	v5	
PROJECT NAME		SR#1015 Munger Landing
TITLE		Poling Transect 4
DWG. NO.	SCALE	FIGURE # 6D
SLR_ML_Poling_Transects.dwg	AS SHOWN	



C:\Users\P.Sweeney\Desktop\SLR_ML_Piling_Transsects.dwg

ENGR'G	PLS	 Bay West Customer-Focused Environmental & Industrial Solutions
DRAWN	7-Mar-21	
REV.	v5	
PROJECT NAME		SR#1015 Munger Landing
TITLE		Poling Transect 5
DWG. NO.	SCALE	FIGURE # 6E
SLR_ML_Piling_Transsects.dwg	AS SHOWN	

Appendix A
Field Documentation

8-12-20

0700- LEAVE HOTEL.

0730- AT BR. JOHN B → HANO AMER

Benzene-129 - SAME 3 intervals per MARK E.

0945- Benzene-138-0-0.25

TOC, PCB, Dioxin

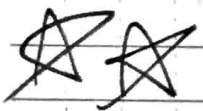
0955- Benzene-138-0.25-0.25

PCB, TOC, Dioxin HELD

1000- Benzene-138-0.25-0.34

Dioxin/PCB HELD.

INTERVALS DIVIDED PER MARK



TO REPLY SEDIMENT
LAYERING. ← TRUE FOR ALL

1030- Benzene-131-0-0.15

TOC, PCB, Dioxin

1035- Benzene-131-0.15-0.4

SAME, Dioxin HELD

1040- Benzene-131-0.4-0.55

SAMPLE HELD.

1055- Benzene-132-0-0.21

TOC, PCB, Dioxin.

~~1055~~ DUP: Benzene-001-0-0.21 @ 1115

Scale: 1 square =



1100- Benzene-112-0.27-0.46

TOC, PCB, Dioxin HELD

1105- Benzene-122-0.5-0.91

HELD.

1145- Benzene-124-0-0.3

TOC, PCB, Dioxin NY/MID.

1150- Benzene-124-0.3-0.61

TOC, PCB, HELD Dioxin.

1300- Benzene-118-0-0.3

TOC, PCB, Dioxin

1305- Benzene-118-0.3-0.61

TOC, PCB, Dioxin HELD.

1310- Benzene-118-0.61-0.76

SAMPLE HELD.

1315- Benzene-120-0-0.3

TOC, PCB, Dioxin

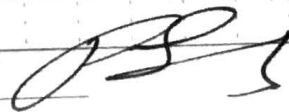
1320- Benzene-120-0.3-0.45

TOC, PCB, HELD Dioxin

1325- Benzene-120-0.45-0.61

HELD SAMPLE.

Scale: 1 square =



Rite in the Rain

SLR

8-12-80

1335- Bwdoml - 125 - 0 - 0.3

TOL, PCB, Dioxin

DUP: Bwdoml - 002 - 0 - 0.3 @ 1345

1370- Bwdoml - 125 - 0.3 - 0.61

TOL, PCB, HEB Dioxin.

1370- Bwdoml - 126 - 0 - 0.3

TOL, PCB, Dioxin

1385 - Bwdoml - 126 - 0.3 - 0.61

TOL, PCB, Dioxin HEB

1400 - Bwdoml - 126 - 0.61 - 0.76

SAMPLE HEB.

1415- Bwdoml - 128 - 0 - 0.15

TOL, PCB, Dioxin

1420 - Bwdoml - 128 - 0.15 - 0.45

TOL, PCB, Dioxin HEB.

1450 - Bwdoml - 129 - 0 - 0.3

TOL, PCB, Dioxin

1455 - Bwdoml - 129 - 0.3 - 0.61

TOL, PCB, Dioxin HEB

1500 - Bwdoml - 129 - 0.76 - 1.22

~~HEB~~. TOL, PCB, Dioxin.

Scale: 1 square =

SLR

8-12-80

1510 - Bwdoml - 142 - 0 - 0.3

TOL, PCB, Dioxin

1515 - Bwdoml - 142 - 0.45 - 0.91

TOL, PCB, Dioxin ~~HEB~~

1520 - Bwdoml - 142 - 1.0 - 1.2

~~HEB~~. TOL, PCB, Dioxin, DRO, PAH, VOL.

1525 - Bwdoml - 130 - 0.03

TOL, PCB, Dioxin. MYMSD.

DUP: Bwdoml - 003 - 0 - 0.3 @ 1345

1370 - Bwdoml - 130 - 0.3 - 0.61

TOL, PCB, Dioxin HEB.

1600 - Bwdoml - 132 - 0 - 0.27

TOL, PCB, Dioxin.

DUP: Bwdoml - 004 - 0 - 0.27 @ 1610

1605 - Bwdoml - 132 - 0.27 - 0.37

TOL, PCB, Dioxin HEB.

1620 - Bwdoml - 0 - 0.15

TOL, PCB, Dioxin.

1625 - Bwdoml - 0.15 - 0.45

TOL, PCB, Dioxin HEB.

1630 - Bwdoml - 0.45 - 0.61

HEB.

Scale: 1 square =

Rite in the Rain.

Bwdoml - 129
PIS

1640 - BWDOME-143-0-0.24

TOL, PCB, DIOXIN

1645 - BWDOME-143-0.24-0.61

TOL, PCB, DIOXIN HELD

1650 - BWDOME-143-0.61-0.76

HELD.

1655 - BWDOME-139-0-0.1

TOL, PCB, DIOXIN

1700 - BWDOME-139-0.1-0.36

TOL, PCB, DIOXIN HELD

1705 - BWDOME-139-0.36-0.61

HELD.

• NEW PLASTIC SHEETING BETWEEN
CORES

• NO REMAINTS EQUIPMENT USED FOR
PROCESSING.

• INTERVALS HOMOGENIZED BY
HAND.

1800 - OFF

Scale: 1 square = _____

Scale: 1 square = _____

Rite in the Rain

000633 SER.M.L. 5-72-21

AT Bw STP. LOAD.

SAVE. ITP.

- FRIDAY. LOAD BOAT.

SAVE FRIDAY.

1 LANDING. HPS MEETING.

WATER.

5 BWDIAL-144. COLLECT GS

SEE LOG. GRAVE O. COLLECT PHOTOS.

WELL 0-0.15m P-SURS ~ 10 PER

SAMPLES., APPROX 2xT bags.

COLLECT BWDIAL-145.

SAME PROCESS FOR #144

COLLECT BWDIAL-146

SAME PROCESS

COLLECT BWDIAL-147.

COLLECT BWDIAL-148

COLLECT BWDIAL-149

COLLECT BWDIAL-150

COLLECT BWDIAL-151

COLLECT BWDIAL-152.

square = 

000633 SER.M.L. 5-72-21

33

CALL w/ MARK HULLOT TO

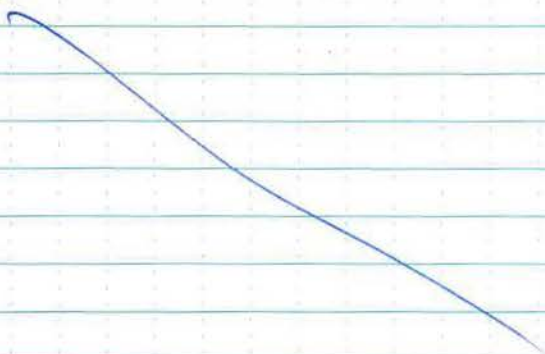
TALK ABOUT REGIONAL/NEED TO

MOVE OVER ~ 25' TO GET OUT

OF PLANT AREA. OK'D.

1700- OFF WATER.

★ 0.5hr Land ★



1730- LEAVE SITE.

1800- AT FRIDAY, UNLOAD.

1830- LEAVE FRIDAY.

1900- AT Bw STP, UNLOAD.

1930- OFF.

Scale: 1 square = _____

Rite in the Rain

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-038

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 2:25 PM Above/Below LWD (ft):
 Water Elevation (ft): 603.17 Water Depth (ft): 3.5 Sediment Elevation (ft): 599.67

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
1	122	20	50	-72	Sediment	—
				0	—	—
				0	—	—

Core Collection Information


Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	0	0	No
2	5	4.5	93	Yes
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.4 Date Processed: October 22, 2020 Time Processed: 2:28 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.9</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Brown (10YR 5/3)</p> <p>USCS: CL-ML USDA: Sandy Clay Loam Grains: Rounded</p> <p>Organics: Fibrous %: 0 - 5 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>	
<p>Layer 2: Start Depth (m): 0.9 End Depth (m): 1.4</p> <p>Primary Color: Light Brown (10YR 6/3) Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: —</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR

Project Number: 200633

Photographs taken on:

Location ID: BW20ML-038



Photo 1:



Photo 2: West

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-049

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 1:57 PM Above/Below LWD (ft):
 Water Elevation (ft): 603.23 Water Depth (ft): 8 Sediment Elevation (ft): 595.23

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
	244	100		-244	—	—
				0	—	—
				0	—	—

Core Collection Information




Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	1.4	90	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.4 Date Processed: October 22, 2020 Time Processed: 2:03 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 1</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Dark Brown (10YR 3/3)</p> <p>USCS: CL-ML USDA: Silt Loam Grains: None</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>	
<p>Layer 2: Start Depth (m): 1 End Depth (m): 1.4</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Dark Grey Brown (10YR 3/2)</p> <p>USCS: SC USDA: Sandy Clay Grains: Rounded</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 22, 2020

Location ID: BW20ML-049



Photo 1: North



Photo 2: West

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-076

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 11:46 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.45 Water Depth (ft): 2.9 Sediment Elevation (ft): 600.55

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
076b	88		137	49	Sediment	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	3	60	Yes
2	5	3	60	Yes
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.0 Date Processed: October 22, 2020 Time Processed: 11:49 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.35</p>			
Primary Color: Black (10YR 2/1)		Secondary Color: Dark Brown (10YR 3/3)	
USCS: CL-ML	USDA: Silt Loam	Grains: None	
Organics: Fibrous	%: 0 - 5	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Low Density	
Description/ Notes:			

<p>Layer 2: Start Depth (m): 0.35 End Depth (m): 0.45</p>			
Primary Color: Black (10YR 2/1)		Secondary Color: Brown (10YR 5/3)	
USCS: PT	USDA: Peat	Grains: —	
Organics: Wood Chips	%: 10 - 25	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Low Density	
Description/ Notes:			

<p>Layer 3: Start Depth (m): 0.45 End Depth (m): 0.9</p>			
Primary Color: Reddish Brown		Secondary Color: Very Dark Brown (10YR 2/2)	
USCS: SC	USDA: Sandy Clay	Grains: Rounded	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			



<p>Layer 4: Start Depth (m): 0.9 End Depth (m): 1</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: None</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 5: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	
<p>Layer 6: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 22, 2020

Location ID: BW20ML-076b



Photo 1: West

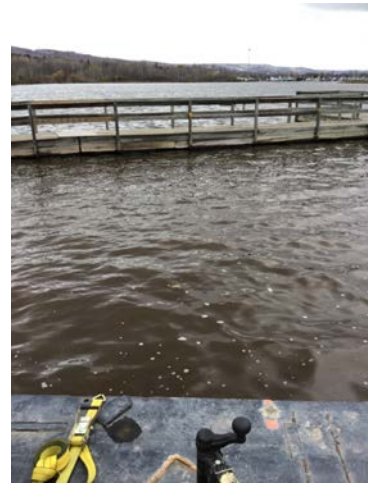


Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing **Location ID:** BW20ML-114

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 8:50 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.11 Water Depth (ft): 4.5 Sediment Elevation (ft): 598.61

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
114	137.16	0.62	138	0.84	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Other (see Notes)

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	0	0	No
2	5	5	100	Yes
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.5 Date Processed: October 21, 2020 Time Processed: 9:06 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.3</p>			
Primary Color: Brown (10YR 5/3)		Secondary Color: Black (10YR 2/1)	
USCS: CL-ML	USDA: Silt Loam	Grains: None	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: —		Cohesiveness: Low Density	
Description/ Notes:			

<p>Layer 2: Start Depth (m): 0.3 End Depth (m): 0.65</p>			
Primary Color: Brown (10YR 5/3)		Secondary Color: —	
USCS: SM	USDA: Sandy Loam	Grains: Rounded	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: —		Cohesiveness: Medium Density	
Description/ Notes:			

<p>Layer 3: Start Depth (m): 0.65 End Depth (m): 0.9</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: Black (10YR 2/1)	
USCS: ML	USDA: Silt Loam	Grains: —	
Organics: Wood Chips	%: 25 - 50	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: Medium Density	
Description/ Notes:			



<p>Layer 4: Start Depth (m): 0.9 End Depth (m): 1.5</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: SC-SM USDA: Sandy Clay Loam Grains: Semi-Angular</p> <p>Organics: None %: N/A Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 5: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	
<p>Layer 6: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 21, 2020

Location ID: BW20ML-114



Photo 1: North



Photo 2: West

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-115

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 1:49 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.66 Water Depth (ft): 4.1 Sediment Elevation (ft): 598.56

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	4.6	93	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.4 Date Processed: October 21, 2020 Time Processed: 1:50 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.97</p>			
Primary Color: Brown (10YR 5/3)		Secondary Color: Dark Brown (10YR 3/3)	
USCS: CL-ML	USDA: Clay Loam	Grains: —	
Organics: Fibrous	%: 0 - 5	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			

<p>Layer 2: Start Depth (m): 0.97 End Depth (m): 1.1</p>			
Primary Color: Brown (10YR 5/3)		Secondary Color: Dark Brown (10YR 3/3)	
USCS: PT	USDA: Peat	Grains: —	
Organics: Plant Material	%: 50 - 75	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Low Density	
Description/ Notes:			

<p>Layer 3: Start Depth (m): 1.1 End Depth (m): 1.2</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: Dark Grey Brown (10YR 3/2)	
USCS: SC	USDA: Sandy Clay	Grains: Rounded	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			



<p>Layer 4: Start Depth (m): 1.2 End Depth (m): 1.4</p> <p>Primary Color: Black (10YR 2/1) Secondary Color: —</p> <p>USCS: SP USDA: Fine Sand Grains: Rounded</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>	
<p>Layer 5: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	
<p>Layer 6: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 21, 2020

Location ID: BW20ML-115



Photo 1: West



Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-116

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 8:18 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.23 Water Depth (ft): 5.5 Sediment Elevation (ft): 597.73

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
1	170		135	135	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	5	100	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.5 Date Processed: October 22, 2020 Time Processed: 8:21 AM

<p>Layer 4: Start Depth (m): 0 End Depth (m): 1</p>			
Primary Color: Brown (10YR 5/3)		Secondary Color: —	
USCS: CL-ML	USDA: Silty Clay	Grains: None	
Organics: Fibrous	%: 5 - 10	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Medium Density	
Description/ Notes:			

<p>Layer 5: Start Depth (m): 1 End Depth (m): 1.4</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: —	
USCS: PT	USDA: Peat	Grains: None	
Organics: Plant Material	%: 50 - 75	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Low Density	
Description/ Notes:			

<p>Layer 6: Start Depth (m): 1.4 End Depth (m): 1.5</p>			
Primary Color: Very Dark Brown (10YR 2/2)		Secondary Color: —	
USCS: CL	USDA: Clay	Grains: None	
Organics: None	%: N/A	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			



Photographic Log

Project Name: SLR

Project Number: 200633

Photographs taken on:

Location ID: BW20ML-116



Photo 1: West



Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-117

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 9:43 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.06 Water Depth (ft): 3.9 Sediment Elevation (ft): 599.16

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
117	137	30	0.68	-136.32	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

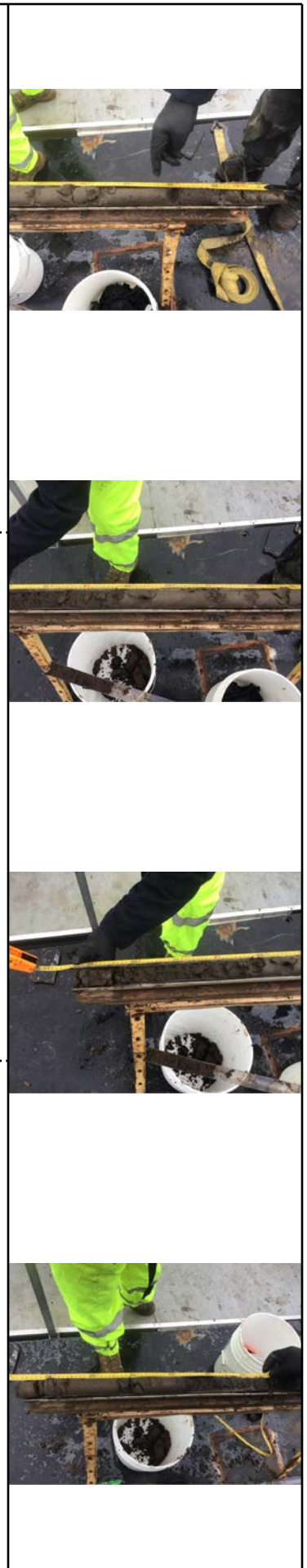
Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	5	100	—
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.9 Date Processed: October 21, 2020 Time Processed: 9:50 AM

Layer 1:		Start Depth (m): 0	End Depth (m): 0.35
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: Black (10YR 2/1)	
USCS: CL-ML	USDA: Silt	Grains: —	
Organics: Fibrous	%: 10 - 25	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Low Density	
Description/ Notes:			
<hr/>			
Layer 2:		Start Depth (m): 0.35	End Depth (m): 0.9
Primary Color: Dark Grey Brown (10YR 3/2)		Secondary Color: Reddish Brown	
USCS: CL-ML	USDA: Silty Clay	Grains: Rounded	
Organics: Fibrous	%: 10 - 25	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: Medium Density	
Description/ Notes: Tr fine sand			
<hr/>			
Layer 3:		Start Depth (m): 0.9	End Depth (m): 1.4
Primary Color: Dark Grey Brown (10YR 3/2)		Secondary Color: Reddish Brown	
USCS: SC	USDA: Sandy Clay	Grains: Semi-Angular	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			



<p>Layer 4: Start Depth (m): 1.4 End Depth (m): 1.6</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: —	
USCS: SP	USDA: Coarse Sand	Grains: Semi-Angular	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: Loose	
Description/ Notes:			

<p>Layer 5: Start Depth (m): 1.6 End Depth (m): 1.96</p>			
Primary Color: Reddish Brown		Secondary Color: —	
USCS: SC	USDA: Sandy Clay	Grains: Semi-Angular	
Organics: —	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: —		Cohesiveness: High Density	
Description/ Notes:			

<p>Layer 6: Start Depth (m): End Depth (m):</p>			
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —		Cohesiveness: —	
Description/ Notes:			

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 21, 2020

Location ID: BW20ML-117



Photo 1: North



Photo 2: West

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-118

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 10:55 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.54 Water Depth (ft): 2.8 Sediment Elevation (ft): 599.74

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1.9	1.35	71.05	No
2	1	1	100	No
3	2	0	0	No
4	2	1.25	62.5	No
5	2	1.3	65	Yes

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .76 Date Processed: August 12, 2020 Time Processed: 12:51 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.6</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Brown (10YR 5/3)</p> <p>USCS: CL-ML USDA: Silty Clay Grains: None</p> <p>Organics: Plant Material %: 0 - 5 Odor: No Odor</p> <p>Rocks: — %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>			
<p>Layer 2: Start Depth (m): 0.6 End Depth (m): 0.76</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Black (10YR 2/1)</p> <p>USCS: CL-ML USDA: Clay Loam Grains: —</p> <p>Organics: Fibrous %: 25 - 50 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>			
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>			



Laboratory Sample Analysis



Sample ID: BW20ML-118 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 1:00 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-118 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 1:05 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-118 Sample Interval: 0.61 to 0.76 Layer/Horizon: —

Sample Time: 1:10 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-118 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR Project Number: J200633 Photographs taken on:

Location ID: BW20ML-118

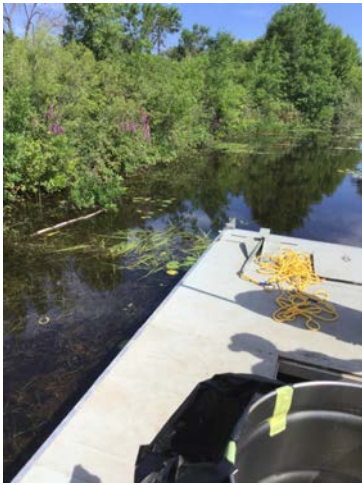


Photo 1: Looking North



Photo 2: Looking south



Photo 3: Looking east

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-118b

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 10:45 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.33 Water Depth (ft): 3.2 Sediment Elevation (ft): 600.13

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
118b	3.1		1.3	-1.8	Sediment	Peat
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	1.2	24	—
1	5	1	20	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 0.4 Date Processed: October 22, 2020 Time Processed: 10:52 AM

<p>Layer 1: Start Depth (m): 1.2 End Depth (m): 1.36</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Black (10YR 2/1)</p> <p>USCS: PT USDA: Peat Grains: None</p> <p>Organics: Plant Material %: 50 - 75 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>			
<p>Layer 2: Start Depth (m): 1.35 End Depth (m): 1.5</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: —</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>			
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>			



Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 22, 2020

Location ID: BW20ML-118b



Photo 1: West



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-119

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 11:47 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.76 Water Depth (ft): 2.8 Sediment Elevation (ft): 599.96

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
119	113	18	125	12	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	2	40	Yes
2	5	5	100	Yes
—	—	—	0	—
—	—	—	0	—
—	—	—	0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.5 Date Processed: October 21, 2020 Time Processed: 11:47 AM

Layer 1: Start Depth (m): 0 End Depth (m): 0.5

Primary Color: Dark Brown (10YR 3/3) Secondary Color: Black (10YR 2/1)

USCS: PT USDA: Peat Grains: —

Organics: Woody %: 75 - 100 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Loose

Description/
Notes:



Layer 2: Start Depth (m): 0.5 End Depth (m): 0.88

Primary Color: Reddish Brown Secondary Color: Light Brown (10YR 6/3)

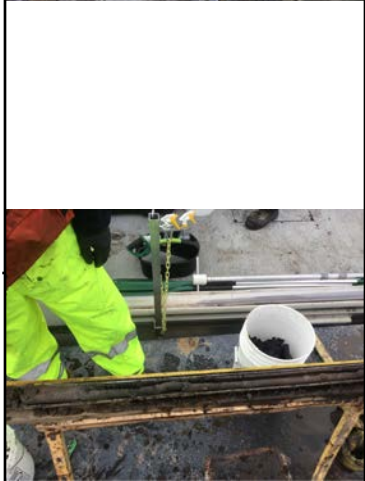
USCS: CL USDA: Clay Grains: —

Organics: None %: — Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: High Density

Description/
Notes:



Layer 3: Start Depth (m): 0.88 End Depth (m): 1.3

Primary Color: Dark Green Secondary Color: Dark Grey (10YR 4/1)

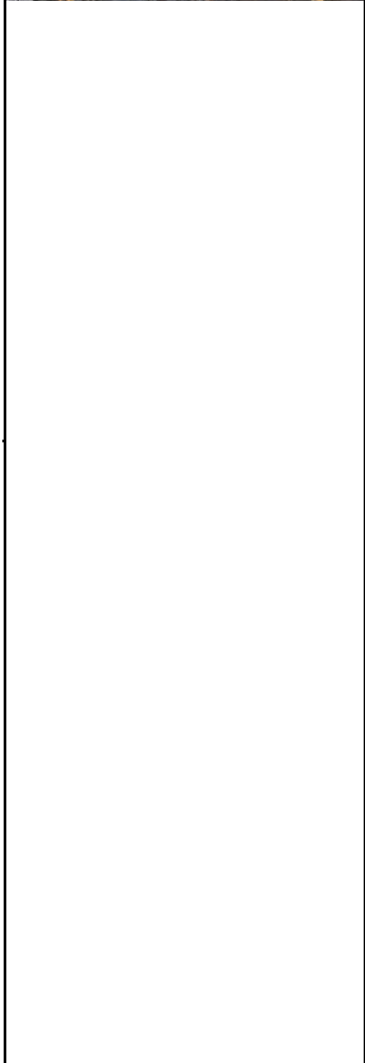
USCS: CL USDA: Clay Grains: None

Organics: None %: — Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: High Density

Description/
Notes:



<p>Layer 4: Start Depth (m): 1.3 End Depth (m): 1.5</p>			
Primary Color: Reddish Brown		Secondary Color: —	
USCS: SC	USDA: Sandy Clay	Grains: None	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Medium Density	
Description/ Notes:			

<p>Layer 5: Start Depth (m): End Depth (m):</p>			
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —		Cohesiveness: —	
Description/ Notes:			

<p>Layer 6: Start Depth (m): End Depth (m):</p>			
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —		Cohesiveness: —	
Description/ Notes:			

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-120

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 9:35 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.62 Water Depth (ft): 3.6 Sediment Elevation (ft): 599.02

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	2	0.5	25	—
2	2	0.1	5	—
3			0	—
4			0	—
5			0	—

Core Processing Information

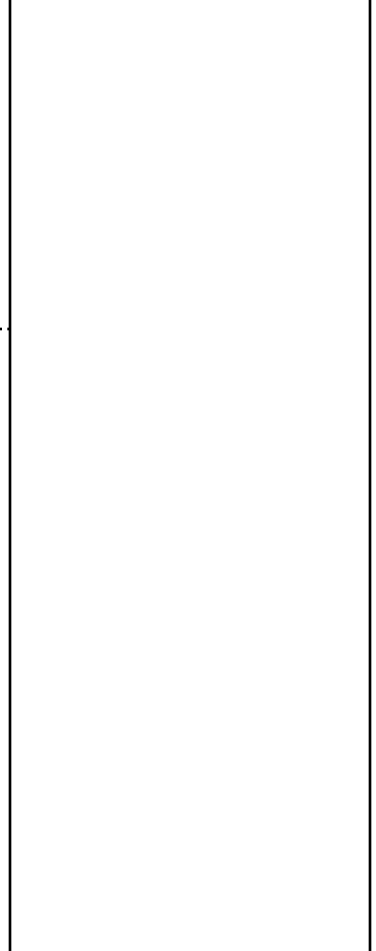
Sample Processors: PLS BWF JB

Length of Core (m): .61 Date Processed: August 12, 2020 Time Processed: 1:05 PM

Layer 1:				Start Depth (m): 0	End Depth (m): 0.46
Primary Color: Black (10YR 2/1)		Secondary Color: Dark Grey Brown (10YR 3/2)			
USCS: CL-ML	USDA: Silt Loam	Grains: None			
Organics: Roots	%: 75 - 100	Odor: No Odor			
Rocks: —	%: —	Moisture: Saturated			
Petrochemical: None	Cohesiveness: Loose				
Description/ Notes:					

Layer 2:				Start Depth (m): 0.46	End Depth (m): 0.61
Primary Color: Reddish Brown		Secondary Color: Brown (10YR 5/3)			
USCS: CL-ML	USDA: Silty Clay	Grains: —			
Organics: None	%: —	Odor: No Odor			
Rocks: —	%: —	Moisture: Saturated			
Petrochemical: None	Cohesiveness: Low Density				
Description/ Notes:					

Layer 3:				Start Depth (m):	End Depth (m):
Primary Color: —		Secondary Color: —			
USCS: —	USDA: —	Grains: —			
Organics: —	%: —	Odor: —			
Rocks: —	%: —	Moisture: —			
Petrochemical: —	Cohesiveness: —				
Description/ Notes:					



Laboratory Sample Analysis



Sample ID: BW20ML-120 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 1:15 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-120 Sample Interval: 0.3 to 0.45 Layer/Horizon: —

Sample Time: 1:20 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-120 Sample Interval: 0.46 to 0.61 Layer/Horizon: —

Sample Time: 1:25 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-120 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-120



Photo 1: Looking west



Photo 2: Looking east



Photo 3: Looking south



Photo 4: Looking north

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-121

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 2:50 PM Above/Below LWD (ft):
Water Elevation (ft): 603.28 Water Depth (ft): 3.2 Sediment Elevation (ft): 600.08

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
1	91	90	0	-91	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	0	0	No
2	5	1.5	30	Yes
3	5	5	100	Yes
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.5 Date Processed: October 22, 2020 Time Processed: 2:56 PM

Layer 1:		Start Depth (m): 0	End Depth (m): 0.9
Primary Color: Black (10YR 2/1)		Secondary Color: Brown (10YR 5/3)	
USCS: SW	USDA: Coarse Sand	Grains: Rounded	
Organics: None	#: —	Odor: No Odor	
Rocks: Fine Gravel	#: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: Low Density	
Description/ Possible sheen? Notes:			
<hr/>			
Layer 2:		Start Depth (m): 0.9	End Depth (m): 1.5
Primary Color: Reddish Brown		Secondary Color: —	
USCS: CL	USDA: —	Grains: —	
Organics: None	#: —	Odor: No Odor	
Rocks: None	#: —	Moisture: Saturated	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			
<hr/>			
Layer 3:		Start Depth (m):	End Depth (m):
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	#: —	Odor: —	
Rocks: —	#: —	Moisture: —	
Petrochemical: —		Cohesiveness: —	
Description/ Notes:			



Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 22, 2020

Location ID: BW20ML-121



Photo 1: West

Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-122

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 4:11 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.67 Water Depth (ft): 2.6 Sediment Elevation (ft): 600.07

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

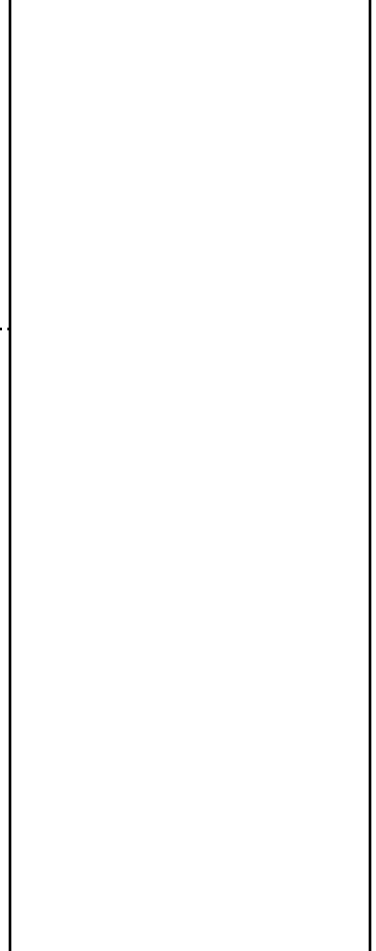
Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	2	1.5	75	Yes
2	2	1.1	55	—
3	2	1.2	60	Yes
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .91 Date Processed: August 12, 2020 Time Processed: 10:58 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.21</p> <p>Primary Color: Black (10YR 2/1) Secondary Color: —</p> <p>USCS: SW USDA: — Grains: Semi-Angular</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: Fine Gravel %: 0 - 5 Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Loose</p> <p>Description/ Notes:</p>			
<p>Layer 2: Start Depth (m): 0.21 End Depth (m): 0.3</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: —</p> <p>USCS: SW USDA: Sandy Loam Grains: Semi-Angular</p> <p>Organics: Plant Material %: 25 - 50 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>			
<p>Layer 3: Start Depth (m): 0.3 End Depth (m): 0.46</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: —</p> <p>USCS: — USDA: Peat Grains: —</p> <p>Organics: Roots %: 75 - 100 Odor: —</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>			



<p>Layer 4: Start Depth (m): 0.46 End Depth (m): 0.91</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: —</p> <p>USCS: — USDA: Peat Grains: —</p> <p>Organics: Plant Material %: 75 - 100 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>	
<p>Layer 5: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	
<p>Layer 6: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Laboratory Sample Analysis



Sample ID: BW20ML-122 Sample Interval: 0 to 0.21 Layer/Horizon: —

Sample Time: 10:55 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate PCBs Sample ID: BW20ML-001-0-0.21 Dup Time: 11:15 AM

Sample ID: BW20ML-122 Sample Interval: 0.27 to 0.46 Layer/Horizon: —

Sample Time: 11:00 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-122 Sample Interval: 0.5 to 0.91 Layer/Horizon: —

Sample Time: 11:05 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-122 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time: v.072016

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-122



Photo 1: Looking north



Photo 2: Looking west



Photo 3: Looking south

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-123

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 9:03 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.28 Water Depth (ft): 5 Sediment Elevation (ft): 598.28

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
	152	65	125	-27	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	5	100	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.47 Date Processed: October 22, 2020 Time Processed: 9:03 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.65</p>			
<p>Primary Color: Brown (10YR 5/3)</p>		<p>Secondary Color: Dark Grey Brown (10YR 3/2)</p>	
<p>USCS: CL-ML</p>	<p>USDA: Clay Loam</p>	<p>Grains: Semi-Angular</p>	
<p>Organics: Woody</p>	<p> %: 5 - 10</p>	<p>Odor: No Odor</p>	
<p>Rocks: None</p>	<p> %: —</p>	<p>Moisture: Saturated</p>	
<p>Petrochemical: None</p>		<p>Cohesiveness: Medium Density</p>	
<p>Description/ Notes:</p>			
<hr/>			
<p>Layer 2: Start Depth (m): 0.65 End Depth (m): 1.25</p>			
<p>Primary Color: Dark Brown (10YR 3/3)</p>		<p>Secondary Color: —</p>	
<p>USCS: SM</p>	<p>USDA: Silt Loam</p>	<p>Grains: Rounded</p>	
<p>Organics: Fibrous</p>	<p> %: 0 - 5</p>	<p>Odor: No Odor</p>	
<p>Rocks: None</p>	<p> %: —</p>	<p>Moisture: Saturated</p>	
<p>Petrochemical: None</p>		<p>Cohesiveness: Medium Density</p>	
<p>Description/ Notes:</p>			
<hr/>			
<p>Layer 3: Start Depth (m): - End Depth (m): -</p>			
<p>Primary Color: -</p>		<p>Secondary Color: —</p>	
<p>USCS: -</p>	<p>USDA: -</p>	<p>Grains: —</p>	
<p>Organics: -</p>	<p> %: -</p>	<p>Odor: -</p>	
<p>Rocks: None</p>	<p> %: —</p>	<p>Moisture: -</p>	
<p>Petrochemical: None</p>		<p>Cohesiveness: -</p>	
<p>Description/ Notes:</p>			



<p>Layer 4: Start Depth (m): 1.25 End Depth (m): 1.47</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Reddish Brown</p> <p>USCS: CL USDA: Clay Grains: None</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 5: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	
<p>Layer 6: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR

Project Number: 200633

Photographs taken on:

Location ID: BW20ML-123



Photo 1: North

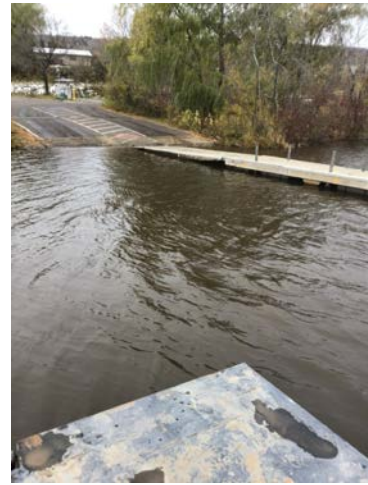


Photo 2: West

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-124

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 2:18 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.51 Water Depth (ft): 3 Sediment Elevation (ft): 599.51

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1.5	1	66.67	Yes
2	2	1.8	90	Yes
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): Date Processed: August 12, 2020 Time Processed: 11:30 AM

Sediment Characterization Log

Location ID: BW20ML-124



Layer 1: Start Depth (m): 0 End Depth (m): 0.3

Primary Color: Black (10YR 2/1) Secondary Color: Brown (10YR 5/3)

USCS: CL-ML USDA: Silt Loam Grains: None

Organics: Fibrous %: 0 - 5 Odor: No Odor

Rocks: — %: — Moisture: Saturated

Petrochemical: — Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): 0.3 End Depth (m): 0.61

Primary Color: Brown (10YR 5/3) Secondary Color: Reddish Brown

USCS: CL-ML USDA: Silty Clay Grains: —

Organics: Fibrous %: 25 - 50 Odor: No Odor

Rocks: None %: — Moisture: Moist

Petrochemical: None Cohesiveness: Low Density

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-124 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 11:45 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-124 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 11:50 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-124 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-124 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-124



Photo 1: Looking north

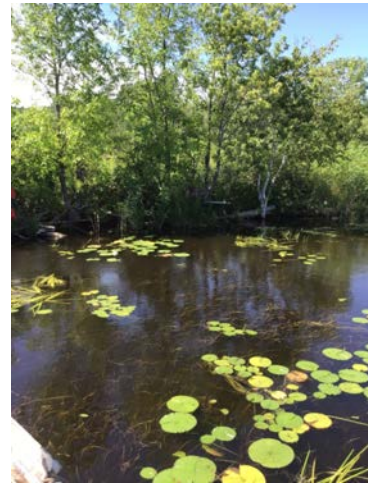


Photo 2: Looking west



Photo 3: Looking south



Photo 4: Looking east

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-125

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 11:02 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.59 Water Depth (ft): 2.7 Sediment Elevation (ft): 599.89

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	2	1.2	60	Yes
2	2	1	50	Yes
3			0	—
—			0	—
—			0	—

Core Processing Information

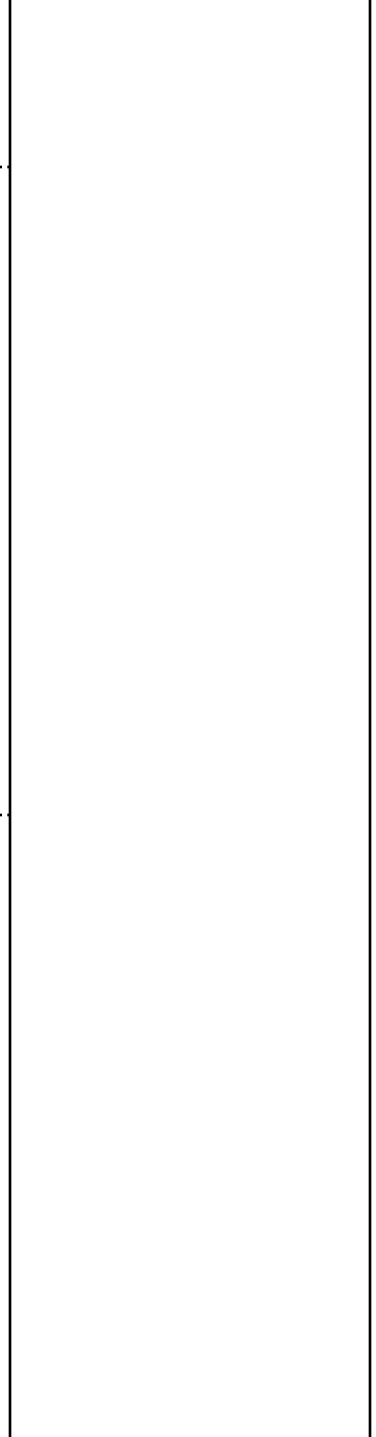
Sample Processors: PLS BWF JB

Length of Core (m): .76 Date Processed: August 12, 2020 Time Processed: 1:25 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.25</p>			
Primary Color: Black (10YR 2/1)		Secondary Color: Dark Brown (10YR 3/3)	
USCS: —	USDA: —	Grains: —	
Organics: Plant Material	%: 5 - 10	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —	Cohesiveness: —		
Description/ Notes:			

<p>Layer 2: Start Depth (m): 0.25 End Depth (m): 0.3</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: Plant Material	%: 50 - 75	Odor: No Odor	
Rocks: —	%: —	Moisture: —	
Petrochemical: —	Cohesiveness: —		
Description/ Notes:			

<p>Layer 3: Start Depth (m): 0.3 End Depth (m): 0.61</p>			
Primary Color: Reddish Brown		Secondary Color: Brown (10YR 5/3)	
USCS: CL-ML	USDA: —	Grains: —	
Organics: Fibrous	%: 25 - 50	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —	Cohesiveness: —		
Description/ Notes:			



Laboratory Sample Analysis



Sample ID: BW20ML-125 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 1:35 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Bw20ML-002-0-0.3 Dup Time: 1:45 PM

Sample ID: BW20ML-125 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 1:40 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-125 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-125 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-125



Photo 1: Looking west



Photo 2: Looking east



Photo 3: Looking south



Photo 4: Looking north

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-126

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 1:08 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.58 Water Depth (ft): 4.8 Sediment Elevation (ft): 597.78

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1.5	1.5	100	—
2	1.5	1.5	100	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .76 Date Processed: August 12, 2020 Time Processed: 1:47 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.3

Primary Color: Brown (10YR 5/3) Secondary Color: —

USCS: CL-ML USDA: Silt Loam Grains: —

Organics: None %: — Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: —

Description/
Notes:

Layer 2: Start Depth (m): 0.3 End Depth (m): 0.76

Primary Color: Brown (10YR 5/3) Secondary Color: Reddish Brown

USCS: CL-ML USDA: Silt Loam Grains: —

Organics: Fibrous %: 10 - 25 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Low Density

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-126 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 1:50 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-126 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 1:55 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-126 Sample Interval: 0.61 to 0.76 Layer/Horizon: —

Sample Time: 2:00 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-126 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-127

Core & Polling Collection Information

Sample Collectors:

Date Collected: October 21, 2020 Time Collected: 10:24 AM Above/Below LWD (ft):
 Water Elevation (ft): 603.06 Water Depth (ft): 6.1 Sediment Elevation (ft): 596.96

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
127	208	59	155	-53	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	5	100	Yes
2	10	3	30	Yes
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors:

Length of Core (m): 1.9 Date Processed: October 21, 2020 Time Processed: 10:27 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.34</p>			
<p>Primary Color: Dark Brown (10YR 3/3)</p>		<p>Secondary Color: Black (10YR 2/1)</p>	
<p>USCS: CL-ML</p>	<p>USDA: Silt Loam</p>	<p>Grains: None</p>	
<p>Organics: None</p>	<p>%: —</p>	<p>Odor: No Odor</p>	
<p>Rocks: None</p>	<p>%: —</p>	<p>Moisture: Saturated</p>	
<p>Petrochemical: None</p>		<p>Cohesiveness: Loose</p>	
<p>Description/ Notes:</p>			
<hr style="border-top: 1px dashed black;"/>			
<p>Layer 2: Start Depth (m): 0.34 End Depth (m): 1</p>			
<p>Primary Color: Dark Grey (10YR 4/1)</p>		<p>Secondary Color: —</p>	
<p>USCS: CL-ML</p>	<p>USDA: Loam</p>	<p>Grains: —</p>	
<p>Organics: Fibrous</p>	<p>%: 0 - 5</p>	<p>Odor: No Odor</p>	
<p>Rocks: None</p>	<p>%: —</p>	<p>Moisture: Saturated</p>	
<p>Petrochemical: None</p>		<p>Cohesiveness: Medium Density</p>	
<p>Description/ Notes:</p>			
<hr style="border-top: 1px dashed black;"/>			
<p>Layer 3: Start Depth (m): 1 End Depth (m): 1.9</p>			
<p>Primary Color: Dark Grey Brown (10YR 3/2)</p>		<p>Secondary Color: —</p>	
<p>USCS: SP</p>	<p>USDA: Fine Sand</p>	<p>Grains: Semi-Angular</p>	
<p>Organics: None</p>	<p>%: —</p>	<p>Odor: No Odor</p>	
<p>Rocks: None</p>	<p>%: —</p>	<p>Moisture: Saturated</p>	
<p>Petrochemical: None</p>		<p>Cohesiveness: Low Density</p>	
<p>Description/ Notes:</p>			



Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 21, 2020

Location ID: BW20ML-127



Photo 1: West



Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-128

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 12:05 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.53 Water Depth (ft): 1.8 Sediment Elevation (ft): 600.73

Poling Collection Information

Equipment: N/A

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1	1	100	—
1	1.5	1.5	100	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .45 Date Processed: August 12, 2020 Time Processed: 2:02 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.15</p>			
Primary Color: Black (10YR 2/1)		Secondary Color: Dark Grey Brown (10YR 3/2)	
USCS: CL-ML	USDA: Silt Loam	Grains: None	
Organics: Plant Material	%: 25 - 50	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None	Cohesiveness: Low Density		
Description/ Notes:			

<p>Layer 2: Start Depth (m): 0.15 End Depth (m): 0.45</p>			
Primary Color: Reddish Brown		Secondary Color: —	
USCS: CL	USDA: Clay	Grains: —	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None	Cohesiveness: High Density		
Description/ Notes:			

<p>Layer 3: Start Depth (m): End Depth (m):</p>			
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —	Cohesiveness: —		
Description/ Notes:			



Laboratory Sample Analysis



Sample ID: BW20ML-128 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 2:15 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-128 Sample Interval: 0.15 to 0.45 Layer/Horizon: —

Sample Time: 2:20 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-128 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-128 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing **Location ID:** BW20ML-129

Core & Polling Collection Information

Sample Collectors: JB

Date Collected: August 12, 2020 Time Collected: 9:30 AM Above/Below LWD (ft):

Water Elevation (ft): Water Depth (ft): Sediment Elevation (ft): 0

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Other (see Notes)

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
—	4	4	100	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: JB

Length of Core (m): .61 Date Processed: August 12, 2020 Time Processed: 2:28 PM

Layer 1:		Start Depth (m): 0	End Depth (m): 0.15
Primary Color: Brown (10YR 5/3)		Secondary Color: —	
USCS: OL	USDA: Clay Loam	Grains: Semi-Angular	
Organics: Roots	#: 10 - 25	Odor: No Odor	
Rocks: None	#: —	Moisture: Dry	
Petrochemical: None	Cohesiveness: Loose		
Description/ Notes:	Organic topsoil		
<hr/>			
Layer 2:		Start Depth (m): 0.15	End Depth (m): 0.7
Primary Color: Reddish Brown		Secondary Color: Brown (10YR 5/3)	
USCS: CL	USDA: Clay	Grains: —	
Organics: Wood Chips	#: 0 - 5	Odor: No Odor	
Rocks: Fine Gravel	#: 0 - 5	Moisture: Dry	
Petrochemical: None	Cohesiveness: Stiff		
Description/ Notes:	Red clay		
<hr/>			
Layer 3:		Start Depth (m): 0.7	End Depth (m): 1.2
Primary Color: Brown (10YR 5/3)		Secondary Color: —	
USCS: SC	USDA: Sandy Clay	Grains: —	
Organics: Fibrous	#: 5 - 10	Odor: No Odor	
Rocks: Fine Gravel	#: 0 - 5	Moisture: Moist	
Petrochemical: None	Cohesiveness: —		
Description/ Notes:	Water level, sandy clay, fine sands		



Laboratory Sample Analysis



Sample ID: BW20ML-129 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 2:50 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-129 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 2:55 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-129 Sample Interval: 0.76 to 1.22 Layer/Horizon: —

Sample Time: 3:00 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-129 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-130

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 10:31 AM Above/Below LWD (ft):
Water Elevation (ft): 602.57 Water Depth (ft): 3 Sediment Elevation (ft): 599.57

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	2	1.6	80	Yes
2	2	2	100	Yes
3			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .61 Date Processed: August 12, 2020 Time Processed: 3:23 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.25

Primary Color: Dark Brown (10YR 3/3) Secondary Color: Dark Grey Brown (10YR 3/2)

USCS: CL-ML USDA: Silt Loam Grains: None

Organics: Plant Material %: 10 - 25 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Loose

Description/
Notes:

Layer 2: Start Depth (m): 0.25 End Depth (m): 0.61

Primary Color: Dark Brown (10YR 3/3) Secondary Color: —

USCS: OL USDA: Silt Loam Grains: —

Organics: Fibrous %: 10 - 25 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Medium Density

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-130 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 3:35 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: BW20ML-003-0-0.3 Dup Time: 3:45 PM

Sample ID: BW20ML-130 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 3:40 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-130 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-130 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-130



Photo 1: Looking west



Photo 2: Looking north



Photo 3: Looking east



Photo 4: Looking south

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-131

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 8:50 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.58 Water Depth (ft): 1.7 Sediment Elevation (ft): 600.88

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1.5	1	66.67	—
2	1.5	0.4	26.67	—
3	2	1.8	90	Yes
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .55 Date Processed: August 12, 2020 Time Processed: 10:13 AM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Black (10YR 2/1) Secondary Color: Dark Brown (10YR 3/3)

USCS: CL-ML USDA: Silt Loam Grains: None

Organics: Fibrous %: 50 - 75 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): 0.15 End Depth (m): 0.4

Primary Color: Dark Brown (10YR 3/3) Secondary Color: Reddish Brown

USCS: SP USDA: Fine Sand Grains: Rounded

Organics: Plant Material %: 5 - 10 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Loose

Description/
Notes:

Layer 3: Start Depth (m): 0.4 End Depth (m): 0.55

Primary Color: Black (10YR 2/1) Secondary Color: Very Dark Brown (10YR 2/2)

USCS: CL-ML USDA: Clay Loam Grains: None

Organics: Plant Material %: 5 - 10 Odor: No Odor

Rocks: None %: — Moisture: Moist

Petrochemical: None Cohesiveness: Low Density

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-131 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 10:30 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-131 Sample Interval: 0.15 to 0.4 Layer/Horizon: —

Sample Time: 10:35 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-131 Sample Interval: 0.4 to 0.5 Layer/Horizon: —

Sample Time: 10:40 AM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-131 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-131



Photo 1: Looking north



Photo 2: Looking west



Photo 3: Looking south



Photo 4: Looking east

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-132

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 2:47 PM Above/Below LWD (ft):
Water Elevation (ft): 602.58 Water Depth (ft): 2.3 Sediment Elevation (ft): 600.28

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1.3	1.1	84.62	Yes
2	1.3	1.0	76.92	Yes
3	1.2	1	83.33	Yes
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .37 Date Processed: August 12, 2020 Time Processed: 3:49 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.27

Primary Color: Black (10YR 2/1) Secondary Color: Dark Grey Brown (10YR 3/2)

USCS: SW USDA: Coarse Sand Grains: Semi-Angular

Organics: Fibrous %: 0 - 5 Odor: Petrochemical

Rocks: Fine Gravel %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Loose

Description/
Notes:

Layer 2: Start Depth (m): 0.27 End Depth (m): 0.37

Primary Color: Reddish Brown Secondary Color: —

USCS: CL USDA: Clay Grains: —

Organics: None %: — Odor: No Odor

Rocks: None %: — Moisture: Moist

Petrochemical: None Cohesiveness: Medium Density

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-132 Sample Interval: 0 to 0.27 Layer/Horizon: —

Sample Time: 4:00 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: BW20ML-004-0-0.27 Dup Time: 4:10 PM

Sample ID: BW20ML-132 Sample Interval: 0.27 to 0.37 Layer/Horizon: —

Sample Time: 4:05 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-132 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-132 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-132



Photo 1: Looking north



Photo 2: Looking south



Photo 3: Looking west



Photo 4: Looking east

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-133

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 10:09 AM Above/Below LWD (ft):

Water Elevation (ft): 603.5 Water Depth (ft): 5.1 Sediment Elevation (ft): 598.4

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
	155	80	85	-70	—	—
				0	—	—
				0	—	—

Core Collection Information




Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	5	100	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.5 Date Processed: October 22, 2020 Time Processed: 10:11 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.85</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Dark Brown (10YR 3/3)</p> <p>USCS: CL-ML USDA: Silt Loam Grains: None</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>	
<p>Layer 2: Start Depth (m): 0.85 End Depth (m): 1.5</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: —</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 22, 2020

Location ID: BW20ML-133



Photo 1: West

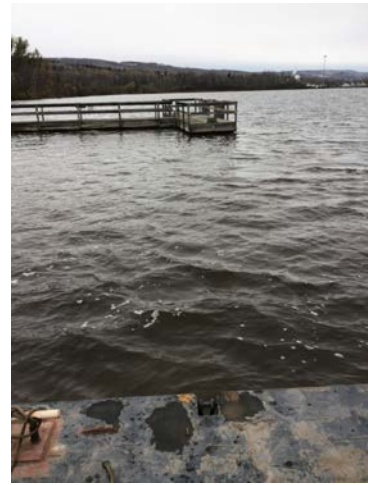


Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-134

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 11:10 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.83 Water Depth (ft): 3.9 Sediment Elevation (ft): 598.93

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
134	143	57	122	-21	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	4.5	93	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.2 Date Processed: October 21, 2020 Time Processed: 11:14 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.42</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Black (10YR 2/1)</p> <p>USCS: CL-ML USDA: Silt Loam Grains: None</p> <p>Organics: Fibrous %: 0 - 5 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>			
<hr/> <p>Layer 2: Start Depth (m): 0.42 End Depth (m): 0.63</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Dark Grey (10YR 4/1)</p> <p>USCS: CL-ML USDA: Peat Grains: —</p> <p>Organics: Woody %: 50 - 75 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>			
<hr/> <p>Layer 3: Start Depth (m): 0.63 End Depth (m): 0.97</p> <p>Primary Color: Dark Grey (10YR 4/1) Secondary Color: —</p> <p>USCS: SC USDA: Sandy Clay Grains: Rounded</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>			



<p>Layer 4: Start Depth (m): 0.97 End Depth (m): 1.2</p>			
Primary Color: Dark Grey (10YR 4/1)		Secondary Color: —	
USCS: CL	USDA: Clay	Grains: None	
Organics: None	%: —	Odor: No Odor	
Rocks: None	%: —	Moisture: Moist	
Petrochemical: None		Cohesiveness: High Density	
Description/ Notes:			

<p>Layer 5: Start Depth (m): End Depth (m):</p>			
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —		Cohesiveness: —	
Description/ Notes:			

<p>Layer 6: Start Depth (m): End Depth (m):</p>			
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: —	%: —	Moisture: —	
Petrochemical: —		Cohesiveness: —	
Description/ Notes:			

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-135

Core & Polling Collection Information

Sample Collectors: PLS CM CL

Date Collected: October 21, 2020 Time Collected: 12:16 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.91 Water Depth (ft): 3 Sediment Elevation (ft): 599.91

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
135	110	53	157	47	—	—
				0	—	—
				0	—	—

Core Collection Information



Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	4	80	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.13 Date Processed: October 21, 2020 Time Processed: 12:17 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.52</p> <p>Primary Color: Black (10YR 2/1) Secondary Color: Dark Brown (10YR 3/3)</p> <p>USCS: CL-ML USDA: Peat Grains: None</p> <p>Organics: Woody %: 75 - 100 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Loose</p> <p>Description/ Notes:</p>	 
<p>Layer 2: Start Depth (m): 0.52 End Depth (m): 1.13</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: —</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 21, 2020

Location ID: BW20ML-135



Photo 1: West



Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J20063 Site Location: Munger Landing Location ID: BW20ML-136

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 11:44 AM Above/Below LWD (ft):
Water Elevation (ft): 602.57 Water Depth (ft): 2.7 Sediment Elevation (ft): 599.87

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	2	1.45	72.5	Yes
2	2	1.8	90	Yes
3			0	—
4			0	—
5			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .61 Date Processed: August 12, 2020 Time Processed: 4:10 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown (10YR 5/3) Secondary Color: —

USCS: CL-ML USDA: Silt Loam Grains: None

Organics: Plant Material %: 0 - 5 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Loose

Description/ Notes: Leather heel from boot at 0.15

Layer 2: Start Depth (m): 0.15 End Depth (m): 0.45

Primary Color: Dark Brown (10YR 3/3) Secondary Color: Brown (10YR 5/3)

USCS: PT USDA: Peat Grains: —

Organics: Plant Material %: 50 - 75 Odor: No Odor

Rocks: — %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Low Density

Description/ Notes:

Layer 3: Start Depth (m): 0.45 End Depth (m): 0.61

Primary Color: Very Dark Brown (10YR 2/2) Secondary Color: Reddish Brown

USCS: SM USDA: Silt Loam Grains: Rounded

Organics: Plant Material %: 0 - 5 Odor: —

Rocks: None %: — Moisture: —

Petrochemical: None Cohesiveness: Low Density

Description/ Notes: Trace sand.

Laboratory Sample Analysis



Sample ID: BW20ML-136 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 4:20 PM Total # Jars: Laboratory: PACE

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:
-

Sample ID: BW20ML-136 Sample Interval: 0.15 to 0.45 Layer/Horizon: —

Sample Time: 4:25 PM Total # Jars: Laboratory: PACE

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:
-

Sample ID: BW20ML-136 Sample Interval: 0.45 to 0.61 Layer/Horizon: —

Sample Time: 4:30 PM Total # Jars: Laboratory: PACE

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:
-

Sample ID: BW20ML-136 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J20063

Photographs taken on:

Location ID: BW20ML-136



Photo 1: Looking north



Photo 2: Looking east



Photo 3: Looking south



Photo 4: Looking west

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-137

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 3:56 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.85 Water Depth (ft): 4.8 Sediment Elevation (ft): 598.05

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
	146	70	120	-26	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	5	100	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.5 Date Processed: October 21, 2020 Time Processed: 4:07 PM

Layer 1:	Start Depth (m): 0	End Depth (m): 1.2
Primary Color: Brown (10YR 5/3)	Secondary Color: Grey (10YR 6/1)	
USCS: CL-ML	USDA: Silty Clay	Grains: None
Organics: Fibrous	#: 0 - 5	Odor: No Odor
Rocks: None	#: —	Moisture: Saturated
Petrochemical: None	Cohesiveness: Low Density	
Description/ Notes:		

Layer 2:	Start Depth (m): 1.2	End Depth (m): 1.4
Primary Color: Brown (10YR 5/3)	Secondary Color: Grey (10YR 6/1)	
USCS: CL-ML	USDA: Silty Clay	Grains: —
Organics: Fibrous	#: 0 - 5	Odor: No Odor
Rocks: None	#: —	Moisture: Saturated
Petrochemical: None	Cohesiveness: Medium Density	
Description/ Notes:		

Layer 3:	Start Depth (m): 1.4	End Depth (m): 1.5
Primary Color: Brown (10YR 5/3)	Secondary Color: —	
USCS: PT	USDA: Peat	Grains: None
Organics: Plant Material	#: 50 - 75	Odor: No Odor
Rocks: None	#: —	Moisture: Saturated
Petrochemical: None	Cohesiveness: Medium Density	
Description/ Notes:		

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-138

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 2:08 PM Above/Below LWD (ft):
Water Elevation (ft): 602.52 Water Depth (ft): 1.8 Sediment Elevation (ft): 600.72

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information


Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	0.75	0.75	100	Yes
2	0.8	0.8	100	Yes
3	1.3	1.1	84.62	Yes
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .34 Date Processed: August 12, 2020 Time Processed: 9:40 AM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.15</p> <p>Primary Color: Black (10YR 2/1) Secondary Color: Dark Grey Brown (10YR 3/2)</p> <p>USCS: SW-SM USDA: Coarse Sand Grains: Semi-Angular</p> <p>Organics: Fibrous %: 5 - 10 Odor: Petrochemical</p> <p>Rocks: Fine Gravel %: 0 - 5 Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>	
<p>Layer 2: Start Depth (m): 0.15 End Depth (m): 0.34</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: —</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Laboratory Sample Analysis



Sample ID: BW20ML-138 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 9:45 AM Total # Jars: Laboratory: PACE

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:
-

Sample ID: BW20ML-138 Sample Interval: 0.15 to 0.25 Layer/Horizon: —

Sample Time: 9:55 AM Total # Jars: Laboratory: PACE

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:
-

Sample ID: BW20ML-138 Sample Interval: 0.25 to 0.34 Layer/Horizon: —

Sample Time: 10:00 AM Total # Jars: Laboratory: PACE

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:
-

Sample ID: BW20ML-138 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

- PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
- Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
- MS/MSD — Other Compound: —
- Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-138



Photo 1: Looking north



Photo 2: Looking south



Photo 3: Looking east



Photo 4: Looking west

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-139

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 10, 2020 Time Collected: 3:15 PM Above/Below LWD (ft):
 Water Elevation (ft): Water Depth (ft): 3.8 Sediment Elevation (ft): -3.8

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	2	2	100	—
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): .61 Date Processed: August 12, 2020 Time Processed: 4:50 PM

Sediment Characterization Log

Location ID: BW20ML-139



Layer 1: Start Depth (m): 0 End Depth (m): 0.1

Primary Color: Dark Brown (10YR 3/3) Secondary Color: Black (10YR 2/1)

USCS: CL-ML USDA: Silt Loam Grains: Angular

Organics: Plant Material %: 0 - 5 Odor: No Odor

Rocks: Fine Gravel %: 0 - 5 Moisture: Saturated

Petrochemical: None Cohesiveness: —

Description/
Notes:

Layer 2: Start Depth (m): 0.1 End Depth (m): 0.36

Primary Color: Reddish Brown Secondary Color: Dark Brown (10YR 3/3)

USCS: SP USDA: Fine Sand Grains: Well Rounded

Organics: None %: — Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Loose

Description/
Notes:

Layer 3: Start Depth (m): 0.36 End Depth (m): 0.61

Primary Color: Reddish Brown Secondary Color: Dark Brown (10YR 3/3)

USCS: CL USDA: Clay Grains: None

Organics: Wood Chips %: 5 - 10 Odor: No Odor

Rocks: None %: — Moisture: Moist

Petrochemical: None Cohesiveness: High Density

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-139 Sample Interval: 0 to 0.1 Layer/Horizon: —

Sample Time: 4:55 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-139 Sample Interval: 0.1 to 0.36 Layer/Horizon: —

Sample Time: 5:00 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-139 Sample Interval: 0.36 to 0.61 Layer/Horizon: —

Sample Time: 5:05 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-139 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-140

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 21, 2020 Time Collected: 2:25 PM Above/Below LWD (ft):

Water Elevation (ft): 602.8 Water Depth (ft): 7 Sediment Elevation (ft): 595.8

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
140	246.88	112	147	-99.88	—	—
				0	—	—
				0	—	—

Core Collection Information



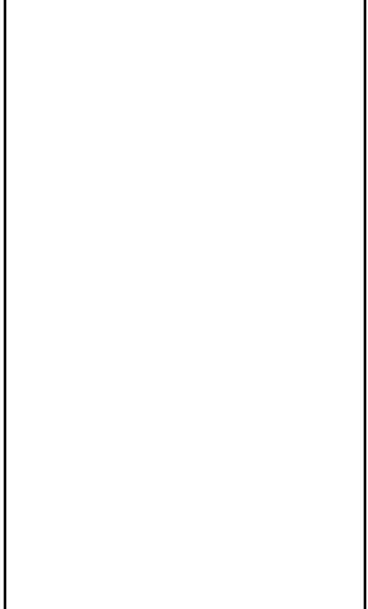
Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	4.5	90	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): 1.4 Date Processed: October 21, 2020 Time Processed: 2:25 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.45</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Black (10YR 2/1)</p> <p>USCS: CL-ML USDA: Silt Loam Grains: None</p> <p>Organics: Fibrous %: 0 - 5 Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>	
<p>Layer 2: Start Depth (m): 0.45 End Depth (m): 0.67</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: —</p> <p>USCS: SP USDA: Fine Sand Grains: Rounded</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Low Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): 0.67 End Depth (m): 0.88</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Black (10YR 2/1)</p> <p>USCS: SP USDA: Medium Sand Grains: Rounded</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Saturated</p> <p>Petrochemical: None Cohesiveness: Medium Density</p> <p>Description/ Notes:</p>	

<p>Layer 4: Start Depth (m): 0.88 End Depth (m): 1.4</p> <p>Primary Color: Brown (10YR 5/3) Secondary Color: Dark Brown (10YR 3/3)</p> <p>USCS: CL-ML USDA: Silt Loam Grains: None</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 5: Start Depth (m): 1.4 End Depth (m): 2.48</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Dark Grey Brown (10YR 3/2)</p> <p>USCS: SC USDA: Sandy Clay Grains: Rounded</p> <p>Organics: — %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Somewhere between 4-7' Notes:</p>	
<p>Layer 6: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR Project Number: 200633 Photographs taken on: October 21, 2020

Location ID: BW20ML-140



Photo 1: West



Photo 2: North

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: 200633 Site Location: Munger Landing Location ID: BW20ML-141

Core & Polling Collection Information

Sample Collectors: PLS CM JL

Date Collected: October 22, 2020 Time Collected: 3:43 PM Above/Below LWD (ft):
 Water Elevation (ft): 603.19 Water Depth (ft): 2.5 Sediment Elevation (ft): 600.69

Poling Collection Information

Equipment: Rods

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
	76	0	0	-76	—	—
				0	—	—
				0	—	—

Core Collection Information


Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	5	2	40	Yes
2	5	1.6	32	—
3	5	2.1	42	—
4	5	2.5	50	Yes
—			0	—

Core Processing Information

Sample Processors: PLS CM JL

Length of Core (m): .7 Date Processed: October 22, 2020 Time Processed: 4:03 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.35</p> <p>Primary Color: Dark Brown (10YR 3/3) Secondary Color: Black (10YR 2/1)</p> <p>USCS: SW USDA: Gravel Grains: Rounded</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: Fine Gravel %: 10 - 25 Moisture: Saturated</p> <p>Petrochemical: Sheen Cohesiveness: Loose</p> <p>Description/ Notes:</p>	
<p>Layer 2: Start Depth (m): 0.35 End Depth (m): 0.7</p> <p>Primary Color: Reddish Brown Secondary Color: —</p> <p>USCS: CL USDA: Clay Grains: —</p> <p>Organics: None %: — Odor: No Odor</p> <p>Rocks: None %: — Moisture: Moist</p> <p>Petrochemical: None Cohesiveness: High Density</p> <p>Description/ Notes:</p>	
<p>Layer 3: Start Depth (m): End Depth (m):</p> <p>Primary Color: — Secondary Color: —</p> <p>USCS: — USDA: — Grains: —</p> <p>Organics: — %: — Odor: —</p> <p>Rocks: — %: — Moisture: —</p> <p>Petrochemical: — Cohesiveness: —</p> <p>Description/ Notes:</p>	

Photographic Log

Project Name: SLR

Project Number: 200633

Photographs taken on:

Location ID: BW20ML-141



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West

Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-142

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 5:27 PM Above/Below LWD (ft):

Water Elevation (ft): Water Depth (ft): Sediment Elevation (ft): 0

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Other (see Notes)

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	4	4	100	Yes
—			0	—
—			0	—
—			0	—
—			0	—

Core Processing Information

Sample Processors: PLS BWF JB

Length of Core (m): 1.22 Date Processed: August 11, 2020 Time Processed: 5:27 PM

Layer 1:	Start Depth (m): 0	End Depth (m): 0.7
Primary Color: Brown (10YR 5/3)	Secondary Color: —	
USCS: OL	USDA: Loamy Sand	Grains: Angular
Organics: Roots	#: 5 - 10	Odor: No Odor
Rocks: None	#: —	Moisture: Dry
Petrochemical: None	Cohesiveness: Medium Density	
Description/ Notes:	Organic topsoil, detritus	

Layer 2:	Start Depth (m): 0.7	End Depth (m): 0.58
Primary Color: Reddish Brown	Secondary Color: —	
USCS: CH	USDA: Clay	Grains: —
Organics: Roots	#: 0 - 5	Odor: No Odor
Rocks: Fine Gravel	#: 0 - 5	Moisture: Dry
Petrochemical: None	Cohesiveness: Medium Density	
Description/ Notes:	Red clay	

Layer 3:	Start Depth (m): 0.58	End Depth (m): 1.07
Primary Color: Reddish Brown	Secondary Color: Brown (10YR 5/3)	
USCS: CL	USDA: Clay	Grains: —
Organics: None	#: —	Odor: No Odor
Rocks: Fine Gravel	#: 0 - 5	Moisture: Dry
Petrochemical: None	Cohesiveness: Medium Density	
Description/ Notes:	Reddish brown clay, high plasticity	





Layer 4: Start Depth (m): 1.07 End Depth (m): 1.22

Primary Color: Dark Brown (10YR 3/3) Secondary Color: Dark Grey (10YR 4/1)

USCS: SC-SM USDA: Sandy Loam Grains: Rounded

Organics: None %: — Odor: Petrochemical

Rocks: Fine Gravel %: 0 - 5 Moisture: Saturated

Petrochemical: Sheen Cohesiveness: Low Density

Description/ Notes: Dark brown to dark grey sand, trace clay, saturated, petroleum odor, positive sheen test

Layer 5: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/ Notes:

Layer 6: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/ Notes:

Laboratory Sample Analysis



Sample ID: BW20ML-142 Sample Interval: 0 to 0.3 Layer/Horizon: —

Sample Time: 3:10 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-142 Sample Interval: 0.45 to 0.91 Layer/Horizon: —

Sample Time: 3:15 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-142 Sample Interval: 1 to 1.2 Layer/Horizon: —

Sample Time: 3:20 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: DRO
 Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-142 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW20ML-143

Core & Polling Collection Information

Sample Collectors: PLS BWF JB

Date Collected: August 11, 2020 Time Collected: 1:36 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.49 Water Depth (ft): 3.6 Sediment Elevation (ft): 598.89

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	1.5	1	66.67	No
—	1.5	1	66.67	No
—	1.5	1	66.67	Yes
—			0	—
—			0	—

Core Processing Information

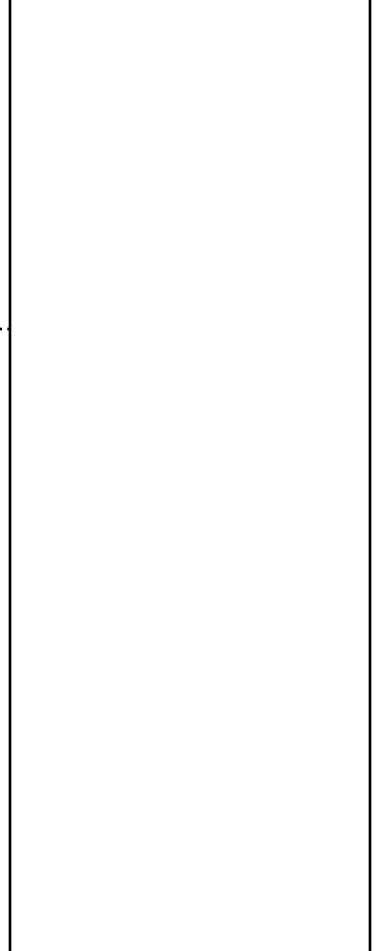
Sample Processors: PLS BWF JB

Length of Core (m): .76 Date Processed: August 12, 2020 Time Processed: 4:34 PM

<p>Layer 1: Start Depth (m): 0 End Depth (m): 0.24</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: Brown (10YR 5/3)	
USCS: SC-SM	USDA: Other (see Notes)	Grains: —	
Organics: —	%: —	Odor: —	
Rocks: Medium Gravel	%: 10 - 25	Moisture: Saturated	
Petrochemical: —	Cohesiveness: Low Density		
Description/ Notes:	Silty clay with gravel		

<p>Layer 2: Start Depth (m): 0.24 End Depth (m): 0.3</p>			
Primary Color: Light Brown (10YR 6/3)		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: Woody	%: 75 - 100	Odor: —	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None	Cohesiveness: —		
Description/ Notes:	Wood.		

<p>Layer 3: Start Depth (m): 0.3 End Depth (m): 0.76</p>			
Primary Color: Dark Brown (10YR 3/3)		Secondary Color: Dark Grey Brown (10YR 3/2)	
USCS: CL-ML	USDA: Silt Loam	Grains: None	
Organics: Fibrous	%: 10 - 25	Odor: No Odor	
Rocks: None	%: —	Moisture: Saturated	
Petrochemical: None	Cohesiveness: Medium Density		
Description/ Notes:			



Laboratory Sample Analysis



Sample ID: BW20ML-143 Sample Interval: 0 to 0.24 Layer/Horizon: —

Sample Time: 4:40 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-143 Sample Interval: 0.3 to 0.61 Layer/Horizon: —

Sample Time: 4:45 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-143 Sample Interval: 0.61 to 0.76 Layer/Horizon: —

Sample Time: 4:50 PM Total # Jars: Laboratory: PACE

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW20ML-143 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW20ML-143



Photo 1: Looking west



Photo 2: Looking north



Photo 3: Looking south

Photo 4:

Photo 5:

Photo 6:



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown (10YR 5/3) Secondary Color: —

USCS: SW-SC USDA: Clay Loam Grains: Angular

Organics: None %: — Odor: —

Rocks: Medium Gravel %: 0 - 5 Moisture: Saturated

Petrochemical: None Cohesiveness: Medium Density

Description/
Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-144 Sample Interval: 0 to 0.15 Layer/Horizon: —
Sample Time: 11:30 AM Total # Jars: Laboratory: Other (See notes)

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-144 Sample Interval: to Layer/Horizon: —
Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-144 Sample Interval: to Layer/Horizon: —
Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-144 Sample Interval: to Layer/Horizon: —
Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size
 Select Metals Ar Cd Cr Cu Hg Ni Pb Zn
 MS/MSD — Other Compound: —
 Duplicate — Sample ID: Dup Time:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing Location ID: BW21ML-145

Core & Polling Collection Information

Sample Collectors: PLS GO

Date Collected: May 12, 2021 Time Collected: 11:42 AM Above/Below LWD (ft):
Water Elevation (ft): 602.24 Water Depth (ft): 2.25 Sediment Elevation (ft): 599.99

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	0.5	0.5	100	—
2	0.5	0.5	100	—
3	0.5	0.4	80	—
4	0.5	0.4	80	—
5	0.5	0.5	100	—

Core Processing Information

Sample Processors: PLS GO

Length of Core (m): .15 Date Processed: May 12, 2021 Time Processed: 11:42 AM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown Secondary Color: —

USCS: SC USDA: Sandy Clay Loam Grains: Angular

Organics: None %: — Odor: —

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-145 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-145 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-145 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-145 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

May 12, 2021

Location ID: BW21ML-145



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW21ML-146

Core & Polling Collection Information

Sample Collectors: PLS GO

Date Collected: May 12, 2021 Time Collected: 11:51 AM Above/Below LWD (ft):
 Water Elevation (ft): 602.23 Water Depth (ft): 2.1 Sediment Elevation (ft): 600.13

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
—	0.5	0.4	80	—
—	0.5	0.4	80	—
—	0.5	0.5	100	—
—	0.5	0.5	100	—
—	0.5	0.5	100	—

Core Processing Information

Sample Processors: PLS GO

Length of Core (m): .15 Date Processed: May 12, 2021 Time Processed: 11:51 AM

Layer 1:		Start Depth (m): 0	End Depth (m): 0.15
Primary Color: Brown (10YR 5/3)		Secondary Color: Light Brown (10YR 6/3)	
USCS: CL-ML	USDA: Clay Loam	Grains: Angular	
Organics: Fibrous	#: 0 - 5	Odor: No Odor	
Rocks: Medium Gravel	#: 0 - 5	Moisture: Saturated	
Petrochemical: —	Cohesiveness: Low Density		
Description/ Notes:			

Layer 2:		Start Depth (m):	End Depth (m):
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	#: —	Odor: —	
Rocks: —	#: —	Moisture: —	
Petrochemical: —	Cohesiveness: —		
Description/ Notes:			

Layer 3:		Start Depth (m):	End Depth (m):
Primary Color: —		Secondary Color: —	
USCS: —	USDA: —	Grains: —	
Organics: —	#: —	Odor: —	
Rocks: —	#: —	Moisture: —	
Petrochemical: —	Cohesiveness: —		
Description/ Notes:			



Laboratory Sample Analysis



Sample ID: BW21ML-146 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 11:50 AM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-146 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-146 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-146 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW21ML-146



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW21ML-147

Core & Polling Collection Information

Sample Collectors: PLS GO

Date Collected: May 12, 2021 Time Collected: 12:15 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.25 Water Depth (ft): 2.2 Sediment Elevation (ft): 600.05

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
—	0.5	0.5	100	—
—	0.5	0.5	100	—
—	0.4	0.5	125	—
—	0.5	0.5	100	—
—	0.5	0.5	100	—

Core Processing Information

Sample Processors:

Length of Core (m): .15 Date Processed: May 12, 2021 Time Processed: 12:15 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown (10YR 5/3) Secondary Color: Light Brown (10YR 6/3)

USCS: CL-ML USDA: Clay Loam Grains: None

Organics: Woody %: 0 - 5 Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: — Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-147 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 12:20 PM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-147 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-147 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-147 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW21ML-147



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing Location ID: BW21ML-148

Core & Polling Collection Information

Sample Collectors: PLS GO

Date Collected: May 12, 2021 Time Collected: 12:29 PM Above/Below LWD (ft):
Water Elevation (ft): 602.26 Water Depth (ft): 3 Sediment Elevation (ft): 599.26

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
—	0.5	0.5	100	—
—	0.5	0.4	80	—
—	0.5	0.5	100	—
—	0.4	0.4	100	—
—	0.5	0.5	100	—

Core Processing Information

Sample Processors: PLS GO

Length of Core (m): .15 Date Processed: May 12, 2021 Time Processed: 12:29 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown

Secondary Color: —

USCS: CL-ML

USDA: Clay Loam

Grains: None

Organics: Fibrous

#: 0 - 5

Odor: No Odor

Rocks: None

#: —

Moisture: Saturated

Petrochemical: None

Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: —

Secondary Color: —

USCS: —

USDA: —

Grains: —

Organics: —

#: —

Odor: —

Rocks: —

#: —

Moisture: —

Petrochemical: —

Cohesiveness: —

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: —

Secondary Color: —

USCS: —

USDA: —

Grains: —

Organics: —

#: —

Odor: —

Rocks: —

#: —

Moisture: —

Petrochemical: —

Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-148 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 12:30 PM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-148 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-148 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-148 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW21ML-148



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown (10YR 5/3) Secondary Color: —

USCS: CL-ML USDA: Clay Loam Grains: None

Organics: None %: — Odor: No Odor

Rocks: — %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Low Density

Description/Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-149 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 12:45 PM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-149 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-149 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-149 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW21ML-149



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Characterization Log

Location ID: BW21ML-150



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown (10YR 5/3) Secondary Color: —

USCS: CL-ML USDA: Clay Loam Grains: —

Organics: None %: — Odor: No Odor

Rocks: None %: — Moisture: Saturated

Petrochemical: None Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —

USCS: — USDA: — Grains: —

Organics: — %: — Odor: —

Rocks: — %: — Moisture: —

Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-150 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 1:00 PM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-150 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-150 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-150 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW21ML-150



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
 Project #: J200633 Site Location: Munger Landing Location ID: BW21ML-151

Core & Polling Collection Information

Sample Collectors: PLS GO

Date Collected: May 12, 2021 Time Collected: 1:05 PM Above/Below LWD (ft):
 Water Elevation (ft): 602.33 Water Depth (ft): 2 Sediment Elevation (ft): 600.33

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: —

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
—	0.5	0.4	80	—
—	0.4	0.4	100	—
—	0.5	0.5	100	—
—	0.5	0.5	100	—
—	0.5	0.4	80	—

Core Processing Information

Sample Processors: PLS GO

Length of Core (m): .15 Date Processed: May 12, 2021 Time Processed: 1:10 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Dark Brown (10YR 3/3) Secondary Color: —
 USCS: CL-ML USDA: — Grains: —
 Organics: Fibrous %: 0 - 5 Odor: No Odor
 Rocks: None %: — Moisture: Saturated
 Petrochemical: None Cohesiveness: Medium Density

Description/Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —
 USCS: — USDA: — Grains: —
 Organics: — %: — Odor: —
 Rocks: — %: — Moisture: —
 Petrochemical: — Cohesiveness: —

Description/Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —
 USCS: — USDA: — Grains: —
 Organics: — %: — Odor: —
 Rocks: — %: — Moisture: —
 Petrochemical: — Cohesiveness: —

Description/Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-151 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 1:10 PM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-151 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-151 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-151 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Photographic Log

Project Name: SLR

Project Number: J200633

Photographs taken on:

Location ID: BW21ML-151



Photo 1:



Photo 2:

Photo 3:

Photo 4:

Photo 5:

Photo 6:

Sediment Collection & Characterization Core Log



Project/Site Information

Project Name: SLR Client: MPCA Contractor: Bay West
Project #: J200633 Site Location: Munger Landing Location ID: BW21ML-152

Core & Polling Collection Information

Sample Collectors: PLS GO

Date Collected: May 12, 2021 Time Collected: 1:27 PM Above/Below LWD (ft):
Water Elevation (ft): 602.36 Water Depth (ft): 2.1 Sediment Elevation (ft): 600.26

Poling Collection Information

Equipment: —

Location ID	Depth of Water (cm)	Depth to Resistance (cm)	Depth to Refusal (cm)	"Soft" Sediment Thickness (cm)	Refusal Type	Sediment Type Approaching Refusal
PL-01	74	90	101	27	Sediment	Silty Clay
				0	—	—
				0	—	—
				0	—	—

Core Collection Information

Collection Method: Check Valve

Push Attempts	Push Depth (ft)	Push Recovery (ft)	% Recovery	Retained?
1	0.5	0.5	100	Yes
2	0.5	0.5	100	Yes
3	0.5	0.4	80	Yes
4	0.5	0.5	100	Yes
5	0.5	0.4	80	Yes

Core Processing Information

Sample Processors: PLS GO

Length of Core (m): .15 Date Processed: May 12, 2021 Time Processed: 1:35 PM



Layer 1: Start Depth (m): 0 End Depth (m): 0.15

Primary Color: Brown (10YR 5/3) Secondary Color: —
 USCS: CL-ML USDA: Clay Loam Grains: Rounded
 Organics: Fibrous %: 0 - 5 Odor: —
 Rocks: None %: — Moisture: Saturated
 Petrochemical: — Cohesiveness: Low Density

Description/
Notes:

Layer 2: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —
 USCS: — USDA: — Grains: —
 Organics: — %: — Odor: —
 Rocks: — %: — Moisture: —
 Petrochemical: — Cohesiveness: —

Description/
Notes:

Layer 3: Start Depth (m): End Depth (m):

Primary Color: — Secondary Color: —
 USCS: — USDA: — Grains: —
 Organics: — %: — Odor: —
 Rocks: — %: — Moisture: —
 Petrochemical: — Cohesiveness: —

Description/
Notes:

Laboratory Sample Analysis



Sample ID: BW21ML-152 Sample Interval: 0 to 0.15 Layer/Horizon: —

Sample Time: 1:35 PM Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-152 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-152 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

Sample ID: BW21ML-152 Sample Interval: to Layer/Horizon: —

Sample Time: Total # Jars: Laboratory: —

PAHs 17 VOCs Dioxins PCBs pH Moisture TOC Grain Size

Select Metals Ar Cd Cr Cu Hg Ni Pb Zn

MS/MSD — Other Compound: —

Duplicate — Sample ID: Dup Time:

BW19ML-071
 BW14ML-005

BW20ML-120
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/11/2020</u> COMPLETED <u>8/11/2020</u>	WATER ELEVATION <u>602.62 ft.</u> WATER DEPTH ATD <u>3.6 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>599.02 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal at 2' BSS with Russian Peat Borer.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
				0.00 Silt loam. Loose, black-dark grey brown, saturated, 75-100% Roots, munsell color = black (10YR 2/1)	0.00	182.58												
	598	1	Silt Loam					LS-BW20ML-120-0-0.3										
				0.46 Silty Clay. Low Density, reddish brown, saturated	0.46	182.12												
	0.5	2	Silty clay					LS-BW20ML-120-0.3-0.45										
	597							LS-BW20ML-120-0.46-0.61										
				Bottom of Borehole at 0.6 meters.														
	596																	
1.0																		

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

BW19ML-071
 BW14ML-005

 BW20ML-124
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/11/2020</u> COMPLETED <u>8/11/2020</u>	WATER ELEVATION <u>602.51 ft.</u> WATER DEPTH ATD <u>3.0 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>599.51 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal at 2' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
		1	Silt loam	0.00 Silt Loam. Low Density, black-brown, saturated, 5% fibrous, munsell color = black (10YR 2/1)	182.73													
	599	2	Silty Clay	0.30 Silty Clay. Low Density, brown-reddish brown, moist, 25%-50% fibrous, munsell color = brown (10YR 5/3)	182.43													
	0.5																	
	598																	
				Bottom of Borehole at 0.6 meters.														
	597																	
1.0																		

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

BW19ML-071
 BW14ML-005

BW20ML-126
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/11/2020</u> COMPLETED <u>8/11/2020</u>	WATER ELEVATION <u>602.58 ft.</u> WATER DEPTH ATD <u>4.8 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>597.78 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Russia Peat Borer was used to sample from 1.5' to 2.5' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
				0.00 Silt Loam. Low density, brown, saturated, munsell color = brown (10YR 5/3)	182.20													
	597	1	Silt loam				LS-BW20ML-126-0-0.3											
				0.30 Silt Loam, low density, brown-reddish brown, saturated, 10-25% fibrous, munsell color = brown (10YR 5/3)	181.90													
	0.5	2	Silt loam				LS-BW20ML-126-0.3-0.61											
	596																	
	595																	
	1.0																	

Bottom of Borehole at 0.8 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

BW19ML-071
 BW14ML-005

 BW20ML-128
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/10/2020</u> COMPLETED <u>8/10/2020</u>	WATER ELEVATION <u>602.53 ft.</u> WATER DEPTH ATD <u>1.8 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>600.73 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal at 1.5' BSS on native clay.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
		1	Silt loam	0.00	Silt Loam, low density, black-dark grey brown, saturated. 25-50% plant material, munsell color = black (10YR 2/1)	183.10		LS-BW20ML-128-0-0.15										
		2	Clay	0.15	Clay. High density, reddish brown, saturated	182.95		LS-BW20ML-128-0.15-0.45										

Bottom of Borehole at 0.5 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

 0.5
599
598
1.0

BW19ML-071
 BW14ML-005

BW20ML-130
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/11/2020</u> COMPLETED <u>8/11/2020</u>	WATER ELEVATION <u>602.57 ft.</u> WATER DEPTH ATD <u>3.0 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>599.57 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal at 2' BSS with Russian Peat Borer.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
		1	Silt loam	0.00	Silt Loam. Loose, dark brown-dark grey brown, saturated, 10-25% plant material, munsell color = dark brown (10YR 3/3)	182.75												
	599			0.25	Silt Loam. Medium density, dark brown, saturated, 10-25% fibrous, munsell color = dark brown (10YR 3/3)	182.50												
		2	Silt loam															
	0.5																	
	598																	
					Bottom of Borehole at 0.6 meters.													
	597																	
	1.0																	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

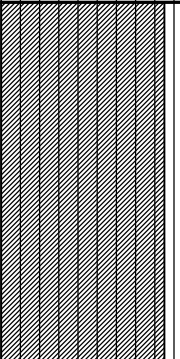
BW19ML-071
 BW14ML-005

 BW20ML-132
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/10/2020</u> COMPLETED <u>8/10/2020</u>	WATER ELEVATION <u>602.58 ft.</u> WATER DEPTH ATD <u>2.3 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>600.28 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal on native clay at 1.3' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %					
									10	20	30	40	50	60
		1	Coarse Sand	0.00	Coarse Sand. Loose, black-dark grey brown, fine gravel 5-10%, semi-angular grains, saturated, petrochemical odor, 0-5% fibrous, munsell color = black (10YR 2/1)	182.97		LS-BW20ML-132-0-0.27						
	599	2	Clay	0.27	Clay. Medium density, reddish brown, moist, no odor	182.70		LS-BW20ML-132-0.27-0.37						

Bottom of Borehole at 0.4 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

0.5

598

597

1.0

BW19ML-071
 BW14ML-005

BW20ML-136
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/10/2020</u> COMPLETED <u>8/10/2020</u>	WATER ELEVATION <u>602.57 ft.</u> WATER DEPTH ATD <u>2.7 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>599.87 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal with Russian Peat Borer at 2' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
		1	Silt loam	0.00	Silt Loam. Loose, brown, saturated, leather heel form boot at 0.15ft, 0-5% plant material, munsell color = brown (10YR 5/3)	182.84		LS-BW20ML-136-0-0.15										
	599	2	Peat	0.15	Peat. Low density, dark brown-brown, saturated, 50-75% plant material, munsell color = dark brown (10YR 3/3)	182.69		LS-BW20ML-136-0.15-0.45										
	0.5	3	Silt Loam	0.45	Silt Loam. Low density, very dark brown-reddish brown, trace rounded sand, 0-5% plant material, munsell color = very dark brown / dusky yellowish brown (10YR 2/2)	182.39		LS-BW20ML-136-0.45-0.61										
	598				Bottom of Borehole at 0.6 meters.													
	597																	
	1.0																	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

BW19ML-071
 BW14ML-005

BW20ML-138
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/10/2020</u> COMPLETED <u>8/10/2020</u>	WATER ELEVATION <u>602.52 ft.</u> WATER DEPTH ATD <u>1.8 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>600.72 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal on native clay at 1.3' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
		1	Coarse Sand	0.00 Coarse Sand. Low density, black-dark grey brown, semi-angular grains, 0-5% fine gravel, saturated, petrochemical odor, 5-10% fibrous, munsell color = black (10YR 2/1)	183.10		LS-BW20ML-138-0-0.15											
		2	Clay	0.15 Clay. High density, reddish brown, no odor, moist	182.95		LS-BW20ML-138-0.15-0.25											
	600						LS-BW20ML-138-0.25-0.34											

Bottom of Borehole at 0.3 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ



BW19ML-071
 BW14ML-005

BW20ML-139
 BW14ML-016

BW14ML-034

SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/10/2020</u> COMPLETED <u>8/10/2020</u>	WATER ELEVATION <u>606.37 ft.</u> WATER DEPTH ATD <u>3.8 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.57 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Refusal at 2' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
		1	Silt loam	0.00 Silt Loam. (no cohesiveness), dark brown-black, 0-5% fine angular gravel, saturated, 0-5% plant material, munsell color = dark brown (10YR 3/3)	183.66		LS-BW20ML-139-0.0.1											
		2	Fine Sand	0.10 Fine Sand. Loose, reddish brown-dark brown, well rounded, saturated	183.56		LS-BW20ML-139-0.1-0.36											
	602																	
		3	Clay	0.36 Clay. High density, reddish brown-dark brown, moist, 5-10% wood chips	183.30		LS-BW20ML-139-0.36-0.61											
	0.5																	
	601																	
				Bottom of Borehole at 0.6 meters.														
	600																	
	1.0																	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

BW19ML-071
 BW14ML-005

BW20ML-143
 BW14ML-016

BW14ML-034

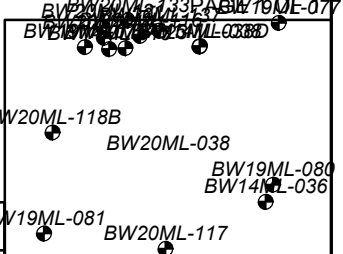
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>8/11/2020</u> COMPLETED <u>8/11/2020</u>	WATER ELEVATION <u>602.49 ft.</u> WATER DEPTH ATD <u>3.6 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>598.89 ft.</u>
METHOD <u>Check-valve</u>	NOTES <u>Russia Peat Borer was used to sample from 1.5' to 2.5' BSS.</u>
LOGGED BY <u>BWF, JB, PLS</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
									10	20	30	40	50	60	70	80	90		
		1	Silty clay with gravel	Silty Clay w/gravel. Low Density, dark brown-brown, 10-25% gravel, saturated, munsell color = dark brown (10YR 3/3)	0.00	182.54													
	598	2		Wood, light brown, saturated, munsell color = pale brown (10YR 6/3)	0.24	182.30													
		3	Silt Loam	Silt Loam. Medium density, dark brown-dark grey brown, saturated, 10-25% fibrous, munsell color = dark brown (10YR 3/3)	0.30	182.24													
	597																		
	596																		
	1.0																		

Bottom of Borehole at 0.8 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 8/19/20 07:57 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ



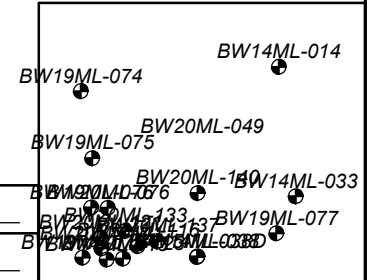
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/22/2020</u> COMPLETED <u>10/22/2020</u>	WATER ELEVATION <u>1202.84 ft.</u> WATER DEPTH ATD <u>603.2 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>599.67 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %						
									10	20	30	40	50	60	70
0.00				Sandy Clay Loam (CL-ML); dark brown; rounded grains; 0-5% fibrous organics; no odor; saturated; low density, munsell color = dark brown (10YR 3/3)		182.78			[Hatched Area]						
0.5	599	1	Sandy Clay Loam				BW20ML-038(0-0.35)								
0.90	598			Clay (CL); light brown; no odor; moist; high density, munsell color = pale brown (10YR 6/3)		181.88			[Hatched Area]						
1.0	597	2	Clay				BW20ML-038(0.35-0.65)								
1.5	596			Bottom of Borehole at 1.5 meters.						[Hatched Area]					
2.0	595								[Hatched Area]						
	594								[Hatched Area]						

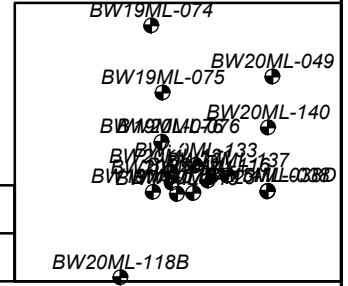
SEDIMENT BORING LOG



CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/22/2020</u> COMPLETED <u>10/22/2020</u>	WATER ELEVATION <u>1198.46 ft.</u> WATER DEPTH ATD <u>603.2 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>595.23 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %					
								10	20	30	40	50	60
0.00				Silt Loam (CL-ML); brown; no odor; saturated; low density, munsell color = brown (10YR 5/3)	181.43			[Hatched Area]					
0.5	594	1	Silt Loam			BW20ML-049(0-0.3)							
1.0	593							[Hatched Area]					
1.00	592	2	Sandy Clay	Sandy Clay (SC); dark brown; rounded grains; no odor; saturated; medium density, munsell color = dark brown (10YR 3/3)	180.43	BW20ML-049(0.3-0.6)							
1.5	591							[Hatched Area]					
2.0	590												
Bottom of Borehole at 1.5 meters.													
	589							[Hatched Area]					
2.0													



SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/22/2020</u> COMPLETED <u>10/22/2020</u>	WATER ELEVATION <u>1204 ft.</u> WATER DEPTH ATD <u>603.5 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>600.55 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
		1	Silt Loam	0.00	Silt Loam (CL-ML); black; 0-5% fibrous organics; no odor; saturated; low density, munsell color = black (10YR 2/1)	183.05		BW20ML-076(0-0.3)										
	600	2	Peat	0.35	Peat (PT); black; 10-25% wood chips; no odor; saturated; low density, munsell color = black (10YR 2/1)	182.70												
0.5		3	Sandy Clay	0.45	Sandy Clay (SC); reddish brown; rounded grains; no odor; moist; high density	182.60		BW20ML-076(0.5-0.9)										
	599	4	Clay	0.90	Clay (CL); reddish brown; no odor; saturated; high density	182.15												
	598																	
	597																	
1.5																		
	596																	
					Bottom of Borehole at 1.5 meters.													
	595																	
2.0																		

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/11/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

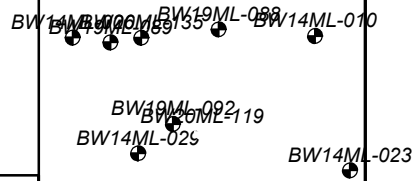


SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1201.22 ft.</u> WATER DEPTH ATD <u>602.7 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>598.56 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
0.00				Clay Loam (CL-ML); brown; 0-5% fibrous organics; saturated; high density, munsell color = brown (10YR 5/3)	0.00	182.44			[Hatched Area]									
0.5	598	1	Clay Loam				BW20ML-115(0.3-0.6)											
1.0	597	2	Peat	0.97 Peat (PT); brown; 50-75% plant material; no odor; saturated; low density, munsell color = brown (10YR 5/3)	0.97	181.47			[Hatched Area]									
1.10	596	3	Sandy Clay	1.10 Sandy Clay (SC); dark brown; rounded grains; no odor; saturated; high density, munsell color = dark brown (10YR 3/3)	1.10	181.34												
1.20	595	4	Fine Sand	1.20 Fine Sand (SP); black; rounded grains; no odor; moist; medium density, munsell color = black (10YR 2/1)	1.20	181.24			[Hatched Area]									
1.5	594			Bottom of Borehole at 1.5 meters.														
2.0	593								[Hatched Area]									



SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1202.72 ft.</u> WATER DEPTH ATD <u>602.8 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>599.96 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
0.00		1	Peat	Peat (PT); dark brown; 75-100% woody material; no odor; saturated; loose, munsell color = dark brown (10YR 3/3)	182.87													
0.50		2	Clay	Clay (CL); reddish brown; no odor; saturated; high density	182.37													
1.00		3	Clay	Clay (CL); dark green; no odor; saturated; high density	181.99													
1.50		4	Sandy Clay	Sandy Clay (SC); reddish brown; no odor; saturated; medium density	181.57													
Bottom of Borehole at 1.5 meters.																		

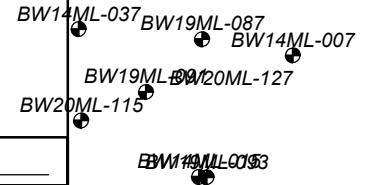


SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/22/2020</u> COMPLETED <u>10/22/2020</u>	WATER ELEVATION <u>1203.36 ft.</u> WATER DEPTH ATD <u>603.3 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>600.08 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %					
									10	20	30	40	50	60
0.00				Coarse Sand (SW); black; rounded; fine gravel; no odor; saturated; low density; possible sheen, munsell color = black (10YR 2/1)	0.00	182.90								
0.5	599	1	Coarse Sand				BW20ML-121(0-0.35)							
0.5	598						BW20ML-121(0.35-0.6)							
0.90	597			Clay (CL); reddish brown; no odor; saturated; high density	0.90	182.00								
1.0	596	2	Clay				BW20ML-121(0.9-1.2)							
1.5	595			Bottom of Borehole at 1.5 meters.										
2.0	594													

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ



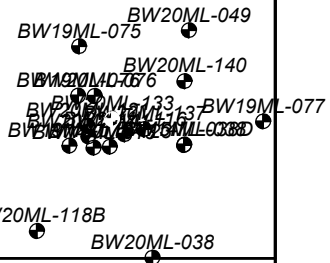
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1200.02 ft.</u> WATER DEPTH ATD <u>603.1 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>596.96 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
								10	20	30	40	50	60	70	80	90	
0.00		1	Silt Loam	Silt Loam (CL-ML); dark brown; no odor; saturated; loose, munsell color = dark brown (10YR 3/3)	181.95			Push vs. Recovery % 10 20 30 40 50 60 70 80 90									
0.34	596																
0.5	595	2	Loam	Loam (CL-ML); dark grey; 0-5% fibrous organics; no odor; saturated; medium density, munsell color = dark gray (10YR 4/1)	181.61												
1.00	594							Push vs. Recovery % 10 20 30 40 50 60 70 80 90									
1.5	593	3	Fine Sand	Fine Sand (SP); dark grey brown; semi-angular; no odor; saturated; low density, munsell color = very dark grayish brown (10YR 3/2)	180.95												
2.0	592																
2.5	591							Push vs. Recovery % 10 20 30 40 50 60 70 80 90									
	590																
	589																
Bottom of Borehole at 1.9 meters.																	

SEDIMENT BORING LOG

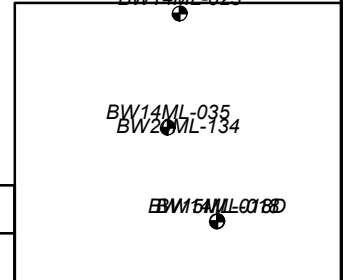


CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/22/2020</u> COMPLETED <u>10/22/2020</u>	WATER ELEVATION <u>1201.9 ft.</u> WATER DEPTH ATD <u>603.5 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>598.4 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %					
									10	20	30	40	50	60
0.00				Silt Loam (CL-ML); brown; no odor; saturated; medium density, munsell color = brown (10YR 5/3)	182.39									
0.5	597	1	Silt Loam				BW20ML-133(0-0.3)							
	596						BW20ML-133(0.3-0.6)							
1.0	595	2	Clay	Clay (CL); reddish brown; no odor; saturated; high density	181.54									
1.5	594						BW20ML-133(0.6-0.83)							
2.0	593													
Bottom of Borehole at 1.5 meters.														

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

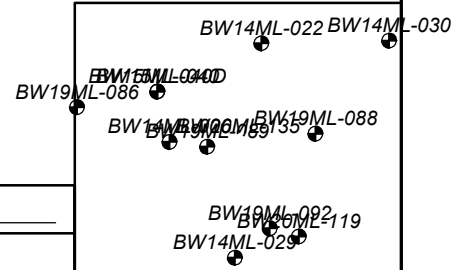
SEDIMENT BORING LOG



CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1201.76 ft.</u> WATER DEPTH ATD <u>602.8 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>598.93 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
0.00		1	Silt Loam	Silt Loam (CL-ML); dark brown; 0-5% fibrous organics; no odor; saturated; low density, munsell color = dark brown (10YR 3/3)	0.00	182.55		BW20ML-134(0-0.42)										
0.42		2	Peat	Peat (CL-ML); brown; 50-75% woody material; no odor; saturated; medium density, munsell color = brown (10YR 5/3)	0.42	182.13		BW20ML-134(0.42-0.6)										
0.63		3	Sandy Clay	Sandy Clay (SC); dark grey; rounded grains; no odor; saturated; medium density, munsell color = dark gray (10YR 4/1)	0.63	181.92												
0.97		4	Clay	Clay (CL); dark grey; no odor; moist; high density, munsell color = dark gray (10YR 4/1)	0.97	181.58												
1.5				Bottom of Borehole at 1.5 meters.														

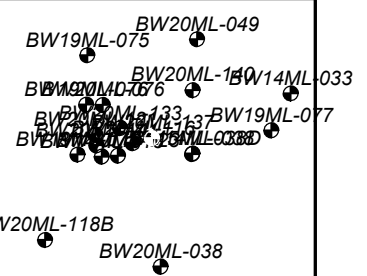


SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1202.82 ft.</u> WATER DEPTH ATD <u>602.9 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>599.91 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
0.00				Peat (CL-ML); black; 75-100% woody material; no odor; saturated; loose, munsell color = black (10YR 2/1)	0.52	182.85												
0.5	599	1	Peat					BW20ML-135(0-0.3)										
0.52	598			Clay (CL); reddish brown; no odor; moist; high density	0.52	182.33												
1.0	597	2	Clay															
1.5	596																	
1.5	595			Bottom of Borehole at 1.5 meters.														
2.0	594																	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

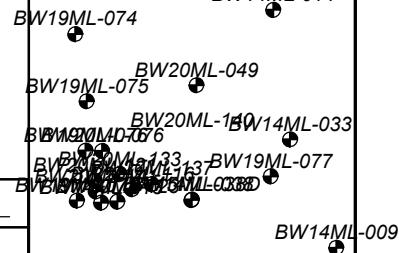


SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1200.9 ft.</u> WATER DEPTH ATD <u>602.9 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>598.05 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %						
									10	20	30	40	50	60	70
0.00				Silty Clay (CL-ML); brown; 0-5% fibrous material; no odor; saturated; low density, munsell color = brown (10YR 5/3)	0.00	182.29									
0.5	597	1	Silty Clay				BW20ML-137(0-0.3)								
	596						BW20ML-137(0.3-0.65)								
1.0	595														
1.20	594	2	Silty Clay	Silty Clay (CL-ML); brown; 0-5% fibrous material; no odor; saturated; medium density, munsell color = brown (10YR 5/3)	1.20	181.09									
1.40	593	3	Peat	Peat (PT); brown; 50-75% plant material; no odor; saturated; medium density, munsell color = brown (10YR 5/3)	1.40	180.89									
Bottom of Borehole at 1.5 meters.															
2.0	592														



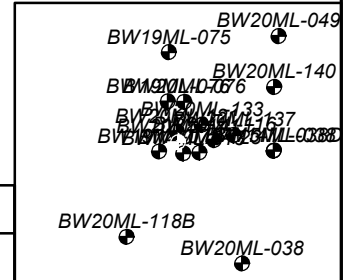
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/21/2020</u> COMPLETED <u>10/21/2020</u>	WATER ELEVATION <u>1198.6 ft.</u> WATER DEPTH ATD <u>602.8 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>595.8 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR\MUNGER LANDING.GPJ

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
0.00		1	Silt Loam	Silt Loam (CL-ML); dark brown; 0-5% fibrous organics; no odor; saturated; low density, munsell color = dark brown (10YR 3/3)	181.60	BW20ML-140(0-0.3)												
0.5	595	2	Fine Sand	Fine Sand (SP); brown; rounded grains; no odor; saturated; low density, munsell color = brown (10YR 5/3)	181.15	BW20ML-140(0.4-0.65)												
	594	3	Medium Sand	Medium Sand (SP); brown; rounded grains; no odor; saturated; medium density, munsell color = brown (10YR 5/3)	180.93	BW20ML-140(0.65-0.9)												
1.0	593	4	Silt Loam	Silt Loam (CL-ML); brown; no odor; moist; high density, munsell color = brown (10YR 5/3)	180.72	BW20ML-140(0.9-1.2)												
1.5	592	5	Sandy Clay	Sandy Clay (SC); dark brown; rounded grains; moist; high density; somewhere between 4-7', munsell color = dark brown (10YR 3/3)	180.20													
2.0	591																	
	590																	
	589																	
2.5	588																	
	587																	

Bottom of Borehole at 2.5 meters.



SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>10/22/2020</u> COMPLETED <u>10/22/2020</u>	WATER ELEVATION <u>1203.88 ft.</u> WATER DEPTH ATD <u>603.2 ft</u>
DRILLING CONTRACTOR <u>Range Environmental</u>	SEDIMENT ELEVATION <u>600.69 ft.</u>
METHOD <u>Direct Push</u>	NOTES
LOGGED BY <u>Patrick Sweeney</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %										
								10	20	30	40	50	60	70	80	90		
				0.00 Gravel (SW); dark brown; rounded grains; 10-25% fine gravel; no odor; saturated; loose; sheen, munsell color = dark brown (10YR 3/3)	183.09													
	600		1 Gravel				BW20ML-141(0-0.3)											
				0.35 Clay (CL); reddish brown; no odor; moist; high density	182.74													
	0.5		2 Clay															
	599						BW20ML-141(0.4-0.7)											
	598																	
	1.0																	
	597																	
	1.5																	
	596																	
				Bottom of Borehole at 1.5 meters.														
	595																	
	2.0																	

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 12/1/20 13:17 - G:\PROJECTS\SLR MUNGER LANDING.GPJ



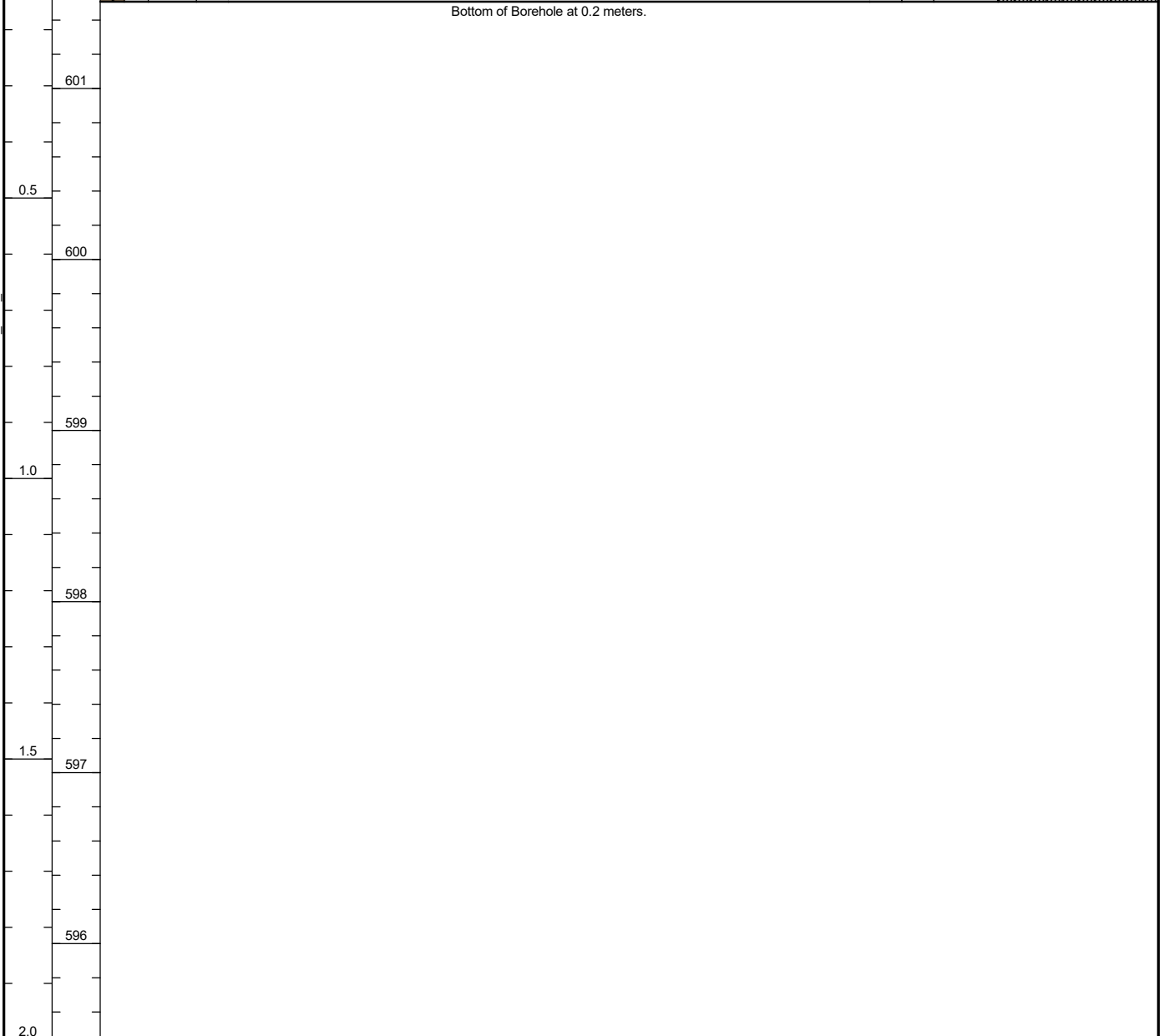
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.03 ft.</u> WATER DEPTH ATD <u>1.8 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.23 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %											
									10	20	30	40	50	60	70	80	90			
			Clay loam	0.00	Brown sand and clay with medium gravel, medium density, wet., munsell color = brown (10YR 5/3)	183.56		BW21ML-144-0-0.15												

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ



BW21ML-145

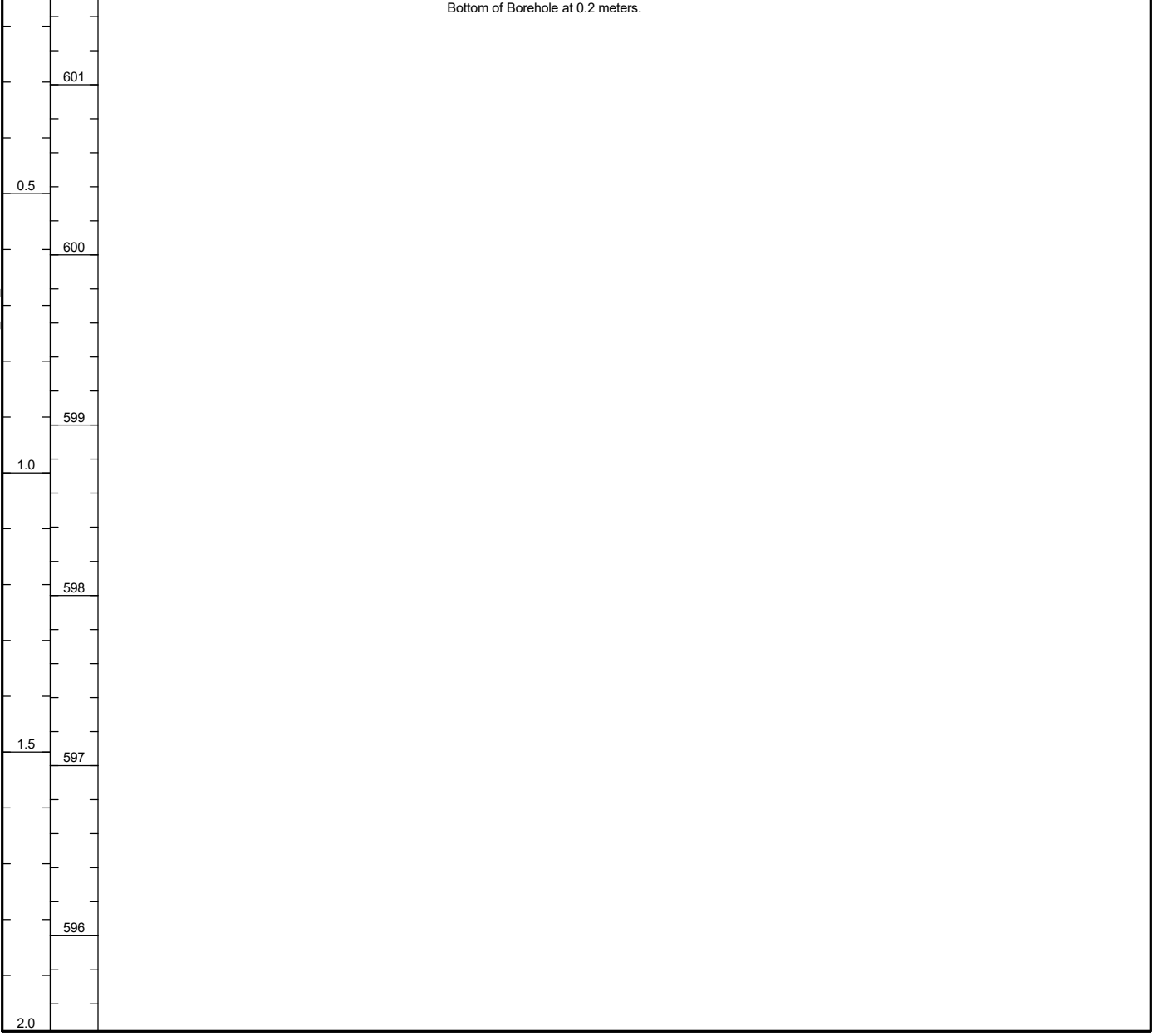
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.49 ft.</u> WATER DEPTH ATD <u>2.3 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.24 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %
									10 20 30 40 50 60 70 80 90
			Sandy clay loam	0.00	Brown sandy clay, angular, low density, saturated., munsell color = brown (10YR 5/3)	183.56		BW21ML-145-0-0.15	

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ



SEDIMENT BORING LOG

 BW14ML-019
 BW21ML-146

BW19ML-074

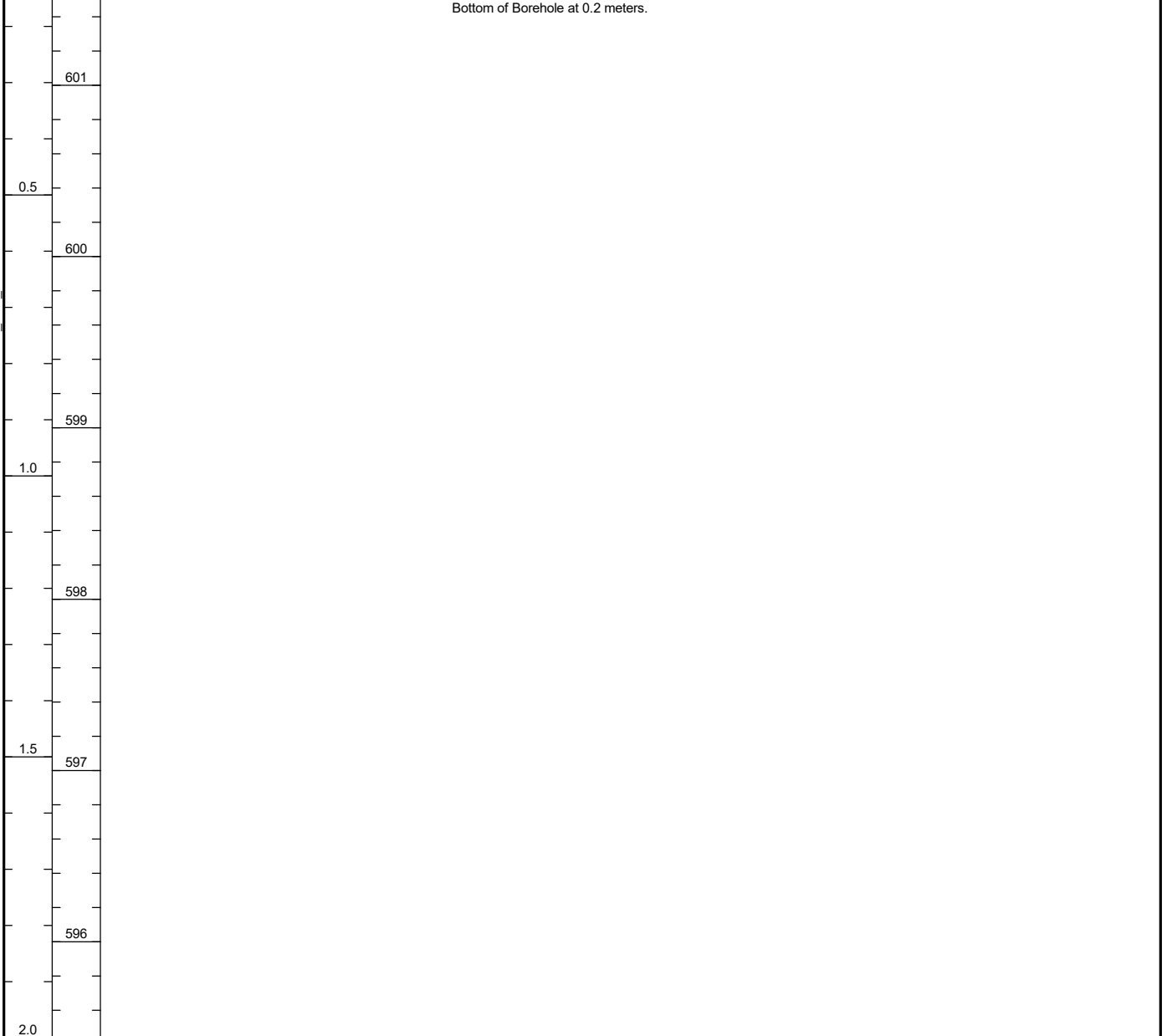
BW20ML-049

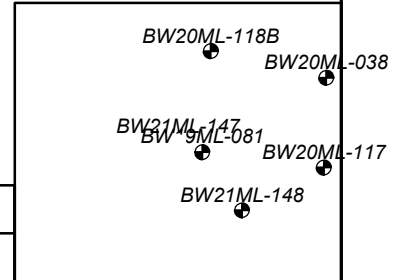
CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.33 ft.</u> WATER DEPTH ATD <u>2.1 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.23 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS, GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %												
									10	20	30	40	50	60	70	80	90				
			Clay loam	0.00	Brown clay loam, 0-5% fibrous material, 0-5% medium angular gravel, low density., munsell color = brown (10YR 5/3)	183.56		BW21ML-146-0-0.15													

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ





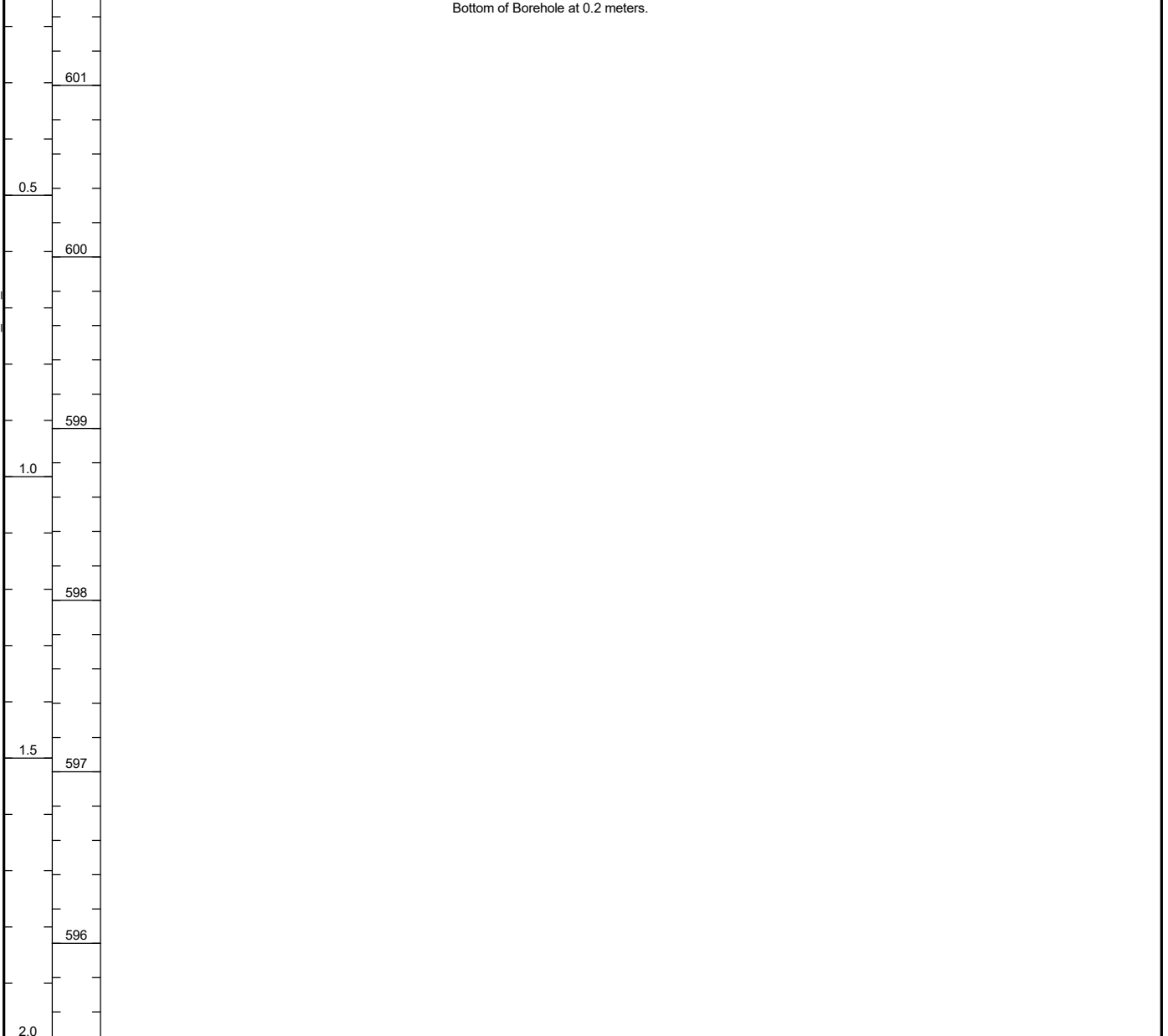
SEDIMENT BORING LOG

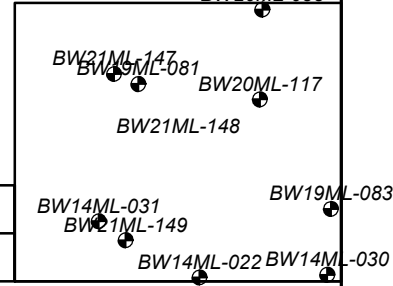
CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.45 ft.</u> WATER DEPTH ATD <u>2.2 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.25 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %
									10 20 30 40 50 60 70 80 90
			Clay loam	0.00	Brown clay loam, low density, low density, saturated., munsell color = brown (10YR 5/3)	183.57		BW21ML-147-0-0.15	

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ





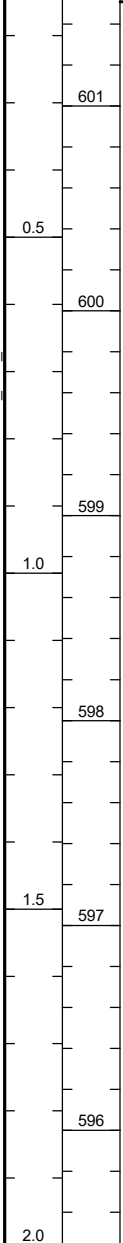
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>605.26 ft.</u> WATER DEPTH ATD <u>3.0 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.26 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

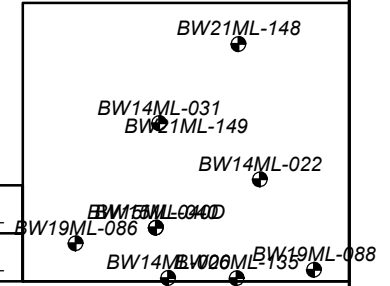
Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Dpth. (m)	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %
									10 20 30 40 50 60 70 80 90
			Clay loam	0.00 Brown silt and clay, 0-5% fibrous material, low density, saturated., munsell color = brown (10YR 5/3)	183.57			BW21ML-148-0-0.15	

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ



SEDIMENT BORING LOG

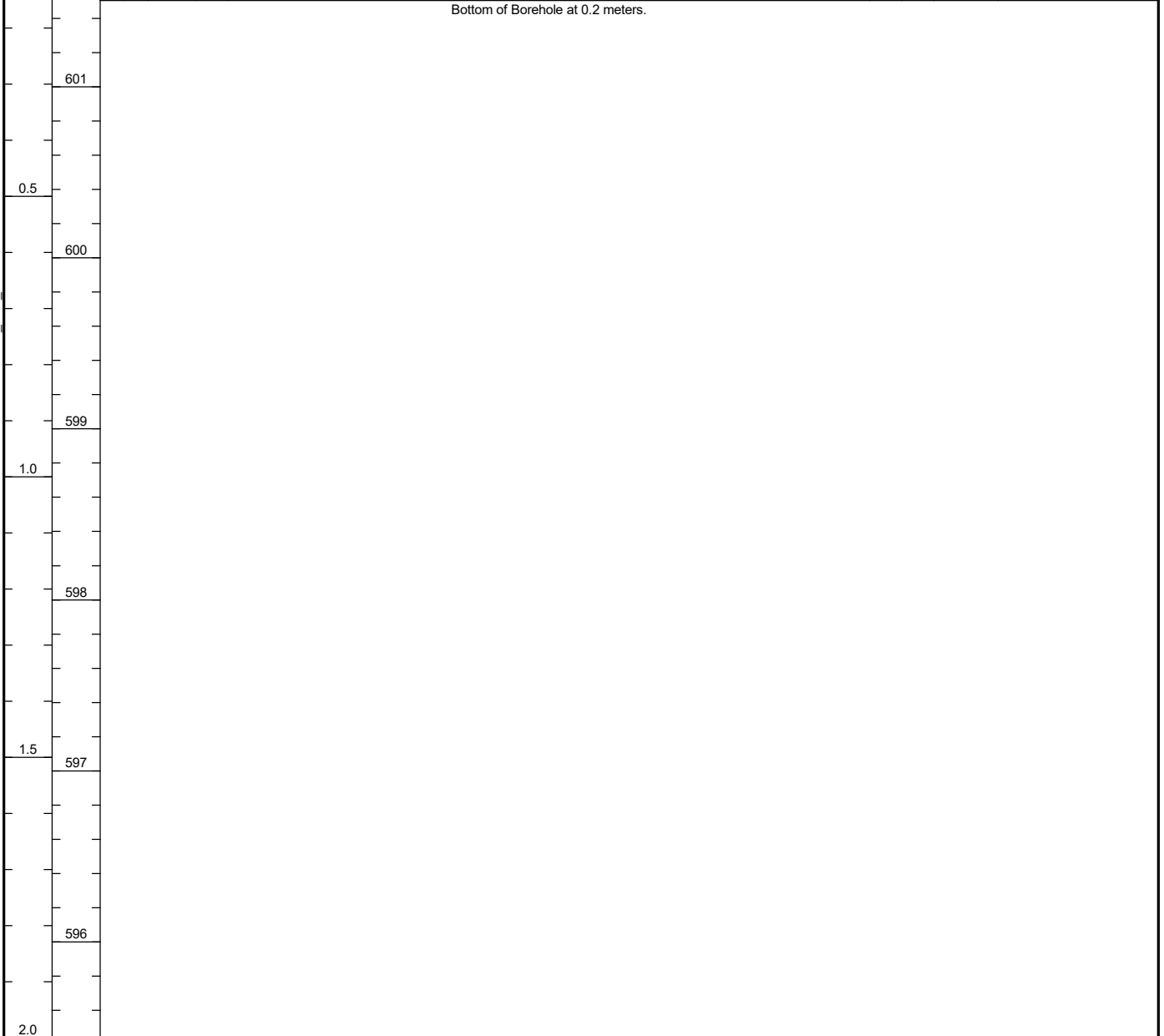


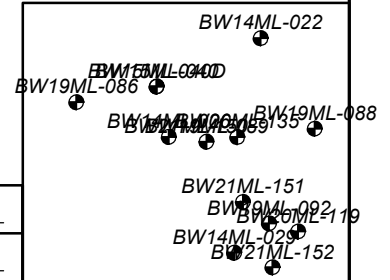
CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.58 ft.</u> WATER DEPTH ATD <u>2.3 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.28 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
			Clay loam	0.00	Brown silt and clay, low density, saturated., munsell color = brown (10YR 5/3)	183.57		BW21ML-149-0.15										

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ





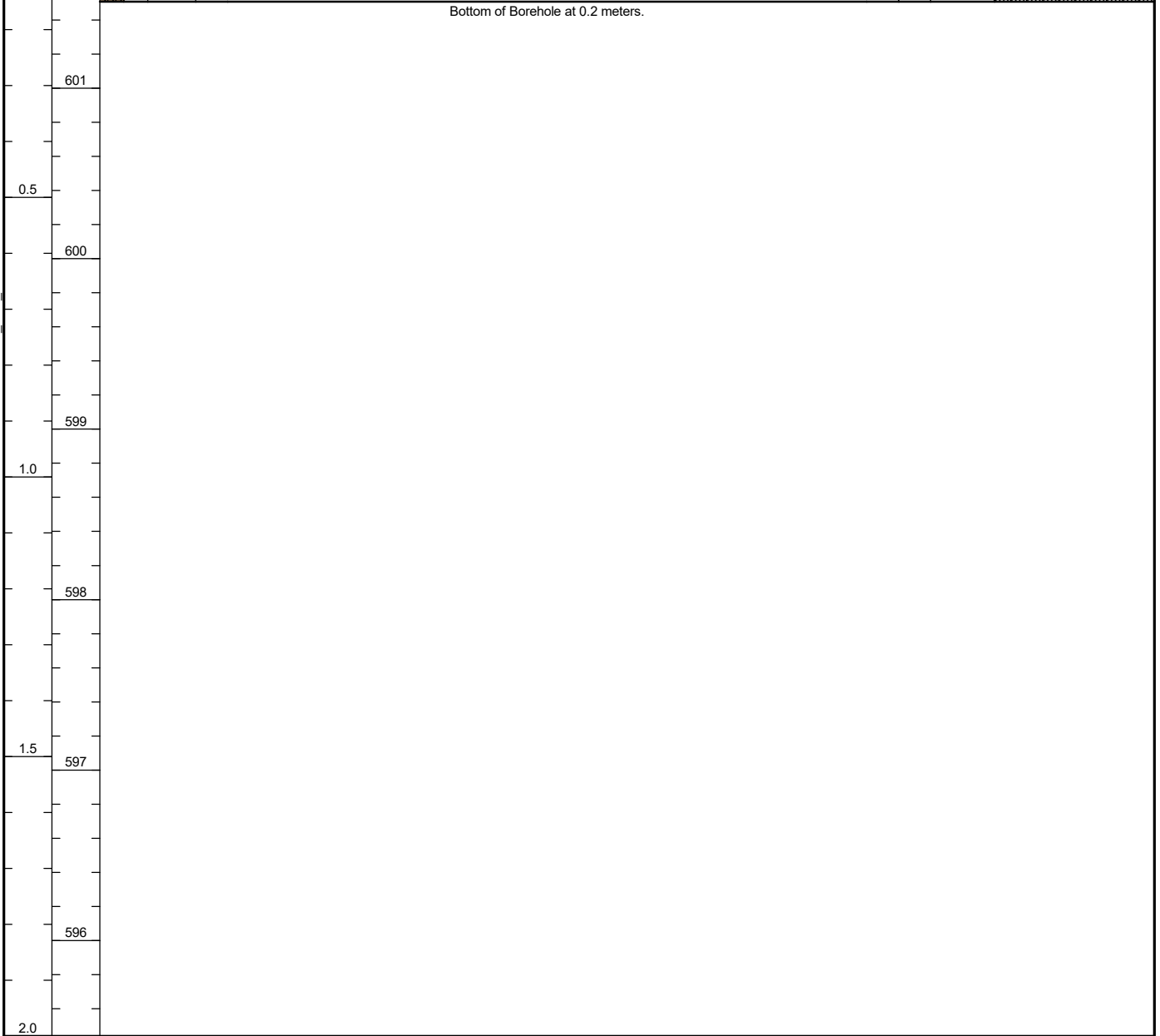
SEDIMENT BORING LOG

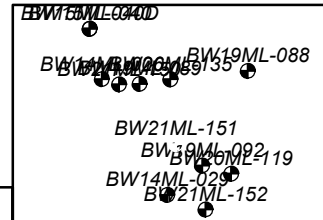
CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.3 ft.</u> WATER DEPTH ATD <u>2.0 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.3 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %
			Clay loam	0.00 Brown silt and clay, low density, saturated., munsell color = brown (10YR 5/3)	183.58		BW21ML-150-0-0.15	10 20 30 40 50 60 70 80 90

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:55 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ





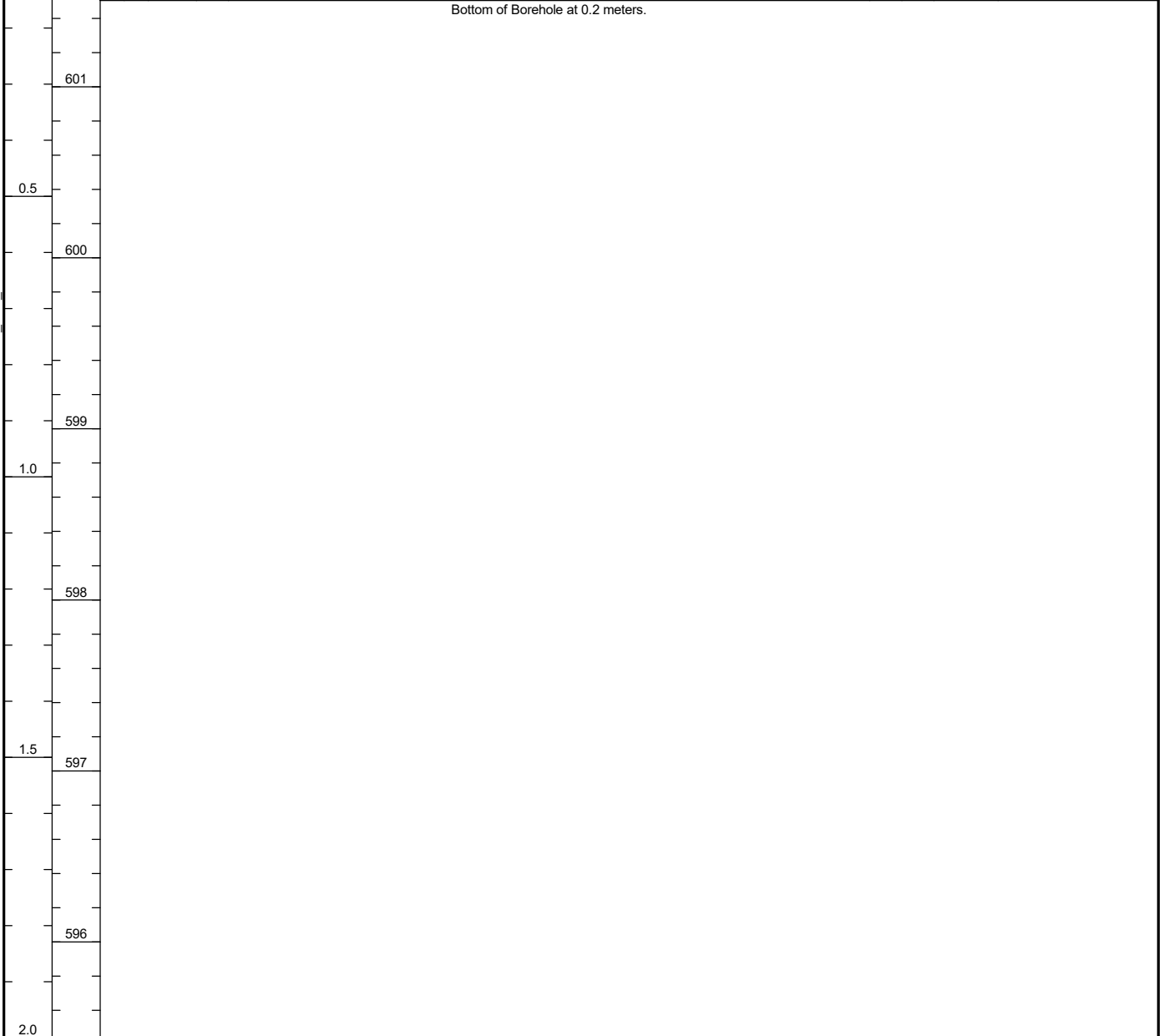
SEDIMENT BORING LOG

CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.33 ft.</u> WATER DEPTH ATD <u>2.0 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.33 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
			Clay loam	0.00	Dark brown silt and clay, 0-5% fibrous material, medium density, saturated., munsell color = dark brown (10YR 3/3)	183.59		BW21ML-151-0-0.15										

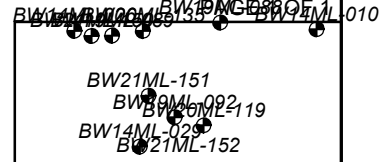
Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:56 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ





BORING NUMBER: BW21ML-152



SEDIMENT BORING LOG

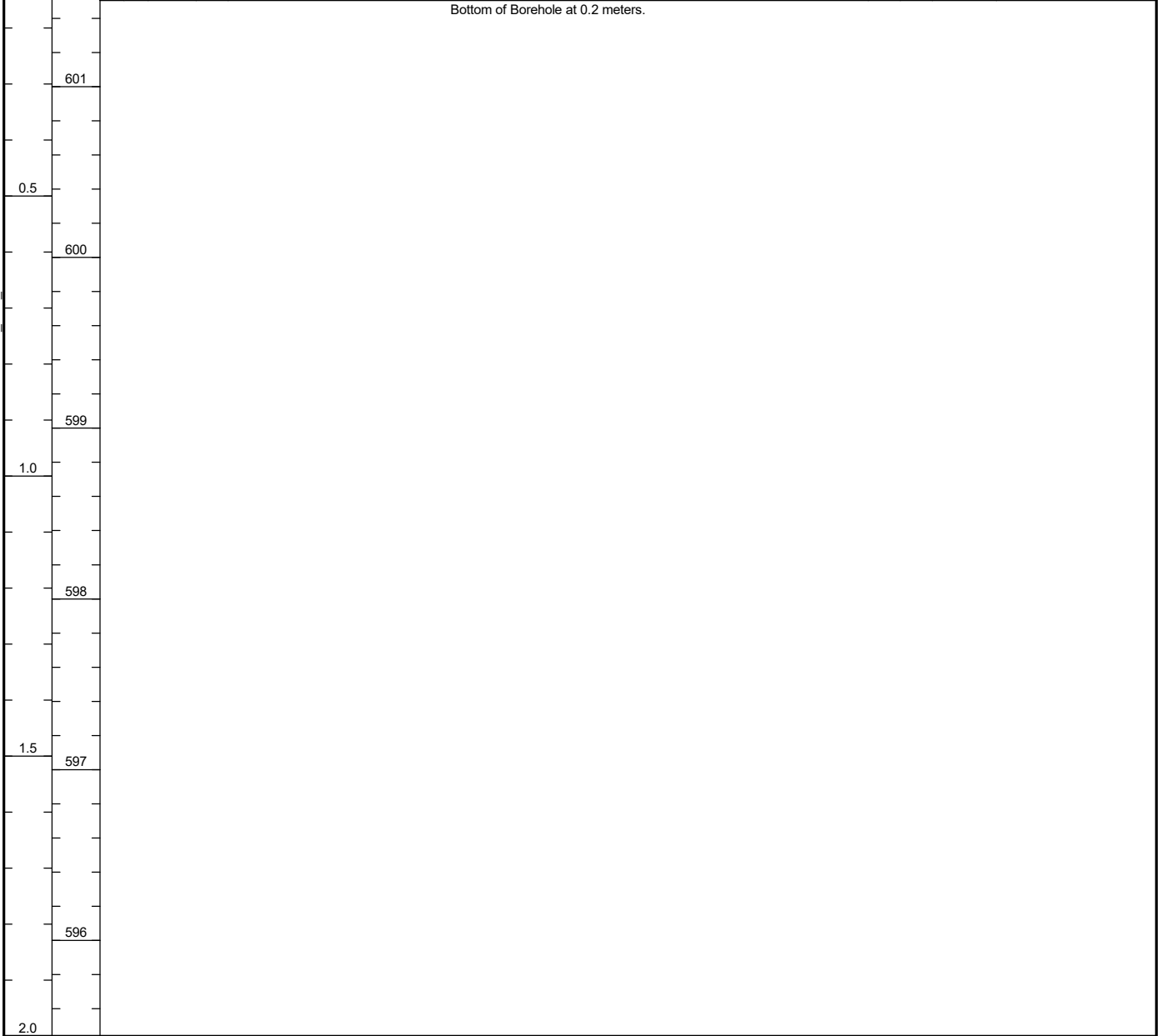
CLIENT <u>Minnesota Pollution Control Agency</u>	PROJECT NAME <u>SLR Sediment AOCs</u>
PROJECT NUMBER <u>J200633</u>	LOCATION <u>Munger Landing</u>
DATE STARTED <u>5/12/2021</u> COMPLETED <u>5/12/2021</u>	WATER ELEVATION <u>604.46 ft.</u> WATER DEPTH ATD <u>2.1 ft</u>
DRILLING CONTRACTOR <u>Bay West, LLC</u>	SEDIMENT ELEVATION <u>602.36 ft.</u>
METHOD <u>Check Valve Sampler</u>	NOTES
LOGGED BY <u>PLS_GO</u>	

BW14ML-035

Depth (m)	Elev. (ft)	Graphic Layer No.	USDA Class.	Layer Dpth. (m)	Visual Description	Layer Elev. (m)	Sample Interval	Samp. No Blows & N Val.	Push vs. Recovery %									
									10	20	30	40	50	60	70	80	90	
			Clay loam	0.00	Brown silt and clay, 0-5% fibrous material, low density, saturated., munsell color = brown (10YR 5/3)	183.60		BW21ML-152-0-0.15										

Bottom of Borehole at 0.2 meters.

BAY WEST SEDIMENT BORING LOG 2 - SEDIMENT DATA TEMPLATE.GDT - 6/24/21 08:56 - G:\PROJECTS\IMPCA_SLR_MUNGER_LANDING.GPJ



Appendix B
Disposal Documentation



019945275JJK

Form Approved. OMB No. 2050-0039

Please print or type.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number MND982612368	2. Page 1 of 2	3. Emergency Response Phone 3E: 800-451-8346	4. Manifest Tracking Number 019945275 JJK		
5. Generator's Name and Mailing Address MPCA-Duluth 525 South Lake Ave, Suite 400 Duluth, MN 55802				Generator's Site Address (if different than mailing address)			
Generator's Phone: 218-723-4897				U.S. EPA ID Number MND982205437			
6. Transporter 1 Company Name RAY WEST LLC				U.S. EPA ID Number MND982205437			
7. Transporter 2 Company Name Veolia ES Technical Solutions-NJ				U.S. EPA ID Number NJD080631369			
8. Designated Facility Name and Site Address Veolia ES Technical Solutions-PAT HWY 73, 3.5 W. of Taylor's Bayou Port Arthur, TX 77640				U.S. EPA ID Number TXD000838896			
Facility's Phone: 409-736-2821							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
X	1. NA3077, WASTE Hazardous waste, solid, n.o.s. (Polychlorinated biphenyls), 9, PG III	1	DM	120	K	MND03	PCB2
X	2. NA3082, WASTE Hazardous waste, liquid, n.o.s. (Polychlorinated biphenyls), 9, PG III	1	DF	22	K	MND03	PCB2
	3.						
	4.						
14. Special Handling Instructions and Additional Information 1) PCB Sediment solids DM55 X 1 ERG 171 2) PCB Deacon water DF05 X 1 ERG 171 PCB SN 24HR ER Phone# Contracted by Bay West W/3E (Contract 5567) J200633.1 193134 2) PTAVES070 SN Q73641541000020W 00SP 011921 1) PTAVES071 193360 Q736415400000N10 00SP 011921							
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Offoror's Printed/Typed Name Mark C. Elliott				Signature <i>Mark C. Elliott</i>		Month Day Year 18 11 21	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name Eric Murray				Signature <i>Eric Murray</i>		Month Day Year 1 19 21	
Transporter 2 Printed/Typed Name John Pydynowski				Signature <i>John Pydynowski</i>		Month Day Year 1 27 21	
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number: _____ U.S. EPA ID Number _____							
18b. Alternate Facility (or Generator)							
Facility's Phone: _____						Month Day Year	
18c. Signature of Alternate Facility (or Generator)							
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1. _____		2. _____		3. _____		4. _____	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name _____				Signature _____		Month Day Year _____	

Appendix C
**Laboratory Analytical Reports, MPCA Checklists, and
PES Lab Results**

August 27, 2020

Paul Raymaker
Bay West
5 Empire Drive
Saint Paul, MN 55103

RE: Project: 200633 Munger Landing
Pace Project No.: 10528450

Dear Paul Raymaker:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colin Lynch
colin.lynch@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Trey Harsch, Bay West LLC
Ryan Riley, Bay West LLC
Jeff Smith, Pace Analytical Services, Inc



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01	Minnesota Petrofund Certification #: 1240
Alabama Certification #: 40770	Mississippi Certification #: MN00064
Alaska Contaminated Sites Certification #: 17-009	Missouri Certification #: 10100
Alaska DW Certification #: MN00064	Montana Certification #: CERT0092
Arizona Certification #: AZ0014	Nebraska Certification #: NE-OS-18-06
Arkansas DW Certification #: MN00064	Nevada Certification #: MN00064
Arkansas WW Certification #: 88-0680	New Hampshire Certification #: 2081
California Certification #: 2929	New Jersey Certification #: MN002
CNMI Saipan Certification #: MP0003	New York Certification #: 11647
Colorado Certification #: MN00064	North Carolina DW Certification #: 27700
Connecticut Certification #: PH-0256	North Carolina WW Certification #: 530
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137	North Dakota Certification #: R-036
Florida Certification #: E87605	Ohio DW Certification #: 41244
Georgia Certification #: 959	Ohio VAP Certification #: CL101
Guam EPA Certification #: MN00064	Oklahoma Certification #: 9507
Hawaii Certification #: MN00064	Oregon Primary Certification #: MN300001
Idaho Certification #: MN00064	Oregon Secondary Certification #: MN200001
Illinois Certification #: 200011	Pennsylvania Certification #: 68-00563
Indiana Certification #: C-MN-01	Puerto Rico Certification #: MN00064
Iowa Certification #: 368	South Carolina Certification #: 74003001
Kansas Certification #: E-10167	Tennessee Certification #: TN02818
Kentucky DW Certification #: 90062	Texas Certification #: T104704192
Kentucky WW Certification #: 90062	Utah Certification #: MN00064
Louisiana DEQ Certification #: 03086	Vermont Certification #: VT-027053137
Louisiana DW Certification #: MN00064	Virginia Certification #: 460163
Maine Certification #: MN00064	Washington Certification #: C486
Maryland Certification #: 322	West Virginia DEP Certification #: 382
Massachusetts DWP Certification #: via MN 027-053-137	West Virginia DW Certification #: 9952 C
Michigan Certification #: 9909	Wisconsin Certification #: 999407970
Minnesota Certification #: 027-053-137	Wyoming UST Certification #: via A2LA 2926.01
Minnesota Dept of Ag Certification #: via MN 027-053-137	

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10528450

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10528450001	BW20ML-124-0-0.3	Solid	08/12/20 11:45	08/13/20 19:30
10528450002	BW20ML-124-0.3-0.61	Solid	08/12/20 11:50	08/13/20 19:30
10528450003	BW20ML-125-0-0.3	Solid	08/12/20 13:35	08/13/20 19:30
10528450004	BW20ML-125-0.3-0.61	Solid	08/12/20 13:40	08/13/20 19:30
10528450005	BW20ML-126-0-0.3	Solid	08/12/20 13:50	08/13/20 19:30
10528450006	BW20ML-126-0.3-0.61	Solid	08/12/20 13:55	08/13/20 19:30
10528450008	BW20ML-002-0-0.3	Solid	08/12/20 13:45	08/13/20 19:30
10528450009	BW20ML-118-0-0.3	Solid	08/12/20 13:00	08/13/20 19:30
10528450010	BW20ML-118-0.3-0.61	Solid	08/12/20 13:05	08/13/20 19:30
10528450012	BW20ML-120-0-0.3	Solid	08/12/20 13:15	08/13/20 19:30
10528450013	BW20ML-120-0.3-0.45	Solid	08/12/20 13:20	08/13/20 19:30
10528450015	BW20ML-122-0-0.21	Solid	08/12/20 10:55	08/13/20 19:30
10528450016	BW20ML-122-0.27-0.46	Solid	08/12/20 11:00	08/13/20 19:30
10528450018	BW20ML-001-0-0.21	Solid	08/12/20 11:15	08/13/20 19:30
10528450019	BW20ML-128-0-0.15	Solid	08/12/20 14:15	08/13/20 19:30
10528450020	BW20ML-128-0.15-0.45	Solid	08/12/20 14:20	08/13/20 19:30
10528450021	BW20ML-129-0-0.3	Solid	08/12/20 14:50	08/13/20 19:30
10528450022	BW20ML-129-0.3-0.61	Solid	08/12/20 14:55	08/13/20 19:30
10528450023	BW20ML-129-0.76-1.22	Solid	08/12/20 15:00	08/13/20 19:30
10528450024	BW20ML-130-0-0.3	Solid	08/12/20 15:35	08/13/20 19:30
10528450025	BW20ML-130-0.3-0.61	Solid	08/12/20 15:40	08/13/20 19:30
10528450026	BW20ML-003-0-0.3	Solid	08/12/20 15:45	08/13/20 19:30
10528450027	BW20ML-131-0-0.15	Solid	08/12/20 10:30	08/13/20 19:30
10528450028	BW20ML-131-0.15-0.4	Solid	08/12/20 10:35	08/13/20 19:30
10528450030	BW20ML-132-0-0.27	Solid	08/12/20 16:00	08/13/20 19:30
10528450031	BW20ML-132-0.27-0.37	Solid	08/12/20 16:05	08/13/20 19:30
10528450032	BW20ML-004-0-0.27	Solid	08/12/20 16:10	08/13/20 19:30
10528450033	BW20ML-136-0-0.15	Solid	08/12/20 16:20	08/13/20 19:30
10528450034	BW20ML-136-0.15-0.45	Solid	08/12/20 16:25	08/13/20 19:30
10528450036	BW20ML-138-0-0.15	Solid	08/12/20 09:45	08/13/20 19:30
10528450037	BW20ML-138-0.15-0.25	Solid	08/12/20 09:55	08/13/20 19:30
10528450039	BW20ML-139-0-0.1	Solid	08/12/20 16:55	08/13/20 19:30
10528450040	BW20ML-139-0.1-0.36	Solid	08/12/20 17:00	08/13/20 19:30
10528450042	BW20ML-142-0-0.3	Solid	08/12/20 15:10	08/13/20 19:30
10528450043	BW20ML-142-0.45-0.91	Solid	08/12/20 15:15	08/13/20 19:30
10528450044	BW20ML-142-1.0-1.2	Solid	08/12/20 15:20	08/13/20 19:30
10528450045	BW20ML-143-0-0.24	Solid	08/12/20 16:40	08/13/20 19:30

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SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10528450

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10528450046	BW20ML-143-0.3-0.61	Solid	08/12/20 16:45	08/13/20 19:30
10528450048	ML-RB01-081220	Water	08/12/20 08:00	08/13/20 19:30
10528450049	ML-RB02-081220	Water	08/12/20 08:10	08/13/20 19:30
10528450050	ML-RB03-081320	Water	08/13/20 10:00	08/13/20 19:30

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing

Pace Project No.: 10528450

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10528450001	BW20ML-124-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450002	BW20ML-124-0.3-0.61	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450003	BW20ML-125-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450004	BW20ML-125-0.3-0.61	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450005	BW20ML-126-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450006	BW20ML-126-0.3-0.61	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450008	BW20ML-002-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450009	BW20ML-118-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450010	BW20ML-118-0.3-0.61	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450012	BW20ML-120-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450013	BW20ML-120-0.3-0.45	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450015	BW20ML-122-0-0.21	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450016	BW20ML-122-0.27-0.46	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450018	BW20ML-001-0-0.21	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450019	BW20ML-128-0-0.15	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450020	BW20ML-128-0.15-0.45	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450021	BW20ML-129-0-0.3	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450022	BW20ML-129-0.3-0.61	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450023	BW20ML-129-0.76-1.22	EPA 8082A	XV1	12

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing
Pace Project No.: 10528450

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10528450024	BW20ML-130-0-0.3	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450025	BW20ML-130-0.3-0.61	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450026	BW20ML-003-0-0.3	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450027	BW20ML-131-0-0.15	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450028	BW20ML-131-0.15-0.4	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450030	BW20ML-132-0-0.27	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450031	BW20ML-132-0.27-0.37	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450032	BW20ML-004-0-0.27	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450033	BW20ML-136-0-0.15	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450034	BW20ML-136-0.15-0.45	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450036	BW20ML-138-0-0.15	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450037	BW20ML-138-0.15-0.25	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450039	BW20ML-139-0-0.1	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450040	BW20ML-139-0.1-0.36	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450042	BW20ML-142-0-0.3	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450043	BW20ML-142-0.45-0.91	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
10528450044	BW20ML-142-1.0-1.2	ASTM D2974	BTS	1
		EPA 8082A	XV1	12
		WI MOD DRO	JVM	2
		ASTM D2974	BTS	1
		EPA 8270E by SIM	JZ	18

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing

Pace Project No.: 10528450

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10528450045	BW20ML-143-0-0.24	EPA 8260D	ZB	72
		EPA 8082A	XV1	12
		ASTM D2974	BTS	1
10528450046	BW20ML-143-0.3-0.61	EPA 8082A	XV1	12
		ASTM D2974	BTS	1
		EPA 8082A	JVM	12
10528450048	ML-RB01-081220	EPA 8082A	JVM	12
10528450049	ML-RB02-081220	EPA 8082A	JVM	12
10528450050	ML-RB03-081320	EPA 8082A	JVM	12

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Bay West LLC

Date: August 27, 2020

General Information:

41 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA Mod. 3510C with any exceptions noted below.

The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 692638

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 692676

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10528450001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 3702780)
- PCB-1260 (Aroclor 1260)

R1: RPD value was outside control limits.

- MSD (Lab ID: 3702781)
- PCB-1260 (Aroclor 1260)

Additional Comments:

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Bay West LLC

Date: August 27, 2020

Analyte Comments:

QC Batch: 692676

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 3702780)
 - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 3702781)
 - PCB-1260 (Aroclor 1260)

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: WI MOD DRO

Description: WIDRO GCS

Client: Bay West LLC

Date: August 27, 2020

General Information:

1 sample was analyzed for WI MOD DRO by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with WI MOD DRO with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 692601

T6: High boiling point hydrocarbons are present in the sample.

- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)
- WDRO C10-C28

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: EPA 8270E by SIM

Description: 8270E MSSV PAH by SIM

Client: Bay West LLC

Date: August 27, 2020

General Information:

1 sample was analyzed for EPA 8270E by SIM by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3550C with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 692804

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10528356001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 3704055)
 - Chrysene
 - Pyrene
- MSD (Lab ID: 3704056)
 - Benzo(a)anthracene
 - Benzo(a)pyrene
 - Benzo(b)fluoranthene
 - Chrysene
 - Fluoranthene

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: EPA 8270E by SIM

Description: 8270E MSSV PAH by SIM

Client: Bay West LLC

Date: August 27, 2020

QC Batch: 692804

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10528356001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Pyrene

R1: RPD value was outside control limits.

- MSD (Lab ID: 3704056)
 - Acenaphthylene
 - Anthracene
 - Benzo(a)anthracene
 - Benzo(a)pyrene
 - Benzo(b)fluoranthene
 - Benzo(k)fluoranthene
 - Fluoranthene
 - Indeno(1,2,3-cd)pyrene
 - Pyrene

Additional Comments:

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PROJECT NARRATIVE

Project: 200633 Munger Landing
Pace Project No.: 10528450

Method: EPA 8260D
Description: 8260D MSV 5030 Med Level
Client: Bay West LLC
Date: August 27, 2020

General Information:

1 sample was analyzed for EPA 8260D by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 695031

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3713915)
 - Dichlorofluoromethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 695031

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10529436002

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 3713916)
 - Dichlorofluoromethane
- MSD (Lab ID: 3713917)

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: EPA 8260D

Description: 8260D MSV 5030 Med Level

Client: Bay West LLC

Date: August 27, 2020

QC Batch: 695031

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10529436002

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Dichlorofluoromethane

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 3713916)
 - Trichlorofluoromethane
- MSD (Lab ID: 3713917)
 - Chloromethane
 - Trichlorofluoromethane

Additional Comments:

Analyte Comments:

QC Batch: 695031

1M: Preserved from packed glass jar within 48 hours from collection.

- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)
 - 1,2-Dichloroethane-d4 (S)

2M: The continuing calibration for this analyte exceeded 20% difference acceptance criteria for EPA method. Analyte presence below reporting limits in associated samples. No impact to data.

- BLANK (Lab ID: 3713914)
 - 2,2-Dichloropropane
 - Chloroethane
 - Dichlorofluoromethane
 - Trichlorofluoromethane
- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)
 - 2,2-Dichloropropane
 - Chloroethane
 - Dichlorofluoromethane
 - Trichlorofluoromethane

3M: The continuing calibration for this analyte exceeded 20% difference acceptance criteria for EPA method. The result may be biased high.

- LCS (Lab ID: 3713915)
 - 2,2-Dichloropropane
 - Chloroethane
 - Dichlorofluoromethane
 - Trichlorofluoromethane
- MS (Lab ID: 3713916)
 - 2,2-Dichloropropane
 - Chloroethane
 - Dichlorofluoromethane
 - Trichlorofluoromethane
- MSD (Lab ID: 3713917)
 - 2,2-Dichloropropane
 - Chloroethane

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Method: EPA 8260D

Description: 8260D MSV 5030 Med Level

Client: Bay West LLC

Date: August 27, 2020

Analyte Comments:

QC Batch: 695031

3M: The continuing calibration for this analyte exceeded 20% difference acceptance criteria for EPA method. The result may be biased high.

- MSD (Lab ID: 3713917)
 - Dichlorofluoromethane
 - Trichlorofluoromethane

4M: The continuing calibration for this analyte is below 20% difference acceptance criteria for EPA method 8260D but within 50% of the true value. Instrument sensitivity verified with reporting limit check.

- BLANK (Lab ID: 3713914)
 - 1,2-Dibromo-3-chloropropane
 - Bromoform
 - Tetrahydrofuran
- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)
 - 1,2-Dibromo-3-chloropropane
 - Bromoform
 - Tetrahydrofuran

5M: The continuing calibration for this analyte is below 20% difference acceptance criteria for EPA method 8260D but within 50% of the true value. The result may be biased low.

- LCS (Lab ID: 3713915)
 - 1,2-Dibromo-3-chloropropane
 - Bromoform
 - Tetrahydrofuran
- MS (Lab ID: 3713916)
 - 1,2-Dibromo-3-chloropropane
 - Bromoform
 - Tetrahydrofuran
- MSD (Lab ID: 3713917)
 - 1,2-Dibromo-3-chloropropane
 - Bromoform
 - Tetrahydrofuran

6M: This analyte did not meet the secondary source verification criteria for the initial calibration. Analyte recovery exceeded the 130% upper control limit at 148%. Results may be biased high.

- BLANK (Lab ID: 3713914)
 - Bromomethane
- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)
 - Bromomethane
- LCS (Lab ID: 3713915)
 - Bromomethane
- MS (Lab ID: 3713916)
 - Bromomethane
- MSD (Lab ID: 3713917)
 - Bromomethane

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10528450

Sample: BW20ML-124-0-0.3 **Lab ID: 10528450001** Collected: 08/12/20 11:45 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<76.7	ug/kg	76.7	21.4	1	08/14/20 11:57	08/17/20 18:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<76.7	ug/kg	76.7	27.0	1	08/14/20 11:57	08/17/20 18:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<76.7	ug/kg	76.7	30.7	1	08/14/20 11:57	08/17/20 18:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<76.7	ug/kg	76.7	26.0	1	08/14/20 11:57	08/17/20 18:54	53469-21-9	
PCB-1248 (Aroclor 1248)	3030	ug/kg	76.7	23.0	1	08/14/20 11:57	08/17/20 18:54	12672-29-6	
PCB-1254 (Aroclor 1254)	<76.7	ug/kg	76.7	22.6	1	08/14/20 11:57	08/17/20 18:54	11097-69-1	
PCB-1260 (Aroclor 1260)	2260	ug/kg	76.7	18.3	1	08/14/20 11:57	08/17/20 18:54	11096-82-5	M1, R1
PCB-1262 (Aroclor 1262)	<76.7	ug/kg	76.7	26.5	1	08/14/20 11:57	08/17/20 18:54	37324-23-5	
PCB-1268 (Aroclor 1268)	742	ug/kg	76.7	24.9	1	08/14/20 11:57	08/17/20 18:54	11100-14-4	
PCB, Total	6030	ug/kg	76.7	18.3	1	08/14/20 11:57	08/17/20 18:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	94	%	46-146		1	08/14/20 11:57	08/17/20 18:54	877-09-8	
Decachlorobiphenyl (S)	85	%	48-139		1	08/14/20 11:57	08/17/20 18:54	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	57.2	%	0.10	0.10	1		08/24/20 17:02		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10528450

Sample: BW20ML-124-0.3-0.61 **Lab ID: 10528450002** Collected: 08/12/20 11:50 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<84.5	ug/kg	84.5	23.5	1	08/14/20 11:57	08/17/20 19:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<84.5	ug/kg	84.5	29.7	1	08/14/20 11:57	08/17/20 19:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<84.5	ug/kg	84.5	33.8	1	08/14/20 11:57	08/17/20 19:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<84.5	ug/kg	84.5	28.7	1	08/14/20 11:57	08/17/20 19:41	53469-21-9	
PCB-1248 (Aroclor 1248)	<84.5	ug/kg	84.5	25.3	1	08/14/20 11:57	08/17/20 19:41	12672-29-6	
PCB-1254 (Aroclor 1254)	<84.5	ug/kg	84.5	24.9	1	08/14/20 11:57	08/17/20 19:41	11097-69-1	
PCB-1260 (Aroclor 1260)	<84.5	ug/kg	84.5	20.2	1	08/14/20 11:57	08/17/20 19:41	11096-82-5	
PCB-1262 (Aroclor 1262)	<84.5	ug/kg	84.5	29.2	1	08/14/20 11:57	08/17/20 19:41	37324-23-5	
PCB-1268 (Aroclor 1268)	<84.5	ug/kg	84.5	27.4	1	08/14/20 11:57	08/17/20 19:41	11100-14-4	
PCB, Total	<84.5	ug/kg	84.5	20.2	1	08/14/20 11:57	08/17/20 19:41	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	91	%	46-146		1	08/14/20 11:57	08/17/20 19:41	877-09-8	
Decachlorobiphenyl (S)	79	%	48-139		1	08/14/20 11:57	08/17/20 19:41	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	61.2	%	0.10	0.10	1		08/24/20 17:02		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-125-0-0.3 **Lab ID: 10528450003** Collected: 08/12/20 13:35 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<104	ug/kg	104	28.9	1	08/14/20 11:57	08/17/20 19:57	12674-11-2	
PCB-1221 (Aroclor 1221)	<104	ug/kg	104	36.5	1	08/14/20 11:57	08/17/20 19:57	11104-28-2	
PCB-1232 (Aroclor 1232)	<104	ug/kg	104	41.5	1	08/14/20 11:57	08/17/20 19:57	11141-16-5	
PCB-1242 (Aroclor 1242)	<104	ug/kg	104	35.2	1	08/14/20 11:57	08/17/20 19:57	53469-21-9	
PCB-1248 (Aroclor 1248)	3660	ug/kg	104	31.1	1	08/14/20 11:57	08/17/20 19:57	12672-29-6	
PCB-1254 (Aroclor 1254)	<104	ug/kg	104	30.5	1	08/14/20 11:57	08/17/20 19:57	11097-69-1	
PCB-1260 (Aroclor 1260)	2840	ug/kg	104	24.8	1	08/14/20 11:57	08/17/20 19:57	11096-82-5	
PCB-1262 (Aroclor 1262)	<104	ug/kg	104	35.8	1	08/14/20 11:57	08/17/20 19:57	37324-23-5	
PCB-1268 (Aroclor 1268)	964	ug/kg	104	33.6	1	08/14/20 11:57	08/17/20 19:57	11100-14-4	
PCB, Total	7460	ug/kg	104	24.8	1	08/14/20 11:57	08/17/20 19:57	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	101	%	46-146		1	08/14/20 11:57	08/17/20 19:57	877-09-8	
Decachlorobiphenyl (S)	90	%	48-139		1	08/14/20 11:57	08/17/20 19:57	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	68.3	%	0.10	0.10	1		08/24/20 17:02		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-125-0.3-0.61 **Lab ID: 10528450004** Collected: 08/12/20 13:40 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<81.0	ug/kg	81.0	22.6	1	08/14/20 11:57	08/17/20 20:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<81.0	ug/kg	81.0	28.5	1	08/14/20 11:57	08/17/20 20:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<81.0	ug/kg	81.0	32.4	1	08/14/20 11:57	08/17/20 20:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<81.0	ug/kg	81.0	27.5	1	08/14/20 11:57	08/17/20 20:13	53469-21-9	
PCB-1248 (Aroclor 1248)	174	ug/kg	81.0	24.3	1	08/14/20 11:57	08/17/20 20:13	12672-29-6	
PCB-1254 (Aroclor 1254)	<81.0	ug/kg	81.0	23.8	1	08/14/20 11:57	08/17/20 20:13	11097-69-1	
PCB-1260 (Aroclor 1260)	249	ug/kg	81.0	19.4	1	08/14/20 11:57	08/17/20 20:13	11096-82-5	
PCB-1262 (Aroclor 1262)	<81.0	ug/kg	81.0	28.0	1	08/14/20 11:57	08/17/20 20:13	37324-23-5	
PCB-1268 (Aroclor 1268)	72.2J	ug/kg	81.0	26.3	1	08/14/20 11:57	08/17/20 20:13	11100-14-4	
PCB, Total	495	ug/kg	81.0	19.4	1	08/14/20 11:57	08/17/20 20:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	94	%	46-146		1	08/14/20 11:57	08/17/20 20:13	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	08/14/20 11:57	08/17/20 20:13	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	59.4	%	0.10	0.10	1		08/24/20 17:02		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-126-0-0.3 **Lab ID: 10528450005** Collected: 08/12/20 13:50 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<71.3	ug/kg	71.3	19.9	1	08/14/20 11:57	08/17/20 20:29	12674-11-2	
PCB-1221 (Aroclor 1221)	<71.3	ug/kg	71.3	25.1	1	08/14/20 11:57	08/17/20 20:29	11104-28-2	
PCB-1232 (Aroclor 1232)	<71.3	ug/kg	71.3	28.5	1	08/14/20 11:57	08/17/20 20:29	11141-16-5	
PCB-1242 (Aroclor 1242)	<71.3	ug/kg	71.3	24.2	1	08/14/20 11:57	08/17/20 20:29	53469-21-9	
PCB-1248 (Aroclor 1248)	333	ug/kg	71.3	21.4	1	08/14/20 11:57	08/17/20 20:29	12672-29-6	
PCB-1254 (Aroclor 1254)	<71.3	ug/kg	71.3	21.0	1	08/14/20 11:57	08/17/20 20:29	11097-69-1	
PCB-1260 (Aroclor 1260)	2220	ug/kg	71.3	17.1	1	08/14/20 11:57	08/17/20 20:29	11096-82-5	
PCB-1262 (Aroclor 1262)	<71.3	ug/kg	71.3	24.6	1	08/14/20 11:57	08/17/20 20:29	37324-23-5	
PCB-1268 (Aroclor 1268)	607	ug/kg	71.3	23.1	1	08/14/20 11:57	08/17/20 20:29	11100-14-4	
PCB, Total	3160	ug/kg	71.3	17.1	1	08/14/20 11:57	08/17/20 20:29	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86	%	46-146		1	08/14/20 11:57	08/17/20 20:29	877-09-8	
Decachlorobiphenyl (S)	77	%	48-139		1	08/14/20 11:57	08/17/20 20:29	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	54.4	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10528450

Sample: BW20ML-126-0.3-0.61 **Lab ID: 10528450006** Collected: 08/12/20 13:55 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<65.9	ug/kg	65.9	18.3	1	08/14/20 11:57	08/17/20 20:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<65.9	ug/kg	65.9	23.2	1	08/14/20 11:57	08/17/20 20:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<65.9	ug/kg	65.9	26.3	1	08/14/20 11:57	08/17/20 20:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<65.9	ug/kg	65.9	22.4	1	08/14/20 11:57	08/17/20 20:44	53469-21-9	
PCB-1248 (Aroclor 1248)	<65.9	ug/kg	65.9	19.8	1	08/14/20 11:57	08/17/20 20:44	12672-29-6	
PCB-1254 (Aroclor 1254)	<65.9	ug/kg	65.9	19.4	1	08/14/20 11:57	08/17/20 20:44	11097-69-1	
PCB-1260 (Aroclor 1260)	32.5J	ug/kg	65.9	15.7	1	08/14/20 11:57	08/17/20 20:44	11096-82-5	
PCB-1262 (Aroclor 1262)	<65.9	ug/kg	65.9	22.8	1	08/14/20 11:57	08/17/20 20:44	37324-23-5	
PCB-1268 (Aroclor 1268)	<65.9	ug/kg	65.9	21.4	1	08/14/20 11:57	08/17/20 20:44	11100-14-4	
PCB, Total	32.5J	ug/kg	65.9	15.7	1	08/14/20 11:57	08/17/20 20:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	105	%	46-146		1	08/14/20 11:57	08/17/20 20:44	877-09-8	
Decachlorobiphenyl (S)	97	%	48-139		1	08/14/20 11:57	08/17/20 20:44	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	50.1	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-002-0-0.3 **Lab ID: 10528450008** Collected: 08/12/20 13:45 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<111	ug/kg	111	30.9	1	08/14/20 11:57	08/17/20 21:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<111	ug/kg	111	39.0	1	08/14/20 11:57	08/17/20 21:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<111	ug/kg	111	44.4	1	08/14/20 11:57	08/17/20 21:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<111	ug/kg	111	37.7	1	08/14/20 11:57	08/17/20 21:00	53469-21-9	
PCB-1248 (Aroclor 1248)	6370	ug/kg	222	66.6	2	08/14/20 11:57	08/24/20 13:01	12672-29-6	
PCB-1254 (Aroclor 1254)	<111	ug/kg	111	32.7	1	08/14/20 11:57	08/17/20 21:00	11097-69-1	
PCB-1260 (Aroclor 1260)	4450	ug/kg	111	26.5	1	08/14/20 11:57	08/17/20 21:00	11096-82-5	
PCB-1262 (Aroclor 1262)	<111	ug/kg	111	38.3	1	08/14/20 11:57	08/17/20 21:00	37324-23-5	
PCB-1268 (Aroclor 1268)	1610	ug/kg	111	36.0	1	08/14/20 11:57	08/17/20 21:00	11100-14-4	
PCB, Total	12400	ug/kg	222	53.1	2	08/14/20 11:57	08/24/20 13:01	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	87	%	46-146		1	08/14/20 11:57	08/17/20 21:00	877-09-8	
Decachlorobiphenyl (S)	78	%	48-139		1	08/14/20 11:57	08/17/20 21:00	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	70.3	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-118-0-0.3 **Lab ID: 10528450009** Collected: 08/12/20 13:00 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<71.8	ug/kg	71.8	20.0	1	08/14/20 11:57	08/17/20 21:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<71.8	ug/kg	71.8	25.2	1	08/14/20 11:57	08/17/20 21:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<71.8	ug/kg	71.8	28.7	1	08/14/20 11:57	08/17/20 21:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<71.8	ug/kg	71.8	24.4	1	08/14/20 11:57	08/17/20 21:16	53469-21-9	
PCB-1248 (Aroclor 1248)	3700	ug/kg	144	43.1	2	08/14/20 11:57	08/24/20 13:17	12672-29-6	
PCB-1254 (Aroclor 1254)	<71.8	ug/kg	71.8	21.1	1	08/14/20 11:57	08/17/20 21:16	11097-69-1	
PCB-1260 (Aroclor 1260)	1510	ug/kg	71.8	17.2	1	08/14/20 11:57	08/17/20 21:16	11096-82-5	
PCB-1262 (Aroclor 1262)	<71.8	ug/kg	71.8	24.8	1	08/14/20 11:57	08/17/20 21:16	37324-23-5	
PCB-1268 (Aroclor 1268)	669	ug/kg	71.8	23.3	1	08/14/20 11:57	08/17/20 21:16	11100-14-4	
PCB, Total	5880	ug/kg	144	34.3	2	08/14/20 11:57	08/24/20 13:17	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	90	%	46-146		1	08/14/20 11:57	08/17/20 21:16	877-09-8	
Decachlorobiphenyl (S)	81	%	48-139		1	08/14/20 11:57	08/17/20 21:16	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	54.2	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-118-0.3-0.61 **Lab ID: 10528450010** Collected: 08/12/20 13:05 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<96.8	ug/kg	96.8	27.0	1	08/14/20 11:57	08/17/20 22:04	12674-11-2	
PCB-1221 (Aroclor 1221)	<96.8	ug/kg	96.8	34.0	1	08/14/20 11:57	08/17/20 22:04	11104-28-2	
PCB-1232 (Aroclor 1232)	<96.8	ug/kg	96.8	38.7	1	08/14/20 11:57	08/17/20 22:04	11141-16-5	
PCB-1242 (Aroclor 1242)	<96.8	ug/kg	96.8	32.8	1	08/14/20 11:57	08/17/20 22:04	53469-21-9	
PCB-1248 (Aroclor 1248)	6780	ug/kg	484	145	5	08/14/20 11:57	08/24/20 13:33	12672-29-6	
PCB-1254 (Aroclor 1254)	<96.8	ug/kg	96.8	28.5	1	08/14/20 11:57	08/17/20 22:04	11097-69-1	
PCB-1260 (Aroclor 1260)	3290	ug/kg	96.8	23.1	1	08/14/20 11:57	08/17/20 22:04	11096-82-5	
PCB-1262 (Aroclor 1262)	<96.8	ug/kg	96.8	33.4	1	08/14/20 11:57	08/17/20 22:04	37324-23-5	
PCB-1268 (Aroclor 1268)	1300	ug/kg	96.8	31.4	1	08/14/20 11:57	08/17/20 22:04	11100-14-4	
PCB, Total	11400	ug/kg	484	116	5	08/14/20 11:57	08/24/20 13:33	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89	%	46-146		1	08/14/20 11:57	08/17/20 22:04	877-09-8	
Decachlorobiphenyl (S)	83	%	48-139		1	08/14/20 11:57	08/17/20 22:04	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	66.0	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-120-0-0.3 **Lab ID: 10528450012** Collected: 08/12/20 13:15 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<183	ug/kg	183	51.0	1	08/14/20 11:57	08/24/20 12:30	12674-11-2	
PCB-1221 (Aroclor 1221)	<183	ug/kg	183	64.4	1	08/14/20 11:57	08/24/20 12:30	11104-28-2	
PCB-1232 (Aroclor 1232)	<183	ug/kg	183	73.3	1	08/14/20 11:57	08/24/20 12:30	11141-16-5	
PCB-1242 (Aroclor 1242)	<183	ug/kg	183	62.2	1	08/14/20 11:57	08/24/20 12:30	53469-21-9	
PCB-1248 (Aroclor 1248)	319	ug/kg	183	54.9	1	08/14/20 11:57	08/24/20 12:30	12672-29-6	
PCB-1254 (Aroclor 1254)	<183	ug/kg	183	53.9	1	08/14/20 11:57	08/24/20 12:30	11097-69-1	
PCB-1260 (Aroclor 1260)	830	ug/kg	183	43.8	1	08/14/20 11:57	08/24/20 12:30	11096-82-5	
PCB-1262 (Aroclor 1262)	<183	ug/kg	183	63.3	1	08/14/20 11:57	08/24/20 12:30	37324-23-5	
PCB-1268 (Aroclor 1268)	211	ug/kg	183	59.4	1	08/14/20 11:57	08/24/20 12:30	11100-14-4	
PCB, Total	1360	ug/kg	183	43.8	1	08/14/20 11:57	08/24/20 12:30	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89	%	46-146		1	08/14/20 11:57	08/24/20 12:30	877-09-8	
Decachlorobiphenyl (S)	72	%	48-139		1	08/14/20 11:57	08/24/20 12:30	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	82.0	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-120-0.3-0.45 **Lab ID: 10528450013** Collected: 08/12/20 13:20 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<228	ug/kg	228	63.5	1	08/14/20 11:57	08/17/20 22:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<228	ug/kg	228	80.2	1	08/14/20 11:57	08/17/20 22:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<228	ug/kg	228	91.3	1	08/14/20 11:57	08/17/20 22:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<228	ug/kg	228	77.4	1	08/14/20 11:57	08/17/20 22:35	53469-21-9	
PCB-1248 (Aroclor 1248)	<228	ug/kg	228	68.4	1	08/14/20 11:57	08/17/20 22:35	12672-29-6	
PCB-1254 (Aroclor 1254)	<228	ug/kg	228	67.1	1	08/14/20 11:57	08/17/20 22:35	11097-69-1	
PCB-1260 (Aroclor 1260)	132J	ug/kg	228	54.5	1	08/14/20 11:57	08/17/20 22:35	11096-82-5	
PCB-1262 (Aroclor 1262)	<228	ug/kg	228	78.8	1	08/14/20 11:57	08/17/20 22:35	37324-23-5	
PCB-1268 (Aroclor 1268)	<228	ug/kg	228	74.0	1	08/14/20 11:57	08/17/20 22:35	11100-14-4	
PCB, Total	132J	ug/kg	228	54.5	1	08/14/20 11:57	08/17/20 22:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89	%	46-146		1	08/14/20 11:57	08/17/20 22:35	877-09-8	
Decachlorobiphenyl (S)	75	%	48-139		1	08/14/20 11:57	08/17/20 22:35	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	85.6	%	0.10	0.10	1		08/24/20 17:03		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-122-0-0.21 **Lab ID: 10528450015** Collected: 08/12/20 10:55 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<49.8	ug/kg	49.8	13.9	1	08/14/20 11:57	08/17/20 22:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<49.8	ug/kg	49.8	17.5	1	08/14/20 11:57	08/17/20 22:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<49.8	ug/kg	49.8	19.9	1	08/14/20 11:57	08/17/20 22:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<49.8	ug/kg	49.8	16.9	1	08/14/20 11:57	08/17/20 22:51	53469-21-9	
PCB-1248 (Aroclor 1248)	<49.8	ug/kg	49.8	14.9	1	08/14/20 11:57	08/17/20 22:51	12672-29-6	
PCB-1254 (Aroclor 1254)	<49.8	ug/kg	49.8	14.7	1	08/14/20 11:57	08/17/20 22:51	11097-69-1	
PCB-1260 (Aroclor 1260)	21.9J	ug/kg	49.8	11.9	1	08/14/20 11:57	08/17/20 22:51	11096-82-5	
PCB-1262 (Aroclor 1262)	<49.8	ug/kg	49.8	17.2	1	08/14/20 11:57	08/17/20 22:51	37324-23-5	
PCB-1268 (Aroclor 1268)	<49.8	ug/kg	49.8	16.2	1	08/14/20 11:57	08/17/20 22:51	11100-14-4	
PCB, Total	21.9J	ug/kg	49.8	11.9	1	08/14/20 11:57	08/17/20 22:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	97	%	46-146		1	08/14/20 11:57	08/17/20 22:51	877-09-8	
Decachlorobiphenyl (S)	95	%	48-139		1	08/14/20 11:57	08/17/20 22:51	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	34.2	%	0.10	0.10	1		08/24/20 17:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: **BW20ML-122-0.27-0.46** Lab ID: **10528450016** Collected: 08/12/20 11:00 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<62.1	ug/kg	62.1	17.3	1	08/14/20 11:57	08/17/20 23:07	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.1	ug/kg	62.1	21.8	1	08/14/20 11:57	08/17/20 23:07	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.1	ug/kg	62.1	24.9	1	08/14/20 11:57	08/17/20 23:07	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.1	ug/kg	62.1	21.1	1	08/14/20 11:57	08/17/20 23:07	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.1	ug/kg	62.1	18.6	1	08/14/20 11:57	08/17/20 23:07	12672-29-6	
PCB-1254 (Aroclor 1254)	<62.1	ug/kg	62.1	18.3	1	08/14/20 11:57	08/17/20 23:07	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.1	ug/kg	62.1	14.9	1	08/14/20 11:57	08/17/20 23:07	11096-82-5	
PCB-1262 (Aroclor 1262)	<62.1	ug/kg	62.1	21.5	1	08/14/20 11:57	08/17/20 23:07	37324-23-5	
PCB-1268 (Aroclor 1268)	<62.1	ug/kg	62.1	20.1	1	08/14/20 11:57	08/17/20 23:07	11100-14-4	
PCB, Total	<62.1	ug/kg	62.1	14.9	1	08/14/20 11:57	08/17/20 23:07	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	64	%	46-146		1	08/14/20 11:57	08/17/20 23:07	877-09-8	
Decachlorobiphenyl (S)	73	%	48-139		1	08/14/20 11:57	08/17/20 23:07	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	47.4	%	0.10	0.10	1		08/24/20 17:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-001-0-0.21 **Lab ID: 10528450018** Collected: 08/12/20 11:15 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<46.9	ug/kg	46.9	13.1	1	08/14/20 11:57	08/17/20 23:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<46.9	ug/kg	46.9	16.5	1	08/14/20 11:57	08/17/20 23:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<46.9	ug/kg	46.9	18.8	1	08/14/20 11:57	08/17/20 23:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<46.9	ug/kg	46.9	15.9	1	08/14/20 11:57	08/17/20 23:22	53469-21-9	
PCB-1248 (Aroclor 1248)	45.9J	ug/kg	46.9	14.1	1	08/14/20 11:57	08/17/20 23:22	12672-29-6	
PCB-1254 (Aroclor 1254)	<46.9	ug/kg	46.9	13.8	1	08/14/20 11:57	08/17/20 23:22	11097-69-1	
PCB-1260 (Aroclor 1260)	50.5	ug/kg	46.9	11.2	1	08/14/20 11:57	08/17/20 23:22	11096-82-5	
PCB-1262 (Aroclor 1262)	<46.9	ug/kg	46.9	16.2	1	08/14/20 11:57	08/17/20 23:22	37324-23-5	
PCB-1268 (Aroclor 1268)	<46.9	ug/kg	46.9	15.2	1	08/14/20 11:57	08/17/20 23:22	11100-14-4	
PCB, Total	96.5	ug/kg	46.9	11.2	1	08/14/20 11:57	08/17/20 23:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	90	%	46-146		1	08/14/20 11:57	08/17/20 23:22	877-09-8	
Decachlorobiphenyl (S)	89	%	48-139		1	08/14/20 11:57	08/17/20 23:22	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	29.9	%	0.10	0.10	1		08/24/20 17:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10528450

Sample: BW20ML-128-0-0.15 **Lab ID: 10528450019** Collected: 08/12/20 14:15 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<46.5	ug/kg	46.5	13.0	1	08/14/20 11:57	08/17/20 23:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<46.5	ug/kg	46.5	16.3	1	08/14/20 11:57	08/17/20 23:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<46.5	ug/kg	46.5	18.6	1	08/14/20 11:57	08/17/20 23:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<46.5	ug/kg	46.5	15.8	1	08/14/20 11:57	08/17/20 23:38	53469-21-9	
PCB-1248 (Aroclor 1248)	25.8J	ug/kg	46.5	14.0	1	08/14/20 11:57	08/17/20 23:38	12672-29-6	
PCB-1254 (Aroclor 1254)	<46.5	ug/kg	46.5	13.7	1	08/14/20 11:57	08/17/20 23:38	11097-69-1	
PCB-1260 (Aroclor 1260)	63.1	ug/kg	46.5	11.1	1	08/14/20 11:57	08/17/20 23:38	11096-82-5	
PCB-1262 (Aroclor 1262)	<46.5	ug/kg	46.5	16.1	1	08/14/20 11:57	08/17/20 23:38	37324-23-5	
PCB-1268 (Aroclor 1268)	20.5J	ug/kg	46.5	15.1	1	08/14/20 11:57	08/17/20 23:38	11100-14-4	
PCB, Total	109	ug/kg	46.5	11.1	1	08/14/20 11:57	08/17/20 23:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	46-146		1	08/14/20 11:57	08/17/20 23:38	877-09-8	
Decachlorobiphenyl (S)	76	%	48-139		1	08/14/20 11:57	08/17/20 23:38	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	29.5	%	0.10	0.10	1		08/24/20 17:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: **BW20ML-128-0.15-0.45** Lab ID: **10528450020** Collected: 08/12/20 14:20 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<45.8	ug/kg	45.8	12.8	1	08/14/20 11:57	08/17/20 23:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<45.8	ug/kg	45.8	16.1	1	08/14/20 11:57	08/17/20 23:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<45.8	ug/kg	45.8	18.3	1	08/14/20 11:57	08/17/20 23:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<45.8	ug/kg	45.8	15.5	1	08/14/20 11:57	08/17/20 23:54	53469-21-9	
PCB-1248 (Aroclor 1248)	<45.8	ug/kg	45.8	13.7	1	08/14/20 11:57	08/17/20 23:54	12672-29-6	
PCB-1254 (Aroclor 1254)	<45.8	ug/kg	45.8	13.5	1	08/14/20 11:57	08/17/20 23:54	11097-69-1	
PCB-1260 (Aroclor 1260)	<45.8	ug/kg	45.8	10.9	1	08/14/20 11:57	08/17/20 23:54	11096-82-5	
PCB-1262 (Aroclor 1262)	<45.8	ug/kg	45.8	15.8	1	08/14/20 11:57	08/17/20 23:54	37324-23-5	
PCB-1268 (Aroclor 1268)	<45.8	ug/kg	45.8	14.8	1	08/14/20 11:57	08/17/20 23:54	11100-14-4	
PCB, Total	<45.8	ug/kg	45.8	10.9	1	08/14/20 11:57	08/17/20 23:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	103	%	46-146		1	08/14/20 11:57	08/17/20 23:54	877-09-8	
Decachlorobiphenyl (S)	101	%	48-139		1	08/14/20 11:57	08/17/20 23:54	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	28.6	%	0.10	0.10	1		08/24/20 17:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-129-0-0.3 **Lab ID: 10528450021** Collected: 08/12/20 14:50 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<43.3	ug/kg	43.3	12.1	1	08/14/20 11:57	08/18/20 00:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<43.3	ug/kg	43.3	15.2	1	08/14/20 11:57	08/18/20 00:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<43.3	ug/kg	43.3	17.3	1	08/14/20 11:57	08/18/20 00:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<43.3	ug/kg	43.3	14.7	1	08/14/20 11:57	08/18/20 00:10	53469-21-9	
PCB-1248 (Aroclor 1248)	33.7J	ug/kg	43.3	13.0	1	08/14/20 11:57	08/18/20 00:10	12672-29-6	
PCB-1254 (Aroclor 1254)	<43.3	ug/kg	43.3	12.7	1	08/14/20 11:57	08/18/20 00:10	11097-69-1	
PCB-1260 (Aroclor 1260)	316	ug/kg	43.3	10.4	1	08/14/20 11:57	08/18/20 00:10	11096-82-5	
PCB-1262 (Aroclor 1262)	<43.3	ug/kg	43.3	15.0	1	08/14/20 11:57	08/18/20 00:10	37324-23-5	
PCB-1268 (Aroclor 1268)	79.4	ug/kg	43.3	14.0	1	08/14/20 11:57	08/18/20 00:10	11100-14-4	
PCB, Total	429	ug/kg	43.3	10.4	1	08/14/20 11:57	08/18/20 00:10	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	89	%	46-146		1	08/14/20 11:57	08/18/20 00:10	877-09-8	
Decachlorobiphenyl (S)	85	%	48-139		1	08/14/20 11:57	08/18/20 00:10	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	24.1	%	0.10	0.10	1		08/24/20 17:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-129-0.3-0.61 **Lab ID: 10528450022** Collected: 08/12/20 14:55 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<43.0	ug/kg	43.0	12.0	1	08/14/20 11:57	08/18/20 00:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<43.0	ug/kg	43.0	15.1	1	08/14/20 11:57	08/18/20 00:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<43.0	ug/kg	43.0	17.2	1	08/14/20 11:57	08/18/20 00:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<43.0	ug/kg	43.0	14.6	1	08/14/20 11:57	08/18/20 00:26	53469-21-9	
PCB-1248 (Aroclor 1248)	9860	ug/kg	430	129	10	08/14/20 11:57	08/24/20 13:49	12672-29-6	
PCB-1254 (Aroclor 1254)	<43.0	ug/kg	43.0	12.6	1	08/14/20 11:57	08/18/20 00:26	11097-69-1	
PCB-1260 (Aroclor 1260)	2820	ug/kg	430	103	10	08/14/20 11:57	08/24/20 13:49	11096-82-5	
PCB-1262 (Aroclor 1262)	<43.0	ug/kg	43.0	14.8	1	08/14/20 11:57	08/18/20 00:26	37324-23-5	
PCB-1268 (Aroclor 1268)	859	ug/kg	43.0	13.9	1	08/14/20 11:57	08/18/20 00:26	11100-14-4	
PCB, Total	13500	ug/kg	430	103	10	08/14/20 11:57	08/24/20 13:49	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	100	%	46-146		1	08/14/20 11:57	08/18/20 00:26	877-09-8	
Decachlorobiphenyl (S)	97	%	48-139		1	08/14/20 11:57	08/18/20 00:26	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	23.4	%	0.10	0.10	1		08/24/20 17:05		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-129-0.76-1.22 Lab ID: 10528450023 Collected: 08/12/20 15:00 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<42.0	ug/kg	42.0	11.7	1	08/14/20 11:57	08/18/20 00:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<42.0	ug/kg	42.0	14.8	1	08/14/20 11:57	08/18/20 00:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<42.0	ug/kg	42.0	16.8	1	08/14/20 11:57	08/18/20 00:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<42.0	ug/kg	42.0	14.3	1	08/14/20 11:57	08/18/20 00:41	53469-21-9	
PCB-1248 (Aroclor 1248)	18300	ug/kg	4200	1260	100	08/14/20 11:57	08/24/20 14:05	12672-29-6	
PCB-1254 (Aroclor 1254)	<42.0	ug/kg	42.0	12.4	1	08/14/20 11:57	08/18/20 00:41	11097-69-1	
PCB-1260 (Aroclor 1260)	5680	ug/kg	4200	1000	100	08/14/20 11:57	08/24/20 14:05	11096-82-5	
PCB-1262 (Aroclor 1262)	<42.0	ug/kg	42.0	14.5	1	08/14/20 11:57	08/18/20 00:41	37324-23-5	
PCB-1268 (Aroclor 1268)	1650	ug/kg	42.0	13.6	1	08/14/20 11:57	08/18/20 00:41	11100-14-4	
PCB, Total	25600	ug/kg	4200	1000	100	08/14/20 11:57	08/24/20 14:05	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	100	%	46-146		1	08/14/20 11:57	08/18/20 00:41	877-09-8	
Decachlorobiphenyl (S)	98	%	48-139		1	08/14/20 11:57	08/18/20 00:41	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	21.8	%	0.10	0.10	1		08/24/20 17:05		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-130-0-0.3 **Lab ID: 10528450024** Collected: 08/12/20 15:35 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<112	ug/kg	112	31.2	1	08/14/20 13:35	08/16/20 19:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<112	ug/kg	112	39.4	1	08/14/20 13:35	08/16/20 19:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<112	ug/kg	112	44.8	1	08/14/20 13:35	08/16/20 19:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<112	ug/kg	112	38.1	1	08/14/20 13:35	08/16/20 19:09	53469-21-9	
PCB-1248 (Aroclor 1248)	132	ug/kg	112	33.6	1	08/14/20 13:35	08/16/20 19:09	12672-29-6	
PCB-1254 (Aroclor 1254)	<112	ug/kg	112	33.0	1	08/14/20 13:35	08/16/20 19:09	11097-69-1	
PCB-1260 (Aroclor 1260)	569	ug/kg	112	26.8	1	08/14/20 13:35	08/16/20 19:09	11096-82-5	
PCB-1262 (Aroclor 1262)	<112	ug/kg	112	38.7	1	08/14/20 13:35	08/16/20 19:09	37324-23-5	
PCB-1268 (Aroclor 1268)	<112	ug/kg	112	36.4	1	08/14/20 13:35	08/16/20 19:09	11100-14-4	
PCB, Total	701	ug/kg	112	26.8	1	08/14/20 13:35	08/16/20 19:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	46-146		1	08/14/20 13:35	08/16/20 19:09	877-09-8	
Decachlorobiphenyl (S)	70	%	48-139		1	08/14/20 13:35	08/16/20 19:09	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	70.6	%	0.10	0.10	1		08/24/20 17:05		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-130-0.3-0.61 **Lab ID: 10528450025** Collected: 08/12/20 15:40 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<99.5	ug/kg	99.5	27.7	1	08/14/20 11:57	08/24/20 12:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<99.5	ug/kg	99.5	35.0	1	08/14/20 11:57	08/24/20 12:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<99.5	ug/kg	99.5	39.8	1	08/14/20 11:57	08/24/20 12:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<99.5	ug/kg	99.5	33.8	1	08/14/20 11:57	08/24/20 12:46	53469-21-9	
PCB-1248 (Aroclor 1248)	<99.5	ug/kg	99.5	29.8	1	08/14/20 11:57	08/24/20 12:46	12672-29-6	
PCB-1254 (Aroclor 1254)	<99.5	ug/kg	99.5	29.3	1	08/14/20 11:57	08/24/20 12:46	11097-69-1	
PCB-1260 (Aroclor 1260)	37.3J	ug/kg	99.5	23.8	1	08/14/20 11:57	08/24/20 12:46	11096-82-5	
PCB-1262 (Aroclor 1262)	<99.5	ug/kg	99.5	34.4	1	08/14/20 11:57	08/24/20 12:46	37324-23-5	
PCB-1268 (Aroclor 1268)	<99.5	ug/kg	99.5	32.3	1	08/14/20 11:57	08/24/20 12:46	11100-14-4	
PCB, Total	37.3J	ug/kg	99.5	23.8	1	08/14/20 11:57	08/24/20 12:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	46-146		1	08/14/20 11:57	08/24/20 12:46	877-09-8	
Decachlorobiphenyl (S)	78	%	48-139		1	08/14/20 11:57	08/24/20 12:46	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	67.1	%	0.10	0.10	1		08/24/20 15:04		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-003-0-0.3 **Lab ID: 10528450026** Collected: 08/12/20 15:45 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<129	ug/kg	129	35.9	1	08/14/20 13:35	08/16/20 19:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<129	ug/kg	129	45.3	1	08/14/20 13:35	08/16/20 19:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<129	ug/kg	129	51.5	1	08/14/20 13:35	08/16/20 19:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<129	ug/kg	129	43.7	1	08/14/20 13:35	08/16/20 19:56	53469-21-9	
PCB-1248 (Aroclor 1248)	332	ug/kg	129	38.7	1	08/14/20 13:35	08/16/20 19:56	12672-29-6	
PCB-1254 (Aroclor 1254)	<129	ug/kg	129	37.9	1	08/14/20 13:35	08/16/20 19:56	11097-69-1	
PCB-1260 (Aroclor 1260)	1210	ug/kg	129	30.8	1	08/14/20 13:35	08/16/20 19:56	11096-82-5	
PCB-1262 (Aroclor 1262)	<129	ug/kg	129	44.5	1	08/14/20 13:35	08/16/20 19:56	37324-23-5	
PCB-1268 (Aroclor 1268)	346	ug/kg	129	41.8	1	08/14/20 13:35	08/16/20 19:56	11100-14-4	
PCB, Total	1880	ug/kg	129	30.8	1	08/14/20 13:35	08/16/20 19:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	91	%	46-146		1	08/14/20 13:35	08/16/20 19:56	877-09-8	
Decachlorobiphenyl (S)	82	%	48-139		1	08/14/20 13:35	08/16/20 19:56	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	74.4	%	0.10	0.10	1		08/24/20 15:07		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-131-0-0.15 **Lab ID: 10528450027** Collected: 08/12/20 10:30 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<69.6	ug/kg	69.6	19.4	1	08/14/20 13:35	08/16/20 20:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<69.6	ug/kg	69.6	24.5	1	08/14/20 13:35	08/16/20 20:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<69.6	ug/kg	69.6	27.8	1	08/14/20 13:35	08/16/20 20:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<69.6	ug/kg	69.6	23.6	1	08/14/20 13:35	08/16/20 20:12	53469-21-9	
PCB-1248 (Aroclor 1248)	<69.6	ug/kg	69.6	20.9	1	08/14/20 13:35	08/16/20 20:12	12672-29-6	
PCB-1254 (Aroclor 1254)	<69.6	ug/kg	69.6	20.5	1	08/14/20 13:35	08/16/20 20:12	11097-69-1	
PCB-1260 (Aroclor 1260)	1450	ug/kg	69.6	16.6	1	08/14/20 13:35	08/16/20 20:12	11096-82-5	
PCB-1262 (Aroclor 1262)	<69.6	ug/kg	69.6	24.0	1	08/14/20 13:35	08/16/20 20:12	37324-23-5	
PCB-1268 (Aroclor 1268)	321	ug/kg	69.6	22.6	1	08/14/20 13:35	08/16/20 20:12	11100-14-4	
PCB, Total	1770	ug/kg	69.6	16.6	1	08/14/20 13:35	08/16/20 20:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	94	%	46-146		1	08/14/20 13:35	08/16/20 20:12	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	08/14/20 13:35	08/16/20 20:12	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	53.0	%	0.10	0.10	1		08/24/20 15:07		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10528450

Sample: BW20ML-131-0.15-0.4 **Lab ID: 10528450028** Collected: 08/12/20 10:35 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<41.2	ug/kg	41.2	11.5	1	08/14/20 13:35	08/16/20 20:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<41.2	ug/kg	41.2	14.5	1	08/14/20 13:35	08/16/20 20:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<41.2	ug/kg	41.2	16.5	1	08/14/20 13:35	08/16/20 20:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<41.2	ug/kg	41.2	14.0	1	08/14/20 13:35	08/16/20 20:28	53469-21-9	
PCB-1248 (Aroclor 1248)	<41.2	ug/kg	41.2	12.4	1	08/14/20 13:35	08/16/20 20:28	12672-29-6	
PCB-1254 (Aroclor 1254)	<41.2	ug/kg	41.2	12.1	1	08/14/20 13:35	08/16/20 20:28	11097-69-1	
PCB-1260 (Aroclor 1260)	186	ug/kg	41.2	9.9	1	08/14/20 13:35	08/16/20 20:28	11096-82-5	
PCB-1262 (Aroclor 1262)	<41.2	ug/kg	41.2	14.2	1	08/14/20 13:35	08/16/20 20:28	37324-23-5	
PCB-1268 (Aroclor 1268)	<41.2	ug/kg	41.2	13.4	1	08/14/20 13:35	08/16/20 20:28	11100-14-4	
PCB, Total	186	ug/kg	41.2	9.9	1	08/14/20 13:35	08/16/20 20:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	91	%	46-146		1	08/14/20 13:35	08/16/20 20:28	877-09-8	
Decachlorobiphenyl (S)	86	%	48-139		1	08/14/20 13:35	08/16/20 20:28	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	20.6	%	0.10	0.10	1		08/24/20 15:07		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-132-0-0.27 **Lab ID: 10528450030** Collected: 08/12/20 16:00 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<44.8	ug/kg	44.8	12.5	1	08/14/20 13:35	08/16/20 20:44	12674-11-2	
PCB-1221 (Aroclor 1221)	<44.8	ug/kg	44.8	15.8	1	08/14/20 13:35	08/16/20 20:44	11104-28-2	
PCB-1232 (Aroclor 1232)	<44.8	ug/kg	44.8	17.9	1	08/14/20 13:35	08/16/20 20:44	11141-16-5	
PCB-1242 (Aroclor 1242)	<44.8	ug/kg	44.8	15.2	1	08/14/20 13:35	08/16/20 20:44	53469-21-9	
PCB-1248 (Aroclor 1248)	<44.8	ug/kg	44.8	13.5	1	08/14/20 13:35	08/16/20 20:44	12672-29-6	
PCB-1254 (Aroclor 1254)	<44.8	ug/kg	44.8	13.2	1	08/14/20 13:35	08/16/20 20:44	11097-69-1	
PCB-1260 (Aroclor 1260)	93.7	ug/kg	44.8	10.7	1	08/14/20 13:35	08/16/20 20:44	11096-82-5	
PCB-1262 (Aroclor 1262)	<44.8	ug/kg	44.8	15.5	1	08/14/20 13:35	08/16/20 20:44	37324-23-5	
PCB-1268 (Aroclor 1268)	<44.8	ug/kg	44.8	14.5	1	08/14/20 13:35	08/16/20 20:44	11100-14-4	
PCB, Total	93.7	ug/kg	44.8	10.7	1	08/14/20 13:35	08/16/20 20:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	96	%	46-146		1	08/14/20 13:35	08/16/20 20:44	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	08/14/20 13:35	08/16/20 20:44	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	26.9	%	0.10	0.10	1		08/24/20 15:07		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-132-0.27-0.37 **Lab ID: 10528450031** Collected: 08/12/20 16:05 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<42.8	ug/kg	42.8	11.9	1	08/14/20 13:35	08/16/20 21:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<42.8	ug/kg	42.8	15.0	1	08/14/20 13:35	08/16/20 21:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<42.8	ug/kg	42.8	17.1	1	08/14/20 13:35	08/16/20 21:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<42.8	ug/kg	42.8	14.5	1	08/14/20 13:35	08/16/20 21:00	53469-21-9	
PCB-1248 (Aroclor 1248)	<42.8	ug/kg	42.8	12.8	1	08/14/20 13:35	08/16/20 21:00	12672-29-6	
PCB-1254 (Aroclor 1254)	<42.8	ug/kg	42.8	12.6	1	08/14/20 13:35	08/16/20 21:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<42.8	ug/kg	42.8	10.2	1	08/14/20 13:35	08/16/20 21:00	11096-82-5	
PCB-1262 (Aroclor 1262)	<42.8	ug/kg	42.8	14.8	1	08/14/20 13:35	08/16/20 21:00	37324-23-5	
PCB-1268 (Aroclor 1268)	<42.8	ug/kg	42.8	13.9	1	08/14/20 13:35	08/16/20 21:00	11100-14-4	
PCB, Total	<42.8	ug/kg	42.8	10.2	1	08/14/20 13:35	08/16/20 21:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	97	%	46-146		1	08/14/20 13:35	08/16/20 21:00	877-09-8	
Decachlorobiphenyl (S)	93	%	48-139		1	08/14/20 13:35	08/16/20 21:00	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	23.2	%	0.10	0.10	1		08/24/20 15:07		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-004-0-0.27 **Lab ID: 10528450032** Collected: 08/12/20 16:10 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<43.2	ug/kg	43.2	12.0	1	08/14/20 13:35	08/16/20 21:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<43.2	ug/kg	43.2	15.2	1	08/14/20 13:35	08/16/20 21:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<43.2	ug/kg	43.2	17.3	1	08/14/20 13:35	08/16/20 21:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<43.2	ug/kg	43.2	14.6	1	08/14/20 13:35	08/16/20 21:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<43.2	ug/kg	43.2	12.9	1	08/14/20 13:35	08/16/20 21:47	12672-29-6	
PCB-1254 (Aroclor 1254)	<43.2	ug/kg	43.2	12.7	1	08/14/20 13:35	08/16/20 21:47	11097-69-1	
PCB-1260 (Aroclor 1260)	133	ug/kg	43.2	10.3	1	08/14/20 13:35	08/16/20 21:47	11096-82-5	
PCB-1262 (Aroclor 1262)	<43.2	ug/kg	43.2	14.9	1	08/14/20 13:35	08/16/20 21:47	37324-23-5	
PCB-1268 (Aroclor 1268)	<43.2	ug/kg	43.2	14.0	1	08/14/20 13:35	08/16/20 21:47	11100-14-4	
PCB, Total	133	ug/kg	43.2	10.3	1	08/14/20 13:35	08/16/20 21:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	94	%	46-146		1	08/14/20 13:35	08/16/20 21:47	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	08/14/20 13:35	08/16/20 21:47	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	24.0	%	0.10	0.10	1		08/24/20 15:08		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-136-0-0.15 **Lab ID: 10528450033** Collected: 08/12/20 16:20 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<64.9	ug/kg	64.9	18.1	1	08/14/20 13:35	08/16/20 22:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<64.9	ug/kg	64.9	22.8	1	08/14/20 13:35	08/16/20 22:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<64.9	ug/kg	64.9	26.0	1	08/14/20 13:35	08/16/20 22:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<64.9	ug/kg	64.9	22.0	1	08/14/20 13:35	08/16/20 22:03	53469-21-9	
PCB-1248 (Aroclor 1248)	215	ug/kg	64.9	19.5	1	08/14/20 13:35	08/16/20 22:03	12672-29-6	
PCB-1254 (Aroclor 1254)	<64.9	ug/kg	64.9	19.1	1	08/14/20 13:35	08/16/20 22:03	11097-69-1	
PCB-1260 (Aroclor 1260)	809	ug/kg	64.9	15.5	1	08/14/20 13:35	08/16/20 22:03	11096-82-5	
PCB-1262 (Aroclor 1262)	<64.9	ug/kg	64.9	22.4	1	08/14/20 13:35	08/16/20 22:03	37324-23-5	
PCB-1268 (Aroclor 1268)	237	ug/kg	64.9	21.0	1	08/14/20 13:35	08/16/20 22:03	11100-14-4	
PCB, Total	1260	ug/kg	64.9	15.5	1	08/14/20 13:35	08/16/20 22:03	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	92	%	46-146		1	08/14/20 13:35	08/16/20 22:03	877-09-8	
Decachlorobiphenyl (S)	85	%	48-139		1	08/14/20 13:35	08/16/20 22:03	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	49.9	%	0.10	0.10	1		08/24/20 15:08		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: **BW20ML-136-0.15-0.45** Lab ID: **10528450034** Collected: 08/12/20 16:25 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<63.4	ug/kg	63.4	17.7	1	08/14/20 13:35	08/16/20 22:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<63.4	ug/kg	63.4	22.3	1	08/14/20 13:35	08/16/20 22:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<63.4	ug/kg	63.4	25.4	1	08/14/20 13:35	08/16/20 22:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<63.4	ug/kg	63.4	21.5	1	08/14/20 13:35	08/16/20 22:19	53469-21-9	
PCB-1248 (Aroclor 1248)	<63.4	ug/kg	63.4	19.0	1	08/14/20 13:35	08/16/20 22:19	12672-29-6	
PCB-1254 (Aroclor 1254)	<63.4	ug/kg	63.4	18.7	1	08/14/20 13:35	08/16/20 22:19	11097-69-1	
PCB-1260 (Aroclor 1260)	<63.4	ug/kg	63.4	15.2	1	08/14/20 13:35	08/16/20 22:19	11096-82-5	
PCB-1262 (Aroclor 1262)	<63.4	ug/kg	63.4	21.9	1	08/14/20 13:35	08/16/20 22:19	37324-23-5	
PCB-1268 (Aroclor 1268)	<63.4	ug/kg	63.4	20.6	1	08/14/20 13:35	08/16/20 22:19	11100-14-4	
PCB, Total	<63.4	ug/kg	63.4	15.2	1	08/14/20 13:35	08/16/20 22:19	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	94	%	46-146		1	08/14/20 13:35	08/16/20 22:19	877-09-8	
Decachlorobiphenyl (S)	83	%	48-139		1	08/14/20 13:35	08/16/20 22:19	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	48.1	%	0.10	0.10	1		08/24/20 15:08		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-138-0-0.15 **Lab ID: 10528450036** Collected: 08/12/20 09:45 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<44.6	ug/kg	44.6	12.4	1	08/14/20 13:35	08/16/20 22:35	12674-11-2	
PCB-1221 (Aroclor 1221)	<44.6	ug/kg	44.6	15.7	1	08/14/20 13:35	08/16/20 22:35	11104-28-2	
PCB-1232 (Aroclor 1232)	<44.6	ug/kg	44.6	17.9	1	08/14/20 13:35	08/16/20 22:35	11141-16-5	
PCB-1242 (Aroclor 1242)	<44.6	ug/kg	44.6	15.2	1	08/14/20 13:35	08/16/20 22:35	53469-21-9	
PCB-1248 (Aroclor 1248)	<44.6	ug/kg	44.6	13.4	1	08/14/20 13:35	08/16/20 22:35	12672-29-6	
PCB-1254 (Aroclor 1254)	<44.6	ug/kg	44.6	13.1	1	08/14/20 13:35	08/16/20 22:35	11097-69-1	
PCB-1260 (Aroclor 1260)	63.1	ug/kg	44.6	10.7	1	08/14/20 13:35	08/16/20 22:35	11096-82-5	
PCB-1262 (Aroclor 1262)	<44.6	ug/kg	44.6	15.4	1	08/14/20 13:35	08/16/20 22:35	37324-23-5	
PCB-1268 (Aroclor 1268)	<44.6	ug/kg	44.6	14.5	1	08/14/20 13:35	08/16/20 22:35	11100-14-4	
PCB, Total	63.1	ug/kg	44.6	10.7	1	08/14/20 13:35	08/16/20 22:35	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	94	%	46-146		1	08/14/20 13:35	08/16/20 22:35	877-09-8	
Decachlorobiphenyl (S)	90	%	48-139		1	08/14/20 13:35	08/16/20 22:35	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	27.2	%	0.10	0.10	1		08/24/20 15:08		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: **BW20ML-138-0.15-0.25** Lab ID: **10528450037** Collected: 08/12/20 09:55 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<43.5	ug/kg	43.5	12.1	1	08/14/20 13:35	08/16/20 22:51	12674-11-2	
PCB-1221 (Aroclor 1221)	<43.5	ug/kg	43.5	15.3	1	08/14/20 13:35	08/16/20 22:51	11104-28-2	
PCB-1232 (Aroclor 1232)	<43.5	ug/kg	43.5	17.4	1	08/14/20 13:35	08/16/20 22:51	11141-16-5	
PCB-1242 (Aroclor 1242)	<43.5	ug/kg	43.5	14.8	1	08/14/20 13:35	08/16/20 22:51	53469-21-9	
PCB-1248 (Aroclor 1248)	<43.5	ug/kg	43.5	13.1	1	08/14/20 13:35	08/16/20 22:51	12672-29-6	
PCB-1254 (Aroclor 1254)	<43.5	ug/kg	43.5	12.8	1	08/14/20 13:35	08/16/20 22:51	11097-69-1	
PCB-1260 (Aroclor 1260)	25.5J	ug/kg	43.5	10.4	1	08/14/20 13:35	08/16/20 22:51	11096-82-5	
PCB-1262 (Aroclor 1262)	<43.5	ug/kg	43.5	15.0	1	08/14/20 13:35	08/16/20 22:51	37324-23-5	
PCB-1268 (Aroclor 1268)	<43.5	ug/kg	43.5	14.1	1	08/14/20 13:35	08/16/20 22:51	11100-14-4	
PCB, Total	25.5J	ug/kg	43.5	10.4	1	08/14/20 13:35	08/16/20 22:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	98	%	46-146		1	08/14/20 13:35	08/16/20 22:51	877-09-8	
Decachlorobiphenyl (S)	95	%	48-139		1	08/14/20 13:35	08/16/20 22:51	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	25.3	%	0.10	0.10	1		08/24/20 15:08		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-139-0-0.1 **Lab ID: 10528450039** Collected: 08/12/20 16:55 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<49.1	ug/kg	49.1	13.7	1	08/14/20 13:35	08/16/20 23:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<49.1	ug/kg	49.1	17.3	1	08/14/20 13:35	08/16/20 23:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<49.1	ug/kg	49.1	19.6	1	08/14/20 13:35	08/16/20 23:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<49.1	ug/kg	49.1	16.7	1	08/14/20 13:35	08/16/20 23:06	53469-21-9	
PCB-1248 (Aroclor 1248)	196	ug/kg	49.1	14.7	1	08/14/20 13:35	08/16/20 23:06	12672-29-6	
PCB-1254 (Aroclor 1254)	<49.1	ug/kg	49.1	14.4	1	08/14/20 13:35	08/16/20 23:06	11097-69-1	
PCB-1260 (Aroclor 1260)	310	ug/kg	49.1	11.7	1	08/14/20 13:35	08/16/20 23:06	11096-82-5	
PCB-1262 (Aroclor 1262)	<49.1	ug/kg	49.1	17.0	1	08/14/20 13:35	08/16/20 23:06	37324-23-5	
PCB-1268 (Aroclor 1268)	86.6	ug/kg	49.1	15.9	1	08/14/20 13:35	08/16/20 23:06	11100-14-4	
PCB, Total	593	ug/kg	49.1	11.7	1	08/14/20 13:35	08/16/20 23:06	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88	%	46-146		1	08/14/20 13:35	08/16/20 23:06	877-09-8	
Decachlorobiphenyl (S)	83	%	48-139		1	08/14/20 13:35	08/16/20 23:06	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	33.7	%	0.10	0.10	1		08/24/20 15:09		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-139-0.1-0.36 **Lab ID: 10528450040** Collected: 08/12/20 17:00 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<45.8	ug/kg	45.8	12.8	1	08/14/20 13:35	08/16/20 23:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<45.8	ug/kg	45.8	16.1	1	08/14/20 13:35	08/16/20 23:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<45.8	ug/kg	45.8	18.3	1	08/14/20 13:35	08/16/20 23:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<45.8	ug/kg	45.8	15.5	1	08/14/20 13:35	08/16/20 23:22	53469-21-9	
PCB-1248 (Aroclor 1248)	<45.8	ug/kg	45.8	13.7	1	08/14/20 13:35	08/16/20 23:22	12672-29-6	
PCB-1254 (Aroclor 1254)	<45.8	ug/kg	45.8	13.5	1	08/14/20 13:35	08/16/20 23:22	11097-69-1	
PCB-1260 (Aroclor 1260)	<45.8	ug/kg	45.8	11.0	1	08/14/20 13:35	08/16/20 23:22	11096-82-5	
PCB-1262 (Aroclor 1262)	<45.8	ug/kg	45.8	15.8	1	08/14/20 13:35	08/16/20 23:22	37324-23-5	
PCB-1268 (Aroclor 1268)	<45.8	ug/kg	45.8	14.9	1	08/14/20 13:35	08/16/20 23:22	11100-14-4	
PCB, Total	<45.8	ug/kg	45.8	11.0	1	08/14/20 13:35	08/16/20 23:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	96	%	46-146		1	08/14/20 13:35	08/16/20 23:22	877-09-8	
Decachlorobiphenyl (S)	89	%	48-139		1	08/14/20 13:35	08/16/20 23:22	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	28.6	%	0.10	0.10	1		08/24/20 15:09		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-142-0-0.3 **Lab ID: 10528450042** Collected: 08/12/20 15:10 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<40.9	ug/kg	40.9	11.4	1	08/14/20 13:35	08/16/20 23:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<40.9	ug/kg	40.9	14.4	1	08/14/20 13:35	08/16/20 23:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<40.9	ug/kg	40.9	16.4	1	08/14/20 13:35	08/16/20 23:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<40.9	ug/kg	40.9	13.9	1	08/14/20 13:35	08/16/20 23:38	53469-21-9	
PCB-1248 (Aroclor 1248)	22.8J	ug/kg	40.9	12.3	1	08/14/20 13:35	08/16/20 23:38	12672-29-6	
PCB-1254 (Aroclor 1254)	<40.9	ug/kg	40.9	12.0	1	08/14/20 13:35	08/16/20 23:38	11097-69-1	
PCB-1260 (Aroclor 1260)	1790	ug/kg	81.8	19.6	2	08/14/20 13:35	08/21/20 16:51	11096-82-5	
PCB-1262 (Aroclor 1262)	<40.9	ug/kg	40.9	14.1	1	08/14/20 13:35	08/16/20 23:38	37324-23-5	
PCB-1268 (Aroclor 1268)	414	ug/kg	40.9	13.3	1	08/14/20 13:35	08/16/20 23:38	11100-14-4	
PCB, Total	2220	ug/kg	81.8	19.6	2	08/14/20 13:35	08/21/20 16:51	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	101	%	46-146		1	08/14/20 13:35	08/16/20 23:38	877-09-8	
Decachlorobiphenyl (S)	97	%	48-139		1	08/14/20 13:35	08/16/20 23:38	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	19.9	%	0.10	0.10	1		08/24/20 15:09		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10528450

Sample: BW20ML-142-0.45-0.91 **Lab ID: 10528450043** Collected: 08/12/20 15:15 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<40.4	ug/kg	40.4	11.3	1	08/14/20 13:35	08/16/20 23:54	12674-11-2	
PCB-1221 (Aroclor 1221)	<40.4	ug/kg	40.4	14.2	1	08/14/20 13:35	08/16/20 23:54	11104-28-2	
PCB-1232 (Aroclor 1232)	<40.4	ug/kg	40.4	16.2	1	08/14/20 13:35	08/16/20 23:54	11141-16-5	
PCB-1242 (Aroclor 1242)	<40.4	ug/kg	40.4	13.7	1	08/14/20 13:35	08/16/20 23:54	53469-21-9	
PCB-1248 (Aroclor 1248)	562	ug/kg	40.4	12.1	1	08/14/20 13:35	08/16/20 23:54	12672-29-6	
PCB-1254 (Aroclor 1254)	<40.4	ug/kg	40.4	11.9	1	08/14/20 13:35	08/16/20 23:54	11097-69-1	
PCB-1260 (Aroclor 1260)	1600	ug/kg	40.4	9.7	1	08/14/20 13:35	08/16/20 23:54	11096-82-5	
PCB-1262 (Aroclor 1262)	<40.4	ug/kg	40.4	14.0	1	08/14/20 13:35	08/16/20 23:54	37324-23-5	
PCB-1268 (Aroclor 1268)	401	ug/kg	40.4	13.1	1	08/14/20 13:35	08/16/20 23:54	11100-14-4	
PCB, Total	2560	ug/kg	40.4	9.7	1	08/14/20 13:35	08/16/20 23:54	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	102	%	46-146		1	08/14/20 13:35	08/16/20 23:54	877-09-8	
Decachlorobiphenyl (S)	97	%	48-139		1	08/14/20 13:35	08/16/20 23:54	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	18.7	%	0.10	0.10	1		08/24/20 15:09		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-142-1.0-1.2 **Lab ID:** 10528450044 Collected: 08/12/20 15:20 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<41.0	ug/kg	41.0	11.4	1	08/14/20 13:35	08/17/20 00:10	12674-11-2	
PCB-1221 (Aroclor 1221)	<41.0	ug/kg	41.0	14.4	1	08/14/20 13:35	08/17/20 00:10	11104-28-2	
PCB-1232 (Aroclor 1232)	<41.0	ug/kg	41.0	16.4	1	08/14/20 13:35	08/17/20 00:10	11141-16-5	
PCB-1242 (Aroclor 1242)	<41.0	ug/kg	41.0	13.9	1	08/14/20 13:35	08/17/20 00:10	53469-21-9	
PCB-1248 (Aroclor 1248)	34000	ug/kg	2050	615	50	08/14/20 13:35	08/21/20 17:07	12672-29-6	
PCB-1254 (Aroclor 1254)	<41.0	ug/kg	41.0	12.1	1	08/14/20 13:35	08/17/20 00:10	11097-69-1	
PCB-1260 (Aroclor 1260)	22700	ug/kg	2050	490	50	08/14/20 13:35	08/21/20 17:07	11096-82-5	
PCB-1262 (Aroclor 1262)	<41.0	ug/kg	41.0	14.2	1	08/14/20 13:35	08/17/20 00:10	37324-23-5	
PCB-1268 (Aroclor 1268)	7420	ug/kg	2050	664	50	08/14/20 13:35	08/21/20 17:07	11100-14-4	
PCB, Total	64100	ug/kg	2050	490	50	08/14/20 13:35	08/21/20 17:07	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	93	%	46-146		1	08/14/20 13:35	08/17/20 00:10	877-09-8	
Decachlorobiphenyl (S)	95	%	48-139		1	08/14/20 13:35	08/17/20 00:10	2051-24-3	
WIDRO GCS									
Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO									
Pace Analytical Services - Minneapolis									
WDRO C10-C28	58.2	mg/kg	10.7	2.9	1	08/14/20 12:06	08/15/20 19:45		T6
Surrogates									
n-Triacontane (S)	79	%	50-150		1	08/14/20 12:06	08/15/20 19:45	638-68-6	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	20.3	%	0.10	0.10	1		08/24/20 15:09		N2
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C									
Pace Analytical Services - Minneapolis									
Acenaphthene	<12.5	ug/kg	12.5	0.56	1	08/16/20 11:44	08/17/20 18:26	83-32-9	
Acenaphthylene	<12.5	ug/kg	12.5	0.86	1	08/16/20 11:44	08/17/20 18:26	208-96-8	
Anthracene	6.0J	ug/kg	12.5	0.40	1	08/16/20 11:44	08/17/20 18:26	120-12-7	
Benzo(a)anthracene	18.7	ug/kg	12.5	0.52	1	08/16/20 11:44	08/17/20 18:26	56-55-3	
Benzo(a)pyrene	19.7	ug/kg	12.5	0.70	1	08/16/20 11:44	08/17/20 18:26	50-32-8	
Benzo(b)fluoranthene	26.0	ug/kg	12.5	0.58	1	08/16/20 11:44	08/17/20 18:26	205-99-2	
Benzo(g,h,i)perylene	14.2	ug/kg	12.5	0.58	1	08/16/20 11:44	08/17/20 18:26	191-24-2	
Benzo(k)fluoranthene	11.4J	ug/kg	12.5	0.60	1	08/16/20 11:44	08/17/20 18:26	207-08-9	
Chrysene	20.9	ug/kg	12.5	0.50	1	08/16/20 11:44	08/17/20 18:26	218-01-9	
Dibenz(a,h)anthracene	3.7J	ug/kg	12.5	0.82	1	08/16/20 11:44	08/17/20 18:26	53-70-3	
Fluoranthene	37.9	ug/kg	12.5	0.76	1	08/16/20 11:44	08/17/20 18:26	206-44-0	
Fluorene	5.6J	ug/kg	12.5	0.75	1	08/16/20 11:44	08/17/20 18:26	86-73-7	
Indeno(1,2,3-cd)pyrene	11.3J	ug/kg	12.5	0.67	1	08/16/20 11:44	08/17/20 18:26	193-39-5	
Naphthalene	5.4J	ug/kg	12.5	0.56	1	08/16/20 11:44	08/17/20 18:26	91-20-3	
Phenanthrene	15.9	ug/kg	12.5	0.88	1	08/16/20 11:44	08/17/20 18:26	85-01-8	
Pyrene	31.5	ug/kg	12.5	0.81	1	08/16/20 11:44	08/17/20 18:26	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%	30-138		1	08/16/20 11:44	08/17/20 18:26	321-60-8	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-142-1.0-1.2 **Lab ID:** 10528450044 Collected: 08/12/20 15:20 Received: 08/13/20 19:30 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
8270E MSSV PAH by SIM									
Analytical Method: EPA 8270E by SIM Preparation Method: EPA 3550C									
Pace Analytical Services - Minneapolis									
Surrogates									
p-Terphenyl-d14 (S)	79	%	30-143		1	08/16/20 11:44	08/17/20 18:26	1718-51-0	
8260D MSV 5030 Med Level									
Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B									
Pace Analytical Services - Minneapolis									
Acetone	<1500	ug/kg	1500	710	1	08/26/20 09:38	08/26/20 16:23	67-64-1	
Allyl chloride	<301	ug/kg	301	60.9	1	08/26/20 09:38	08/26/20 16:23	107-05-1	
Benzene	<30.1	ug/kg	30.1	13.8	1	08/26/20 09:38	08/26/20 16:23	71-43-2	
Bromobenzene	<75.2	ug/kg	75.2	9.9	1	08/26/20 09:38	08/26/20 16:23	108-86-1	
Bromochloromethane	<75.2	ug/kg	75.2	37.2	1	08/26/20 09:38	08/26/20 16:23	74-97-5	
Bromodichloromethane	<75.2	ug/kg	75.2	23.9	1	08/26/20 09:38	08/26/20 16:23	75-27-4	
Bromoform	<301	ug/kg	301	99.6	1	08/26/20 09:38	08/26/20 16:23	75-25-2	4M
Bromomethane	<752	ug/kg	752	141	1	08/26/20 09:38	08/26/20 16:23	74-83-9	6M
2-Butanone (MEK)	<376	ug/kg	376	46.9	1	08/26/20 09:38	08/26/20 16:23	78-93-3	
n-Butylbenzene	<75.2	ug/kg	75.2	16.6	1	08/26/20 09:38	08/26/20 16:23	104-51-8	
sec-Butylbenzene	<75.2	ug/kg	75.2	33.0	1	08/26/20 09:38	08/26/20 16:23	135-98-8	
tert-Butylbenzene	<75.2	ug/kg	75.2	23.3	1	08/26/20 09:38	08/26/20 16:23	98-06-6	
Carbon tetrachloride	<75.2	ug/kg	75.2	36.6	1	08/26/20 09:38	08/26/20 16:23	56-23-5	
Chlorobenzene	282	ug/kg	75.2	12.4	1	08/26/20 09:38	08/26/20 16:23	108-90-7	
Chloroethane	<752	ug/kg	752	119	1	08/26/20 09:38	08/26/20 16:23	75-00-3	2M
Chloroform	<75.2	ug/kg	75.2	33.1	1	08/26/20 09:38	08/26/20 16:23	67-66-3	
Chloromethane	<301	ug/kg	301	40.9	1	08/26/20 09:38	08/26/20 16:23	74-87-3	
2-Chlorotoluene	<75.2	ug/kg	75.2	18.5	1	08/26/20 09:38	08/26/20 16:23	95-49-8	
4-Chlorotoluene	<75.2	ug/kg	75.2	9.6	1	08/26/20 09:38	08/26/20 16:23	106-43-4	
1,2-Dibromo-3-chloropropane	<752	ug/kg	752	178	1	08/26/20 09:38	08/26/20 16:23	96-12-8	4M
Dibromochloromethane	<301	ug/kg	301	25.4	1	08/26/20 09:38	08/26/20 16:23	124-48-1	
1,2-Dibromoethane (EDB)	<75.2	ug/kg	75.2	26.3	1	08/26/20 09:38	08/26/20 16:23	106-93-4	
Dibromomethane	<75.2	ug/kg	75.2	32.8	1	08/26/20 09:38	08/26/20 16:23	74-95-3	
1,2-Dichlorobenzene	<75.2	ug/kg	75.2	14.2	1	08/26/20 09:38	08/26/20 16:23	95-50-1	
1,3-Dichlorobenzene	<75.2	ug/kg	75.2	9.3	1	08/26/20 09:38	08/26/20 16:23	541-73-1	
1,4-Dichlorobenzene	131	ug/kg	75.2	11.9	1	08/26/20 09:38	08/26/20 16:23	106-46-7	
Dichlorodifluoromethane	<301	ug/kg	301	40.0	1	08/26/20 09:38	08/26/20 16:23	75-71-8	
1,1-Dichloroethane	<75.2	ug/kg	75.2	33.9	1	08/26/20 09:38	08/26/20 16:23	75-34-3	
1,2-Dichloroethane	<75.2	ug/kg	75.2	28.7	1	08/26/20 09:38	08/26/20 16:23	107-06-2	
1,1-Dichloroethene	<75.2	ug/kg	75.2	26.9	1	08/26/20 09:38	08/26/20 16:23	75-35-4	
cis-1,2-Dichloroethene	<75.2	ug/kg	75.2	20.9	1	08/26/20 09:38	08/26/20 16:23	156-59-2	
trans-1,2-Dichloroethene	<75.2	ug/kg	75.2	34.5	1	08/26/20 09:38	08/26/20 16:23	156-60-5	
Dichlorofluoromethane	<752	ug/kg	752	209	1	08/26/20 09:38	08/26/20 16:23	75-43-4	2M
1,2-Dichloropropane	<75.2	ug/kg	75.2	34.3	1	08/26/20 09:38	08/26/20 16:23	78-87-5	
1,3-Dichloropropane	<75.2	ug/kg	75.2	27.7	1	08/26/20 09:38	08/26/20 16:23	142-28-9	
2,2-Dichloropropane	<301	ug/kg	301	28.6	1	08/26/20 09:38	08/26/20 16:23	594-20-7	2M
1,1-Dichloropropene	<75.2	ug/kg	75.2	31.0	1	08/26/20 09:38	08/26/20 16:23	563-58-6	
cis-1,3-Dichloropropene	<75.2	ug/kg	75.2	7.3	1	08/26/20 09:38	08/26/20 16:23	10061-01-5	
trans-1,3-Dichloropropene	<75.2	ug/kg	75.2	9.5	1	08/26/20 09:38	08/26/20 16:23	10061-02-6	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-142-1.0-1.2 **Lab ID:** 10528450044 Collected: 08/12/20 15:20 Received: 08/13/20 19:30 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
8260D MSV 5030 Med Level									
Analytical Method: EPA 8260D Preparation Method: EPA 5035/5030B									
Pace Analytical Services - Minneapolis									
Diethyl ether (Ethyl ether)	<301	ug/kg	301	64.1	1	08/26/20 09:38	08/26/20 16:23	60-29-7	
Ethylbenzene	<75.2	ug/kg	75.2	13.3	1	08/26/20 09:38	08/26/20 16:23	100-41-4	
Hexachloro-1,3-butadiene	<376	ug/kg	376	34.0	1	08/26/20 09:38	08/26/20 16:23	87-68-3	
Isopropylbenzene (Cumene)	<75.2	ug/kg	75.2	28.4	1	08/26/20 09:38	08/26/20 16:23	98-82-8	
p-Isopropyltoluene	<75.2	ug/kg	75.2	23.8	1	08/26/20 09:38	08/26/20 16:23	99-87-6	
Methylene Chloride	<301	ug/kg	301	142	1	08/26/20 09:38	08/26/20 16:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	<376	ug/kg	376	36.0	1	08/26/20 09:38	08/26/20 16:23	108-10-1	
Methyl-tert-butyl ether	<75.2	ug/kg	75.2	15.0	1	08/26/20 09:38	08/26/20 16:23	1634-04-4	
Naphthalene	<301	ug/kg	301	84.6	1	08/26/20 09:38	08/26/20 16:23	91-20-3	
n-Propylbenzene	<75.2	ug/kg	75.2	15.8	1	08/26/20 09:38	08/26/20 16:23	103-65-1	
Styrene	<75.2	ug/kg	75.2	10.8	1	08/26/20 09:38	08/26/20 16:23	100-42-5	
1,1,1,2-Tetrachloroethane	<75.2	ug/kg	75.2	19.9	1	08/26/20 09:38	08/26/20 16:23	630-20-6	
1,1,2,2-Tetrachloroethane	<75.2	ug/kg	75.2	24.2	1	08/26/20 09:38	08/26/20 16:23	79-34-5	
Tetrachloroethene	<75.2	ug/kg	75.2	35.7	1	08/26/20 09:38	08/26/20 16:23	127-18-4	
Tetrahydrofuran	<3010	ug/kg	3010	620	1	08/26/20 09:38	08/26/20 16:23	109-99-9	4M
Toluene	<75.2	ug/kg	75.2	32.2	1	08/26/20 09:38	08/26/20 16:23	108-88-3	
1,2,3-Trichlorobenzene	<75.2	ug/kg	75.2	23.2	1	08/26/20 09:38	08/26/20 16:23	87-61-6	
1,2,4-Trichlorobenzene	<75.2	ug/kg	75.2	18.5	1	08/26/20 09:38	08/26/20 16:23	120-82-1	
1,1,1-Trichloroethane	<75.2	ug/kg	75.2	32.3	1	08/26/20 09:38	08/26/20 16:23	71-55-6	
1,1,2-Trichloroethane	<75.2	ug/kg	75.2	37.3	1	08/26/20 09:38	08/26/20 16:23	79-00-5	
Trichloroethene	<75.2	ug/kg	75.2	31.7	1	08/26/20 09:38	08/26/20 16:23	79-01-6	
Trichlorofluoromethane	<301	ug/kg	301	142	1	08/26/20 09:38	08/26/20 16:23	75-69-4	2M
1,2,3-Trichloropropane	<301	ug/kg	301	87.7	1	08/26/20 09:38	08/26/20 16:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	<301	ug/kg	301	133	1	08/26/20 09:38	08/26/20 16:23	76-13-1	
1,2,4-Trimethylbenzene	<75.2	ug/kg	75.2	33.1	1	08/26/20 09:38	08/26/20 16:23	95-63-6	
1,3,5-Trimethylbenzene	<75.2	ug/kg	75.2	24.1	1	08/26/20 09:38	08/26/20 16:23	108-67-8	
Vinyl chloride	<30.1	ug/kg	30.1	14.9	1	08/26/20 09:38	08/26/20 16:23	75-01-4	
Xylene (Total)	<226	ug/kg	226	36.3	1	08/26/20 09:38	08/26/20 16:23	1330-20-7	
m&p-Xylene	<150	ug/kg	150	23.9	1	08/26/20 09:38	08/26/20 16:23	179601-23-1	
o-Xylene	<75.2	ug/kg	75.2	36.3	1	08/26/20 09:38	08/26/20 16:23	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1	08/26/20 09:38	08/26/20 16:23	17060-07-0	1M
Toluene-d8 (S)	100	%	75-125		1	08/26/20 09:38	08/26/20 16:23	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1	08/26/20 09:38	08/26/20 16:23	460-00-4	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-143-0-0.24 **Lab ID: 10528450045** Collected: 08/12/20 16:40 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<82.0	ug/kg	82.0	22.8	1	08/14/20 13:35	08/17/20 00:26	12674-11-2	
PCB-1221 (Aroclor 1221)	<82.0	ug/kg	82.0	28.8	1	08/14/20 13:35	08/17/20 00:26	11104-28-2	
PCB-1232 (Aroclor 1232)	<82.0	ug/kg	82.0	32.8	1	08/14/20 13:35	08/17/20 00:26	11141-16-5	
PCB-1242 (Aroclor 1242)	<82.0	ug/kg	82.0	27.8	1	08/14/20 13:35	08/17/20 00:26	53469-21-9	
PCB-1248 (Aroclor 1248)	255	ug/kg	82.0	24.6	1	08/14/20 13:35	08/17/20 00:26	12672-29-6	
PCB-1254 (Aroclor 1254)	<82.0	ug/kg	82.0	24.1	1	08/14/20 13:35	08/17/20 00:26	11097-69-1	
PCB-1260 (Aroclor 1260)	218	ug/kg	82.0	19.6	1	08/14/20 13:35	08/17/20 00:26	11096-82-5	
PCB-1262 (Aroclor 1262)	<82.0	ug/kg	82.0	28.3	1	08/14/20 13:35	08/17/20 00:26	37324-23-5	
PCB-1268 (Aroclor 1268)	<82.0	ug/kg	82.0	26.6	1	08/14/20 13:35	08/17/20 00:26	11100-14-4	
PCB, Total	473	ug/kg	82.0	19.6	1	08/14/20 13:35	08/17/20 00:26	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	96	%	46-146		1	08/14/20 13:35	08/17/20 00:26	877-09-8	
Decachlorobiphenyl (S)	88	%	48-139		1	08/14/20 13:35	08/17/20 00:26	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	60.0	%	0.10	0.10	1		08/24/20 15:09		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: BW20ML-143-0.3-0.61 **Lab ID: 10528450046** Collected: 08/12/20 16:45 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<152	ug/kg	152	42.3	1	08/14/20 13:35	08/17/20 00:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<152	ug/kg	152	53.4	1	08/14/20 13:35	08/17/20 00:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<152	ug/kg	152	60.7	1	08/14/20 13:35	08/17/20 00:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<152	ug/kg	152	51.5	1	08/14/20 13:35	08/17/20 00:41	53469-21-9	
PCB-1248 (Aroclor 1248)	91.9J	ug/kg	152	45.6	1	08/14/20 13:35	08/17/20 00:41	12672-29-6	
PCB-1254 (Aroclor 1254)	<152	ug/kg	152	44.7	1	08/14/20 13:35	08/17/20 00:41	11097-69-1	
PCB-1260 (Aroclor 1260)	107J	ug/kg	152	36.3	1	08/14/20 13:35	08/17/20 00:41	11096-82-5	
PCB-1262 (Aroclor 1262)	<152	ug/kg	152	52.5	1	08/14/20 13:35	08/17/20 00:41	37324-23-5	
PCB-1268 (Aroclor 1268)	<152	ug/kg	152	49.2	1	08/14/20 13:35	08/17/20 00:41	11100-14-4	
PCB, Total	199	ug/kg	152	36.3	1	08/14/20 13:35	08/17/20 00:41	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	100	%	46-146		1	08/14/20 13:35	08/17/20 00:41	877-09-8	
Decachlorobiphenyl (S)	85	%	48-139		1	08/14/20 13:35	08/17/20 00:41	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	78.4	%	0.10	0.10	1		08/24/20 15:09		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: ML-RB01-081220 **Lab ID: 10528450048** Collected: 08/12/20 08:00 Received: 08/13/20 19:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<0.096	ug/L	0.096	0.040	1	08/14/20 13:31	08/18/20 02:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.096	ug/L	0.096	0.041	1	08/14/20 13:31	08/18/20 02:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.096	ug/L	0.096	0.035	1	08/14/20 13:31	08/18/20 02:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.096	ug/L	0.096	0.036	1	08/14/20 13:31	08/18/20 02:16	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.096	ug/L	0.096	0.039	1	08/14/20 13:31	08/18/20 02:16	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.096	ug/L	0.096	0.041	1	08/14/20 13:31	08/18/20 02:16	11097-69-1	
PCB-1260 (Aroclor 1260)	0.054J	ug/L	0.096	0.034	1	08/14/20 13:31	08/18/20 02:16	11096-82-5	
PCB-1262 (Aroclor 1262)	<0.096	ug/L	0.096	0.035	1	08/14/20 13:31	08/18/20 02:16	37324-23-5	
PCB-1268 (Aroclor 1268)	<0.096	ug/L	0.096	0.044	1	08/14/20 13:31	08/18/20 02:16	11100-14-4	
PCB, Total	0.054J	ug/L	0.096	0.034	1	08/14/20 13:31	08/18/20 02:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	30-134		1	08/14/20 13:31	08/18/20 02:16	877-09-8	
Decachlorobiphenyl (S)	74	%	30-150		1	08/14/20 13:31	08/18/20 02:16	2051-24-3	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: ML-RB02-081220 **Lab ID: 10528450049** Collected: 08/12/20 08:10 Received: 08/13/20 19:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<0.096	ug/L	0.096	0.040	1	08/14/20 13:31	08/18/20 02:32	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.096	ug/L	0.096	0.041	1	08/14/20 13:31	08/18/20 02:32	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.096	ug/L	0.096	0.035	1	08/14/20 13:31	08/18/20 02:32	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.096	ug/L	0.096	0.036	1	08/14/20 13:31	08/18/20 02:32	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.096	ug/L	0.096	0.039	1	08/14/20 13:31	08/18/20 02:32	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.096	ug/L	0.096	0.041	1	08/14/20 13:31	08/18/20 02:32	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.096	ug/L	0.096	0.034	1	08/14/20 13:31	08/18/20 02:32	11096-82-5	
PCB-1262 (Aroclor 1262)	<0.096	ug/L	0.096	0.035	1	08/14/20 13:31	08/18/20 02:32	37324-23-5	
PCB-1268 (Aroclor 1268)	<0.096	ug/L	0.096	0.044	1	08/14/20 13:31	08/18/20 02:32	11100-14-4	
PCB, Total	<0.096	ug/L	0.096	0.034	1	08/14/20 13:31	08/18/20 02:32	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	68	%	30-134		1	08/14/20 13:31	08/18/20 02:32	877-09-8	
Decachlorobiphenyl (S)	77	%	30-150		1	08/14/20 13:31	08/18/20 02:32	2051-24-3	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528450

Sample: ML-RB03-081320 **Lab ID: 10528450050** Collected: 08/13/20 10:00 Received: 08/13/20 19:30 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<0.095	ug/L	0.095	0.040	1	08/14/20 13:31	08/18/20 02:48	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.095	ug/L	0.095	0.041	1	08/14/20 13:31	08/18/20 02:48	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.095	ug/L	0.095	0.035	1	08/14/20 13:31	08/18/20 02:48	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.095	ug/L	0.095	0.036	1	08/14/20 13:31	08/18/20 02:48	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.095	ug/L	0.095	0.039	1	08/14/20 13:31	08/18/20 02:48	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.095	ug/L	0.095	0.040	1	08/14/20 13:31	08/18/20 02:48	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.095	ug/L	0.095	0.034	1	08/14/20 13:31	08/18/20 02:48	11096-82-5	
PCB-1262 (Aroclor 1262)	<0.095	ug/L	0.095	0.035	1	08/14/20 13:31	08/18/20 02:48	37324-23-5	
PCB-1268 (Aroclor 1268)	<0.095	ug/L	0.095	0.044	1	08/14/20 13:31	08/18/20 02:48	11100-14-4	
PCB, Total	<0.095	ug/L	0.095	0.034	1	08/14/20 13:31	08/18/20 02:48	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	30-134		1	08/14/20 13:31	08/18/20 02:48	877-09-8	
Decachlorobiphenyl (S)	91	%	30-150		1	08/14/20 13:31	08/18/20 02:48	2051-24-3	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

QC Batch:	694422	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight / %M by ASTM D2974
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10528450001, 10528450002, 10528450003, 10528450004, 10528450005, 10528450006, 10528450008, 10528450009, 10528450010, 10528450012, 10528450013, 10528450015, 10528450016, 10528450018, 10528450019, 10528450020, 10528450021, 10528450022, 10528450023, 10528450024

SAMPLE DUPLICATE: 3711446

Parameter	Units	10528450001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	57.2	56.9	1	30	N2

SAMPLE DUPLICATE: 3711447

Parameter	Units	10528450024 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	70.6	70.4	0	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

QC Batch:	694423	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight / %M by ASTM D2974
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10528450025, 10528450026, 10528450027, 10528450028, 10528450030, 10528450031, 10528450032, 10528450033, 10528450034, 10528450036, 10528450037, 10528450039, 10528450040, 10528450042, 10528450043, 10528450044, 10528450045, 10528450046

SAMPLE DUPLICATE: 3711448

Parameter	Units	10528450025 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	67.1	66.6	1	30	N2

SAMPLE DUPLICATE: 3711449

Parameter	Units	10528450037 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	25.3	29.3	15	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

QC Batch: 695031

Analysis Method: EPA 8260D

QC Batch Method: EPA 5035/5030B

Analysis Description: 8260D MSV 5030 Med Level

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10528450044

METHOD BLANK: 3713914

Matrix: Solid

Associated Lab Samples: 10528450044

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<50.0	50.0	13.2	08/26/20 14:23	
1,1,1-Trichloroethane	ug/kg	<50.0	50.0	21.5	08/26/20 14:23	
1,1,2,2-Tetrachloroethane	ug/kg	<50.0	50.0	16.1	08/26/20 14:23	
1,1,2-Trichloroethane	ug/kg	<50.0	50.0	24.8	08/26/20 14:23	
1,1,2-Trichlorotrifluoroethane	ug/kg	<200	200	88.2	08/26/20 14:23	
1,1-Dichloroethane	ug/kg	<50.0	50.0	22.5	08/26/20 14:23	
1,1-Dichloroethene	ug/kg	<50.0	50.0	17.9	08/26/20 14:23	
1,1-Dichloropropene	ug/kg	<50.0	50.0	20.6	08/26/20 14:23	
1,2,3-Trichlorobenzene	ug/kg	<50.0	50.0	15.4	08/26/20 14:23	
1,2,3-Trichloropropane	ug/kg	<200	200	58.3	08/26/20 14:23	
1,2,4-Trichlorobenzene	ug/kg	<50.0	50.0	12.3	08/26/20 14:23	
1,2,4-Trimethylbenzene	ug/kg	<50.0	50.0	22.0	08/26/20 14:23	
1,2-Dibromo-3-chloropropane	ug/kg	<500	500	118	08/26/20 14:23	4M
1,2-Dibromoethane (EDB)	ug/kg	<50.0	50.0	17.5	08/26/20 14:23	
1,2-Dichlorobenzene	ug/kg	<50.0	50.0	9.4	08/26/20 14:23	
1,2-Dichloroethane	ug/kg	<50.0	50.0	19.1	08/26/20 14:23	
1,2-Dichloropropane	ug/kg	<50.0	50.0	22.8	08/26/20 14:23	
1,3,5-Trimethylbenzene	ug/kg	<50.0	50.0	16.0	08/26/20 14:23	
1,3-Dichlorobenzene	ug/kg	<50.0	50.0	6.2	08/26/20 14:23	
1,3-Dichloropropane	ug/kg	<50.0	50.0	18.4	08/26/20 14:23	
1,4-Dichlorobenzene	ug/kg	<50.0	50.0	7.9	08/26/20 14:23	
2,2-Dichloropropane	ug/kg	<200	200	19.0	08/26/20 14:23	2M
2-Butanone (MEK)	ug/kg	<250	250	31.2	08/26/20 14:23	
2-Chlorotoluene	ug/kg	<50.0	50.0	12.3	08/26/20 14:23	
4-Chlorotoluene	ug/kg	<50.0	50.0	6.4	08/26/20 14:23	
4-Methyl-2-pentanone (MIBK)	ug/kg	<250	250	23.9	08/26/20 14:23	
Acetone	ug/kg	<1000	1000	472	08/26/20 14:23	
Allyl chloride	ug/kg	<200	200	40.5	08/26/20 14:23	
Benzene	ug/kg	<20.0	20.0	9.2	08/26/20 14:23	
Bromobenzene	ug/kg	<50.0	50.0	6.6	08/26/20 14:23	
Bromochloromethane	ug/kg	<50.0	50.0	24.7	08/26/20 14:23	
Bromodichloromethane	ug/kg	<50.0	50.0	15.9	08/26/20 14:23	
Bromoform	ug/kg	<200	200	66.2	08/26/20 14:23	4M
Bromomethane	ug/kg	<500	500	93.4	08/26/20 14:23	6M
Carbon tetrachloride	ug/kg	<50.0	50.0	24.3	08/26/20 14:23	
Chlorobenzene	ug/kg	<50.0	50.0	8.2	08/26/20 14:23	
Chloroethane	ug/kg	<500	500	79.2	08/26/20 14:23	2M
Chloroform	ug/kg	<50.0	50.0	22.0	08/26/20 14:23	
Chloromethane	ug/kg	<200	200	27.2	08/26/20 14:23	
cis-1,2-Dichloroethene	ug/kg	<50.0	50.0	13.9	08/26/20 14:23	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10528450

METHOD BLANK: 3713914

Matrix: Solid

Associated Lab Samples: 10528450044

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,3-Dichloropropene	ug/kg	<50.0	50.0	4.8	08/26/20 14:23	
Dibromochloromethane	ug/kg	<200	200	16.9	08/26/20 14:23	
Dibromomethane	ug/kg	<50.0	50.0	21.8	08/26/20 14:23	
Dichlorodifluoromethane	ug/kg	<200	200	26.6	08/26/20 14:23	
Dichlorofluoromethane	ug/kg	<500	500	139	08/26/20 14:23	2M
Diethyl ether (Ethyl ether)	ug/kg	<200	200	42.6	08/26/20 14:23	
Ethylbenzene	ug/kg	<50.0	50.0	8.9	08/26/20 14:23	
Hexachloro-1,3-butadiene	ug/kg	<250	250	22.6	08/26/20 14:23	
Isopropylbenzene (Cumene)	ug/kg	<50.0	50.0	18.9	08/26/20 14:23	
m&p-Xylene	ug/kg	<100	100	15.9	08/26/20 14:23	
Methyl-tert-butyl ether	ug/kg	<50.0	50.0	10	08/26/20 14:23	
Methylene Chloride	ug/kg	<200	200	94.3	08/26/20 14:23	
n-Butylbenzene	ug/kg	<50.0	50.0	11.0	08/26/20 14:23	
n-Propylbenzene	ug/kg	<50.0	50.0	10.5	08/26/20 14:23	
Naphthalene	ug/kg	<200	200	56.2	08/26/20 14:23	
o-Xylene	ug/kg	<50.0	50.0	24.1	08/26/20 14:23	
p-Isopropyltoluene	ug/kg	<50.0	50.0	15.8	08/26/20 14:23	
sec-Butylbenzene	ug/kg	<50.0	50.0	21.9	08/26/20 14:23	
Styrene	ug/kg	<50.0	50.0	7.2	08/26/20 14:23	
tert-Butylbenzene	ug/kg	<50.0	50.0	15.5	08/26/20 14:23	
Tetrachloroethene	ug/kg	<50.0	50.0	23.7	08/26/20 14:23	
Tetrahydrofuran	ug/kg	<2000	2000	412	08/26/20 14:23	4M
Toluene	ug/kg	<50.0	50.0	21.4	08/26/20 14:23	
trans-1,2-Dichloroethene	ug/kg	<50.0	50.0	22.9	08/26/20 14:23	
trans-1,3-Dichloropropene	ug/kg	<50.0	50.0	6.3	08/26/20 14:23	
Trichloroethene	ug/kg	<50.0	50.0	21.1	08/26/20 14:23	
Trichlorofluoromethane	ug/kg	<200	200	94.7	08/26/20 14:23	2M
Vinyl chloride	ug/kg	<20.0	20.0	9.9	08/26/20 14:23	
Xylene (Total)	ug/kg	<150	150	24.1	08/26/20 14:23	
1,2-Dichloroethane-d4 (S)	%	98	75-125		08/26/20 14:23	
4-Bromofluorobenzene (S)	%	100	75-125		08/26/20 14:23	
Toluene-d8 (S)	%	99	75-125		08/26/20 14:23	

LABORATORY CONTROL SAMPLE: 3713915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	947	95	64-125	
1,1,1-Trichloroethane	ug/kg	1000	937	94	60-135	
1,1,2,2-Tetrachloroethane	ug/kg	1000	839	84	61-125	
1,1,2-Trichloroethane	ug/kg	1000	877	88	66-125	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	1160	116	51-136	
1,1-Dichloroethane	ug/kg	1000	922	92	61-125	
1,1-Dichloroethene	ug/kg	1000	1010	101	45-136	
1,1-Dichloropropene	ug/kg	1000	975	98	51-136	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

LABORATORY CONTROL SAMPLE: 3713915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,3-Trichlorobenzene	ug/kg	1000	858	86	63-125	
1,2,3-Trichloropropane	ug/kg	1000	891	89	61-125	
1,2,4-Trichlorobenzene	ug/kg	1000	961	96	61-125	
1,2,4-Trimethylbenzene	ug/kg	1000	969	97	63-126	
1,2-Dibromo-3-chloropropane	ug/kg	2500	1950	78	58-125	5M
1,2-Dibromoethane (EDB)	ug/kg	1000	922	92	64-125	
1,2-Dichlorobenzene	ug/kg	1000	984	98	62-125	
1,2-Dichloroethane	ug/kg	1000	810	81	56-125	
1,2-Dichloropropane	ug/kg	1000	888	89	64-125	
1,3,5-Trimethylbenzene	ug/kg	1000	980	98	64-125	
1,3-Dichlorobenzene	ug/kg	1000	1000	100	62-125	
1,3-Dichloropropane	ug/kg	1000	910	91	63-125	
1,4-Dichlorobenzene	ug/kg	1000	991	99	60-125	
2,2-Dichloropropane	ug/kg	1000	1200	120	61-130	3M
2-Butanone (MEK)	ug/kg	5000	3990	80	47-129	
2-Chlorotoluene	ug/kg	1000	979	98	63-125	
4-Chlorotoluene	ug/kg	1000	994	99	63-125	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4160	83	56-125	
Acetone	ug/kg	5000	4460	89	49-132	
Allyl chloride	ug/kg	1000	978	98	48-130	
Benzene	ug/kg	1000	937	94	59-125	
Bromobenzene	ug/kg	1000	1020	102	61-125	
Bromochloromethane	ug/kg	1000	922	92	57-125	
Bromodichloromethane	ug/kg	1000	859	86	67-125	
Bromoform	ug/kg	1000	739	74	61-125	5M
Bromomethane	ug/kg	1000	1170	117	44-136	6M
Carbon tetrachloride	ug/kg	1000	942	94	58-134	
Chlorobenzene	ug/kg	1000	992	99	60-125	
Chloroethane	ug/kg	1000	1170	117	30-150	3M
Chloroform	ug/kg	1000	867	87	63-125	
Chloromethane	ug/kg	1000	943	94	43-125	
cis-1,2-Dichloroethene	ug/kg	1000	868	87	60-125	
cis-1,3-Dichloropropene	ug/kg	1000	951	95	63-125	
Dibromochloromethane	ug/kg	1000	881	88	61-125	
Dibromomethane	ug/kg	1000	966	97	62-125	
Dichlorodifluoromethane	ug/kg	1000	990	99	35-125	
Dichlorofluoromethane	ug/kg	1000	1960	196	49-128	3M, L3
Diethyl ether (Ethyl ether)	ug/kg	1000	966	97	42-127	
Ethylbenzene	ug/kg	1000	1010	101	62-125	
Hexachloro-1,3-butadiene	ug/kg	1000	1110	111	59-132	
Isopropylbenzene (Cumene)	ug/kg	1000	1020	102	63-126	
m&p-Xylene	ug/kg	2000	2000	100	64-125	
Methyl-tert-butyl ether	ug/kg	1000	920	92	58-125	
Methylene Chloride	ug/kg	1000	1100	110	50-125	
n-Butylbenzene	ug/kg	1000	1010	101	60-129	
n-Propylbenzene	ug/kg	1000	1030	103	63-126	
Naphthalene	ug/kg	1000	850	85	57-125	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

LABORATORY CONTROL SAMPLE: 3713915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
o-Xylene	ug/kg	1000	986	99	63-125	
p-Isopropyltoluene	ug/kg	1000	1040	104	62-127	
sec-Butylbenzene	ug/kg	1000	1010	101	64-128	
Styrene	ug/kg	1000	980	98	62-125	
tert-Butylbenzene	ug/kg	1000	994	99	62-129	
Tetrachloroethene	ug/kg	1000	993	99	56-133	
Tetrahydrofuran	ug/kg	10000	6370	64	58-126 5M	
Toluene	ug/kg	1000	959	96	59-125	
trans-1,2-Dichloroethene	ug/kg	1000	954	95	46-134	
trans-1,3-Dichloropropene	ug/kg	1000	980	98	66-125	
Trichloroethene	ug/kg	1000	988	99	62-125	
Trichlorofluoromethane	ug/kg	1000	1390	139	30-150 3M	
Vinyl chloride	ug/kg	1000	1030	103	44-127	
Xylene (Total)	ug/kg	3000	2990	100	65-125	
1,2-Dichloroethane-d4 (S)	%			95	75-125	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3713916 3713917

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10529436002 Result	Spike Conc.	Spike Conc.	Conc.								
1,1,1,2-Tetrachloroethane	ug/kg	ND	1230	1200	1370	1360	111	113	55-150	1	30		
1,1,1-Trichloroethane	ug/kg	ND	1230	1200	1350	1330	109	111	48-150	1	30		
1,1,2,2-Tetrachloroethane	ug/kg	ND	1230	1200	1340	1370	108	114	47-150	2	30		
1,1,2-Trichloroethane	ug/kg	ND	1230	1200	1370	1350	111	112	50-150	1	30		
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1230	1200	1600	1580	129	131	43-150	1	30		
1,1-Dichloroethane	ug/kg	ND	1230	1200	1300	1290	105	108	36-150	0	30		
1,1-Dichloroethene	ug/kg	ND	1230	1200	1440	1420	116	118	43-150	1	30		
1,1-Dichloropropene	ug/kg	ND	1230	1200	1400	1380	114	114	38-150	2	30		
1,2,3-Trichlorobenzene	ug/kg	ND	1230	1200	1450	1430	117	118	48-150	1	30		
1,2,3-Trichloropropane	ug/kg	ND	1230	1200	1430	1360	116	113	48-150	5	30		
1,2,4-Trichlorobenzene	ug/kg	ND	1230	1200	1480	1480	120	123	46-150	0	30		
1,2,4-Trimethylbenzene	ug/kg	ND	1230	1200	1450	1420	118	118	53-150	2	30		
1,2-Dibromo-3-chloropropane	ug/kg	ND	3090	3010	3200	3160	104	105	57-150	1	30 5M		
1,2-Dibromoethane (EDB)	ug/kg	ND	1230	1200	1410	1390	114	116	54-150	1	30		
1,2-Dichlorobenzene	ug/kg	ND	1230	1200	1450	1470	118	122	53-150	1	30		
1,2-Dichloroethane	ug/kg	ND	1230	1200	1170	1190	95	98	50-150	1	30		
1,2-Dichloropropane	ug/kg	ND	1230	1200	1310	1340	106	111	45-150	2	30		
1,3,5-Trimethylbenzene	ug/kg	ND	1230	1200	1450	1440	117	120	60-150	1	30		
1,3-Dichlorobenzene	ug/kg	ND	1230	1200	1470	1490	119	124	52-150	1	30		
1,3-Dichloropropane	ug/kg	ND	1230	1200	1390	1390	113	116	49-150	0	30		
1,4-Dichlorobenzene	ug/kg	ND	1230	1200	1490	1430	121	119	53-150	4	30		
2,2-Dichloropropane	ug/kg	ND	1230	1200	1720	1690	139	140	37-150	2	30 3M		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Project No.: 10528450

Parameter	Units	3713916		3713917		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10529436002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
2-Butanone (MEK)	ug/kg	ND	6170	6020	7230	7470	115	122	35-150	3	30		
2-Chlorotoluene	ug/kg	ND	1230	1200	1420	1430	115	119	50-150	1	30		
4-Chlorotoluene	ug/kg	ND	1230	1200	1490	1450	120	121	52-150	2	30		
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	6170	6020	6780	6740	110	112	43-150	1	30		
Acetone	ug/kg	ND	6170	6020	7820	7740	127	129	30-150	1	30		
Allyl chloride	ug/kg	ND	1230	1200	1370	1320	111	110	30-150	4	30		
Benzene	ug/kg	ND	1230	1200	1330	1340	107	112	46-150	1	30		
Bromobenzene	ug/kg	ND	1230	1200	1440	1450	116	120	54-150	1	30		
Bromochloromethane	ug/kg	ND	1230	1200	1270	1290	103	107	45-150	1	30		
Bromodichloromethane	ug/kg	ND	1230	1200	1240	1290	101	107	52-150	4	30		
Bromoform	ug/kg	ND	1230	1200	1140	1130	92	94	51-150	1	30	5M	
Bromomethane	ug/kg	ND	1230	1200	1770	1850	137	147	30-150	4	30	6M	
Carbon tetrachloride	ug/kg	ND	1230	1200	1360	1330	110	111	42-150	2	30		
Chlorobenzene	ug/kg	ND	1230	1200	1440	1430	116	119	51-150	1	30		
Chloroethane	ug/kg	ND	1230	1200	1710	1840	139	153	30-150	7	30	3M	
Chloroform	ug/kg	ND	1230	1200	1280	1270	102	104	50-150	1	30		
Chloromethane	ug/kg	ND	1230	1200	1280	1260	104	105	30-150	1	30	M1	
cis-1,2-Dichloroethene	ug/kg	ND	1230	1200	1240	1250	100	104	45-150	1	30		
cis-1,3-Dichloropropene	ug/kg	ND	1230	1200	1400	1440	113	120	48-150	3	30		
Dibromochloromethane	ug/kg	ND	1230	1200	1310	1290	106	107	51-150	1	30		
Dibromomethane	ug/kg	ND	1230	1200	1410	1420	114	118	53-150	1	30		
Dichlorodifluoromethane	ug/kg	ND	1230	1200	1160	1100	94	91	30-125	5	30		
Dichlorofluoromethane	ug/kg	ND	1230	1200	3730	3580	302	298	41-150	4	30	3M, M0	
Diethyl ether (Ethyl ether)	ug/kg	ND	1230	1200	1370	1360	111	113	35-138	0	30		
Ethylbenzene	ug/kg	ND	1230	1200	1500	1510	121	125	59-150	1	30		
Hexachloro-1,3-butadiene	ug/kg	ND	1230	1200	1670	1580	135	131	58-150	6	30		
Isopropylbenzene (Cumene)	ug/kg	ND	1230	1200	1520	1530	123	127	50-150	1	30		
m&p-Xylene	ug/kg	ND	2470	2410	2940	2950	119	122	60-150	0	30		
Methyl-tert-butyl ether	ug/kg	ND	1230	1200	1380	1370	112	114	50-150	1	30		
Methylene Chloride	ug/kg	ND	1230	1200	1580	1550	128	129	37-150	2	30		
n-Butylbenzene	ug/kg	ND	1230	1200	1490	1480	121	123	48-150	1	30		
n-Propylbenzene	ug/kg	ND	1230	1200	1540	1530	124	127	54-150	0	30		
Naphthalene	ug/kg	ND	1230	1200	1430	1380	116	114	50-150	4	30		
o-Xylene	ug/kg	ND	1230	1200	1500	1470	121	122	59-150	2	30		
p-Isopropyltoluene	ug/kg	ND	1230	1200	1540	1490	125	124	51-150	3	30		
sec-Butylbenzene	ug/kg	ND	1230	1200	1500	1490	122	124	52-150	1	30		
Styrene	ug/kg	ND	1230	1200	1410	1450	115	120	52-150	3	30		
tert-Butylbenzene	ug/kg	ND	1230	1200	1490	1480	121	123	54-150	1	30		
Tetrachloroethene	ug/kg	ND	1230	1200	1470	1460	119	121	50-150	1	30		
Tetrahydrofuran	ug/kg	ND	12300	12000	9750	9700	79	81	49-150	1	30	5M	
Toluene	ug/kg	ND	1230	1200	1380	1380	112	115	55-150	0	30		
trans-1,2-Dichloroethene	ug/kg	ND	1230	1200	1600	1330	129	110	43-150	18	30		
trans-1,3-Dichloropropene	ug/kg	ND	1230	1200	1420	1450	115	120	49-150	2	30		
Trichloroethene	ug/kg	ND	1230	1200	1480	1510	120	125	43-150	2	30		

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

Parameter	Units	3713916		3713917		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10529436002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Trichlorofluoromethane	ug/kg	ND	1230	1200	1970	2010	159	167	30-150	2	30	3M, M1	
Vinyl chloride	ug/kg	ND	1230	1200	1360	1370	110	114	30-150	1	30		
Xylene (Total)	ug/kg	ND	3700	3610	4440	4420	120	122	60-150	0	30		
1,2-Dichloroethane-d4 (S)	%						93	93	75-125				
4-Bromofluorobenzene (S)	%						98	97	75-125				
Toluene-d8 (S)	%						101	99	75-125				

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

QC Batch:	692676	Analysis Method:	EPA 8082A
QC Batch Method:	EPA 3550	Analysis Description:	8082A GCS PCB
		Laboratory:	Pace Analytical Services - Minneapolis
Associated Lab Samples:	10528450001, 10528450002, 10528450003, 10528450004, 10528450005, 10528450006, 10528450008, 10528450009, 10528450010, 10528450012, 10528450013, 10528450015, 10528450016, 10528450018, 10528450019, 10528450020, 10528450021, 10528450022, 10528450023, 10528450025		

METHOD BLANK:	3702778	Matrix:	Solid
Associated Lab Samples:	10528450001, 10528450002, 10528450003, 10528450004, 10528450005, 10528450006, 10528450008, 10528450009, 10528450010, 10528450012, 10528450013, 10528450015, 10528450016, 10528450018, 10528450019, 10528450020, 10528450021, 10528450022, 10528450023, 10528450025		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	08/17/20 18:22	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	08/17/20 18:22	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	08/17/20 18:22	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	08/17/20 18:22	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	08/17/20 18:22	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	08/17/20 18:22	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	08/17/20 18:22	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	08/17/20 18:22	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	08/17/20 18:22	
Decachlorobiphenyl (S)	%	96	48-139		08/17/20 18:22	
Tetrachloro-m-xylene (S)	%	98	46-146		08/17/20 18:22	

LABORATORY CONTROL SAMPLE: 3702779						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1330	1200	90	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1330	1220	91	69-125	
Decachlorobiphenyl (S)	%			100	48-139	
Tetrachloro-m-xylene (S)	%			100	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3702780											3702781		
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10528450001 Result	Spike Conc.	Spike Conc.	Conc.								
PCB-1016 (Aroclor 1016)	ug/kg	<76.7	3110	3110	3050	2990	98	96	49-125	2	30		
PCB-1260 (Aroclor 1260)	ug/kg	2260	3110	3110	8200	4910	191	85	43-125	50	30	E,M1, R1	
Decachlorobiphenyl (S)	%						86	84	48-139				
Tetrachloro-m-xylene (S)	%						91	93	46-146				

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

QC Batch: 692679

Analysis Method: EPA 8082A

QC Batch Method: EPA 3550

Analysis Description: 8082A GCS PCB

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10528450024, 10528450026, 10528450027, 10528450028, 10528450030, 10528450031, 10528450032, 10528450033, 10528450034, 10528450036, 10528450037, 10528450039, 10528450040, 10528450042, 10528450043, 10528450044, 10528450045, 10528450046

METHOD BLANK: 3702791

Matrix: Solid

Associated Lab Samples: 10528450024, 10528450026, 10528450027, 10528450028, 10528450030, 10528450031, 10528450032, 10528450033, 10528450034, 10528450036, 10528450037, 10528450039, 10528450040, 10528450042, 10528450043, 10528450044, 10528450045, 10528450046

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	08/16/20 18:06	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	08/16/20 18:06	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	08/16/20 18:06	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	08/16/20 18:06	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	08/16/20 18:06	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	08/16/20 18:06	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	08/16/20 18:06	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	08/16/20 18:06	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	08/16/20 18:06	
Decachlorobiphenyl (S)	%	96	48-139		08/16/20 18:06	
Tetrachloro-m-xylene (S)	%	99	46-146		08/16/20 18:06	

LABORATORY CONTROL SAMPLE: 3702792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	1330	1200	90	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	1330	1210	91	69-125	
Decachlorobiphenyl (S)	%			98	48-139	
Tetrachloro-m-xylene (S)	%			102	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3702793 3702794

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10528450024 Result	Spike Conc.	Spike Conc.	Result						
PCB-1016 (Aroclor 1016)	ug/kg	<112	4490	4490	3690	3740	82	83	49-125	1	30
PCB-1260 (Aroclor 1260)	ug/kg	569	4490	4490	4160	4480	80	87	43-125	7	30
Decachlorobiphenyl (S)	%						64	82	48-139		
Tetrachloro-m-xylene (S)	%						69	89	46-146		

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10528450

QC Batch: 692638 Analysis Method: EPA 8082A
QC Batch Method: EPA Mod. 3510C Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10528450048, 10528450049, 10528450050

METHOD BLANK: 3702642 Matrix: Water
Associated Lab Samples: 10528450048, 10528450049, 10528450050

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	<0.10	0.10	0.042	08/18/20 01:29	
PCB-1221 (Aroclor 1221)	ug/L	<0.10	0.10	0.043	08/18/20 01:29	
PCB-1232 (Aroclor 1232)	ug/L	<0.10	0.10	0.036	08/18/20 01:29	
PCB-1242 (Aroclor 1242)	ug/L	<0.10	0.10	0.038	08/18/20 01:29	
PCB-1248 (Aroclor 1248)	ug/L	<0.10	0.10	0.040	08/18/20 01:29	
PCB-1254 (Aroclor 1254)	ug/L	<0.10	0.10	0.042	08/18/20 01:29	
PCB-1260 (Aroclor 1260)	ug/L	<0.10	0.10	0.036	08/18/20 01:29	
PCB-1262 (Aroclor 1262)	ug/L	<0.10	0.10	0.036	08/18/20 01:29	
PCB-1268 (Aroclor 1268)	ug/L	<0.10	0.10	0.046	08/18/20 01:29	
Decachlorobiphenyl (S)	%	91	30-150		08/18/20 01:29	
Tetrachloro-m-xylene (S)	%	81	30-134		08/18/20 01:29	

LABORATORY CONTROL SAMPLE & LCSD: 3702643 3702644

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	2	1.7	1.7	85	87	30-125	3	20	
PCB-1260 (Aroclor 1260)	ug/L	2	1.8	1.9	90	94	35-125	4	20	
Decachlorobiphenyl (S)	%				98	96	30-150			
Tetrachloro-m-xylene (S)	%				78	83	30-134			

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10528450

QC Batch: 692804 Analysis Method: EPA 8270E by SIM
QC Batch Method: EPA 3550C Analysis Description: 8270E Solid PAH by SIM MSSV
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10528450044

METHOD BLANK: 3704053 Matrix: Solid

Associated Lab Samples: 10528450044

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acenaphthene	ug/kg	<10.0	10.0	0.45	08/17/20 11:11	
Acenaphthylene	ug/kg	<10.0	10.0	0.68	08/17/20 11:11	
Anthracene	ug/kg	<10.0	10.0	0.32	08/17/20 11:11	
Benzo(a)anthracene	ug/kg	<10.0	10.0	0.41	08/17/20 11:11	
Benzo(a)pyrene	ug/kg	<10.0	10.0	0.56	08/17/20 11:11	
Benzo(b)fluoranthene	ug/kg	<10.0	10.0	0.47	08/17/20 11:11	
Benzo(g,h,i)perylene	ug/kg	<10.0	10.0	0.46	08/17/20 11:11	
Benzo(k)fluoranthene	ug/kg	<10.0	10.0	0.48	08/17/20 11:11	
Chrysene	ug/kg	<10.0	10.0	0.40	08/17/20 11:11	
Dibenz(a,h)anthracene	ug/kg	<10.0	10.0	0.66	08/17/20 11:11	
Fluoranthene	ug/kg	<10.0	10.0	0.60	08/17/20 11:11	
Fluorene	ug/kg	<10.0	10.0	0.60	08/17/20 11:11	
Indeno(1,2,3-cd)pyrene	ug/kg	<10.0	10.0	0.54	08/17/20 11:11	
Naphthalene	ug/kg	<10.0	10.0	0.45	08/17/20 11:11	
Phenanthrene	ug/kg	<10.0	10.0	0.70	08/17/20 11:11	
Pyrene	ug/kg	<10.0	10.0	0.65	08/17/20 11:11	
2-Fluorobiphenyl (S)	%	74	30-138		08/17/20 11:11	
p-Terphenyl-d14 (S)	%	95	30-143		08/17/20 11:11	

LABORATORY CONTROL SAMPLE: 3704054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	33.3	26.6	80	49-125	
Acenaphthylene	ug/kg	33.3	26.6	80	53-125	
Anthracene	ug/kg	33.3	25.5	77	59-125	
Benzo(a)anthracene	ug/kg	33.3	28.4	85	58-125	
Benzo(a)pyrene	ug/kg	33.3	27.9	84	64-125	
Benzo(b)fluoranthene	ug/kg	33.3	29.2	87	61-125	
Benzo(g,h,i)perylene	ug/kg	33.3	30.1	90	64-125	
Benzo(k)fluoranthene	ug/kg	33.3	30.9	93	62-125	
Chrysene	ug/kg	33.3	29.9	90	65-125	
Dibenz(a,h)anthracene	ug/kg	33.3	30.1	90	63-125	
Fluoranthene	ug/kg	33.3	30.5	91	68-125	
Fluorene	ug/kg	33.3	27.1	81	54-125	
Indeno(1,2,3-cd)pyrene	ug/kg	33.3	29.8	89	63-125	
Naphthalene	ug/kg	33.3	25.9	78	45-125	
Phenanthrene	ug/kg	33.3	29.0	87	63-125	
Pyrene	ug/kg	33.3	30.7	92	65-125	
2-Fluorobiphenyl (S)	%			80	30-138	

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: 200633 Munger Landing

Pace Project No.: 10528450

LABORATORY CONTROL SAMPLE: 3704054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
p-Terphenyl-d14 (S)	%.			93	30-143	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3704055 3704056

Parameter	Units	3704055		3704056		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10528356001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Acenaphthene	ug/kg	ND	37.6	37.6	28.1	30.7	75	82	30-125	9	30
Acenaphthylene	ug/kg	ND	37.6	37.6	31.4	44.1	83	117	30-150	34	30 R1
Anthracene	ug/kg	ND	37.6	37.6	32.3	48.5	86	129	30-150	40	30 R1
Benzo(a)anthracene	ug/kg	36.9	37.6	37.6	64.2	126	72	237	30-150	65	30 M1,R1
Benzo(a)pyrene	ug/kg	49.0	37.6	37.6	77.8	120	77	189	30-150	43	30 M1,R1
Benzo(b)fluoranthene	ug/kg	66.6	37.6	37.6	100	155	89	237	30-150	43	30 M1,R1
Benzo(g,h,i)perylene	ug/kg	64.3	37.6	37.6	84.8	111	55	126	30-150	27	30
Benzo(k)fluoranthene	ug/kg	20.5	37.6	37.6	47.5	71.0	72	135	30-150	40	30 R1
Chrysene	ug/kg	56.8	37.6	37.6	119	121	166	171	30-150	1	30 M1
Dibenz(a,h)anthracene	ug/kg	11.7	37.6	37.6	38.0	45.7	70	91	30-147	18	30
Fluoranthene	ug/kg	74.4	37.6	37.6	98.8	195	65	321	30-150	65	30 M1,R1
Fluorene	ug/kg	ND	37.6	37.6	28.5	30.9	76	82	30-150	8	30
Indeno(1,2,3-cd)pyrene	ug/kg	31.0	37.6	37.6	49.5	81.1	49	134	30-150	48	30 R1
Naphthalene	ug/kg	ND	37.6	37.6	27.1	29.2	72	78	30-141	8	30
Phenanthrene	ug/kg	37.1	37.6	37.6	58.5	79.0	57	112	30-150	30	30
Pyrene	ug/kg	76.7	37.6	37.6	261	178	491	269	30-150	38	30 M1,R1
2-Fluorobiphenyl (S)	%.						68	77	30-138		
p-Terphenyl-d14 (S)	%.						67	76	30-143		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528450

QC Batch: 692601

Analysis Method: WI MOD DRO

QC Batch Method: WI MOD DRO

Analysis Description: WIDRO GCS

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10528450044

METHOD BLANK: 3702387

Matrix: Solid

Associated Lab Samples: 10528450044

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
WDRO C10-C28	mg/kg	<10.0	10.0	2.7	08/15/20 18:50	
n-Triacontane (S)	%.	84	50-150		08/15/20 18:50	

LABORATORY CONTROL SAMPLE & LCSD: 3702388

3702389

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO C10-C28	mg/kg	80	75.7	79.7	95	100	70-120	5	20	
n-Triacontane (S)	%.				92	97	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 200633 Munger Landing

Pace Project No.: 10528450

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.

BATCH QUALIFIERS

Batch: 693047

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1M Preserved from packed glass jar within 48 hours from collection.

2M The continuing calibration for this analyte exceeded 20% difference acceptance criteria for EPA method. Analyte presence below reporting limits in associated samples. No impact to data.

3M The continuing calibration for this analyte exceeded 20% difference acceptance criteria for EPA method. The result may be biased high.

4M The continuing calibration for this analyte is below 20% difference acceptance criteria for EPA method 8260D but within 50% of the true value. Instrument sensitivity verified with reporting limit check.

5M The continuing calibration for this analyte is below 20% difference acceptance criteria for EPA method 8260D but within 50% of the true value. The result may be biased low.

6M This analyte did not meet the secondary source verification criteria for the initial calibration. Analyte recovery exceeded the 130% upper control limit at 148%. Results may be biased high.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

R1 RPD value was outside control limits.

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QUALIFIERS

Project: 200633 Munger Landing

Pace Project No.: 10528450

ANALYTE QUALIFIERS

T6 High boiling point hydrocarbons are present in the sample.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing

Pace Project No.: 10528450

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10528450001	BW20ML-124-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450002	BW20ML-124-0.3-0.61	EPA 3550	692676	EPA 8082A	693046
10528450003	BW20ML-125-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450004	BW20ML-125-0.3-0.61	EPA 3550	692676	EPA 8082A	693046
10528450005	BW20ML-126-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450006	BW20ML-126-0.3-0.61	EPA 3550	692676	EPA 8082A	693046
10528450008	BW20ML-002-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450009	BW20ML-118-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450010	BW20ML-118-0.3-0.61	EPA 3550	692676	EPA 8082A	693046
10528450012	BW20ML-120-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450013	BW20ML-120-0.3-0.45	EPA 3550	692676	EPA 8082A	693046
10528450015	BW20ML-122-0-0.21	EPA 3550	692676	EPA 8082A	693046
10528450016	BW20ML-122-0.27-0.46	EPA 3550	692676	EPA 8082A	693046
10528450018	BW20ML-001-0-0.21	EPA 3550	692676	EPA 8082A	693046
10528450019	BW20ML-128-0-0.15	EPA 3550	692676	EPA 8082A	693046
10528450020	BW20ML-128-0.15-0.45	EPA 3550	692676	EPA 8082A	693046
10528450021	BW20ML-129-0-0.3	EPA 3550	692676	EPA 8082A	693046
10528450022	BW20ML-129-0.3-0.61	EPA 3550	692676	EPA 8082A	693046
10528450023	BW20ML-129-0.76-1.22	EPA 3550	692676	EPA 8082A	693046
10528450024	BW20ML-130-0-0.3	EPA 3550	692679	EPA 8082A	692827
10528450025	BW20ML-130-0.3-0.61	EPA 3550	692676	EPA 8082A	693046
10528450026	BW20ML-003-0-0.3	EPA 3550	692679	EPA 8082A	692827
10528450027	BW20ML-131-0-0.15	EPA 3550	692679	EPA 8082A	692827
10528450028	BW20ML-131-0.15-0.4	EPA 3550	692679	EPA 8082A	692827
10528450030	BW20ML-132-0-0.27	EPA 3550	692679	EPA 8082A	692827
10528450031	BW20ML-132-0.27-0.37	EPA 3550	692679	EPA 8082A	692827
10528450032	BW20ML-004-0-0.27	EPA 3550	692679	EPA 8082A	692827
10528450033	BW20ML-136-0-0.15	EPA 3550	692679	EPA 8082A	692827
10528450034	BW20ML-136-0.15-0.45	EPA 3550	692679	EPA 8082A	692827
10528450036	BW20ML-138-0-0.15	EPA 3550	692679	EPA 8082A	692827
10528450037	BW20ML-138-0.15-0.25	EPA 3550	692679	EPA 8082A	692827
10528450039	BW20ML-139-0-0.1	EPA 3550	692679	EPA 8082A	692827
10528450040	BW20ML-139-0.1-0.36	EPA 3550	692679	EPA 8082A	692827
10528450042	BW20ML-142-0-0.3	EPA 3550	692679	EPA 8082A	692827
10528450043	BW20ML-142-0.45-0.91	EPA 3550	692679	EPA 8082A	692827
10528450044	BW20ML-142-1.0-1.2	EPA 3550	692679	EPA 8082A	692827
10528450045	BW20ML-143-0-0.24	EPA 3550	692679	EPA 8082A	692827
10528450046	BW20ML-143-0.3-0.61	EPA 3550	692679	EPA 8082A	692827
10528450048	ML-RB01-081220	EPA Mod. 3510C	692638	EPA 8082A	693047
10528450049	ML-RB02-081220	EPA Mod. 3510C	692638	EPA 8082A	693047
10528450050	ML-RB03-081320	EPA Mod. 3510C	692638	EPA 8082A	693047
10528450044	BW20ML-142-1.0-1.2	WI MOD DRO	692601	WI MOD DRO	692830
10528450001	BW20ML-124-0-0.3	ASTM D2974	694422		
10528450002	BW20ML-124-0.3-0.61	ASTM D2974	694422		
10528450003	BW20ML-125-0-0.3	ASTM D2974	694422		
10528450004	BW20ML-125-0.3-0.61	ASTM D2974	694422		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing
Pace Project No.: 10528450

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10528450005	BW20ML-126-0-0.3	ASTM D2974	694422		
10528450006	BW20ML-126-0.3-0.61	ASTM D2974	694422		
10528450008	BW20ML-002-0-0.3	ASTM D2974	694422		
10528450009	BW20ML-118-0-0.3	ASTM D2974	694422		
10528450010	BW20ML-118-0.3-0.61	ASTM D2974	694422		
10528450012	BW20ML-120-0-0.3	ASTM D2974	694422		
10528450013	BW20ML-120-0.3-0.45	ASTM D2974	694422		
10528450015	BW20ML-122-0-0.21	ASTM D2974	694422		
10528450016	BW20ML-122-0.27-0.46	ASTM D2974	694422		
10528450018	BW20ML-001-0-0.21	ASTM D2974	694422		
10528450019	BW20ML-128-0-0.15	ASTM D2974	694422		
10528450020	BW20ML-128-0.15-0.45	ASTM D2974	694422		
10528450021	BW20ML-129-0-0.3	ASTM D2974	694422		
10528450022	BW20ML-129-0.3-0.61	ASTM D2974	694422		
10528450023	BW20ML-129-0.76-1.22	ASTM D2974	694422		
10528450024	BW20ML-130-0-0.3	ASTM D2974	694422		
10528450025	BW20ML-130-0.3-0.61	ASTM D2974	694423		
10528450026	BW20ML-003-0-0.3	ASTM D2974	694423		
10528450027	BW20ML-131-0-0.15	ASTM D2974	694423		
10528450028	BW20ML-131-0.15-0.4	ASTM D2974	694423		
10528450030	BW20ML-132-0-0.27	ASTM D2974	694423		
10528450031	BW20ML-132-0.27-0.37	ASTM D2974	694423		
10528450032	BW20ML-004-0-0.27	ASTM D2974	694423		
10528450033	BW20ML-136-0-0.15	ASTM D2974	694423		
10528450034	BW20ML-136-0.15-0.45	ASTM D2974	694423		
10528450036	BW20ML-138-0-0.15	ASTM D2974	694423		
10528450037	BW20ML-138-0.15-0.25	ASTM D2974	694423		
10528450039	BW20ML-139-0-0.1	ASTM D2974	694423		
10528450040	BW20ML-139-0.1-0.36	ASTM D2974	694423		
10528450042	BW20ML-142-0-0.3	ASTM D2974	694423		
10528450043	BW20ML-142-0.45-0.91	ASTM D2974	694423		
10528450044	BW20ML-142-1.0-1.2	ASTM D2974	694423		
10528450045	BW20ML-143-0-0.24	ASTM D2974	694423		
10528450046	BW20ML-143-0.3-0.61	ASTM D2974	694423		
10528450044	BW20ML-142-1.0-1.2	EPA 3550C	692804	EPA 8270E by SIM	692970
10528450044	BW20ML-142-1.0-1.2	EPA 5035/5030B	695031	EPA 8260D	695401

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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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Company Name:	Accounts Payable	Lab Name:	1700 Elm St. Minneapolis MN, 55414	COC ID:
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC		Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103		Lab Project Manager:	Colin Lynch	Facility Code:
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.	206552		Lab Phone:	612-656-2286	Project Task Code:
Phone:	651-291-3411	Copy To:							Program Code
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G-GAB C-COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-259	BW20ML-118-0-0.3	0	0.3	Sample	G	SE	SD	Sed-Useive	12-Aug	1300	2	
2	69-1291-00-259	BW20ML-118-0.3-0.61	0.3	0.61	Sample	G	SE	SD	Sed-Useive	12-Aug	1305	2	
3	69-1291-00-259	BW20ML-118-0.61-0.76	0.61	0.76	Sample	G	SE	SD	Sed-Useive	12-Aug	1310	2	
4	69-1291-00-261	BW20ML-120-0-0.3	0	0.3	Sample	G	SE	SD	Sed-Useive	12-Aug	1315	2	
5	69-1291-00-261	BW20ML-120-0.3-0.45	0.3	0.45	Sample	G	SE	SD	Sed-Useive	12-Aug	1320	2	
6	69-1291-00-261	BW20ML-120-0.45-0.61	0.45	0.61	Sample	G	SE	SD	Sed-Useive	12-Aug	1325	2	
7	69-1291-00-263	BW20ML-122-0-0.21	0	0.21	Sample	G	SE	SD	Sed-Useive	12-Aug	1055	2	
8	69-1291-00-263	BW20ML-122-0.27-0.46	0.27	0.46	Sample	G	SE	SD	Sed-Useive	12-Aug	1100	2	
9	69-1291-00-263	BW20ML-122-0.5-0.91	0.5	0.91	Sample	G	SE	SD	Sed-Useive	12-Aug	1105	2	
10	69-1291-00-263	BW20ML-001-0-0.21	0	0.21	QC-FR	G	SE	SD	Sed-Useive	12-Aug	1115	2	
11													
12													

Section F MUNICIPAL COMPLETION		Section G DATE		Section H SAMPLE CONDITIONS	
Signature of Sampler:		Date:		Temp (C):	
<i>Colin Lynch</i>		8/13/20		1930	
PRINT Name of SAMPLER:		DATE Signed (MM/DD/YY):		Received on Ice (Y/N):	
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY):		Custody Sealed Cooler (Y/N):	
				Samples Intact (Y/N):	



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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	Work Order No.	3000025404
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Facility Code:	SR1015
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Project Task Code:	PRJ07955
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.	206552	Lab Phone:	612-856-2286	Program Code	
Phone:	651-291-3411	Copy To:							
Copy To:	Eweaver@baywest.com	Copy To:							

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-271	BW20ML-131-0-0.15	0	0.15	Sample	G	SE SD	Sed. Usieve	12-Aug	1030	2	
2	69-1291-00-271	BW20ML-131-0-0.15-0.4	0.15	0.4	Sample	G	SE SD	Sed. Usieve	12-Aug	1035	2	
3	69-1291-00-271	BW20ML-131-0-0.4-0.55	0.4	0.55	Sample	G	SE SD	Sed. Usieve	12-Aug	1040	2	
4	69-1291-00-272	BW20ML-132-0-0.27	0	0.27	Sample	G	SE SD	Sed. Usieve	12-Aug	1600	2	
5	69-1291-00-272	BW20ML-132-0-0.27-0.37	0.27	0.37	Sample	G	SE SD	Sed. Usieve	12-Aug	1605	2	
6	69-1291-00-272	BW20ML-004-0-0.27	0	0.27	QC-FR	G	SE SD	Sed. Usieve	12-Aug	1610	1	
7	69-1291-00-276	BW20ML-136-0-0.15	0	0.15	Sample	G	SE SD	Sed. Usieve	12-Aug	1620	2	
8	69-1291-00-276	BW20ML-136-0.15-0.45	0.15	0.45	Sample	G	SE SD	Sed. Usieve	12-Aug	1625	2	
9	69-1291-00-276	BW20ML-136-0.45-0.61	0.45	0.61	Sample	G	SE SD	Sed. Usieve	12-Aug	1630	2	
10												
11												
12												

ADDITIONAL COMMENTS		DATE	TIME	ACCEPTED BY AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
				<i>Carol Munnell PACE</i>	8/13/20	1930	Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N) * Y N Y
PRINT NAME OF SAMPLER:		SIGNATURE OF SAMPLER:		DATE SIGNED (MM/DD/YYYY):			



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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Pace	Lab Name:	1700 Elm St. Minneapolis MN, 55414	Work Order No.:	3000025404
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Facility Code:	SR1015
Project Manager:	Paul Reymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Project Task Code:	PRJ07955
Email To:	prymaker@baywest.com	Site Location (State):	MIN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Program Code:	
Phone:	651-291-3411	Copy To:							
Copy To:	Eweaver@baywest.com	Copy To:							

Item #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-278	BW20ML-138-0-0.15	0	0.15	Sample	G	SE	Sed-Useve	12-Aug	945	2	
2	69-1291-00-278	BW20ML-138-0.15-0.25	0.15	0.25	Sample	G	SE	Sed-Useve	12-Aug	955	2	
3	69-1291-00-278	BW20ML-138-0.25-0.34	0.25	0.34	Sample	G	SE	Sed-Useve	12-Aug	1000	2	
4	69-1291-00-279	BW20ML-139-0-0.1	0	0.1	Sample	G	SE	Sed-Useve	12-Aug	1655	2	
5	69-1291-00-279	BW20ML-139-0.1-0.36	0.1	0.36	Sample	G	SE	Sed-Useve	12-Aug	1700	2	
6	69-1291-00-279	BW20ML-139-0.36-0.61	0.36	0.61	Sample	G	SE	Sed-Useve	12-Aug	1705	2	
7	2001006932	BW20ML-142-0-0.3	0	0.3	Sample	G	SO	Soil-Sub	12-Aug	1510	2	
8	2001006932	BW20ML-142-0.45-0.91	0.45	0.91	Sample	G	SO	Soil-Sub	12-Aug	1515	2	
9	2001006932	BW20ML-142-1.0-1.2	1	1.2	Sample	G	SO	Soil-Sub	12-Aug	1520	4	
10												
11												
12												

ADDITIONAL COMMENTS:		RELINQUISHED BY / AFFILIATION:	DATE:	TIME:	ACCEPTED BY / AFFILIATION:	DATE:	TIME:
					<i>Raymond Pace</i>	8/13/20	1930
SAMPLER NAME AND SIGNATURE:		PRINT Name of SAMPLER:		SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YYYY):	

Temp (°C)	*	Received on Ice (Y/N)	Y	Custody Sealed Cooler (Y/N)	N	Samples Intact (Y/N)	Y
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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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	Work Order No.	3000025404
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Facility Code:	SR1015
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Project Task Code:	PRJ07955
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Program Code:	
Phone:	651-281-3411	Copy To:							
Copy To:	Eweaver@baywest.com								

Item #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-282	BW20ML-143-0-0.24	0	0.24	Sample	G	SE	SD	Sed-Usieve	12-Aug	1640	2	
2	69-1291-00-282	BW20ML-143-0.3-0.61	0.3	0.61	Sample	G	SE	SD	Sed-Usieve	12-Aug	1645	2	
3	69-1291-00-282	BW20ML-143-0.61-0.76	0.61	0.76	Sample	G	SE	SD	Sed-Usieve	12-Aug	1650	2	
4	ML-RB01-081220				QC-EB	G	W	NW	QC-BLAN	12-Aug	800	1	
5	ML-RB02-081220				QC-EB	G	W	NW	QC-BLAN	12-Aug	810	1	
6	ML-RB03-081320				QC-EB	G	W	NW	QC-BLAN	13-Aug	1000	1	
7													
8													
9													
10													
11													
12													

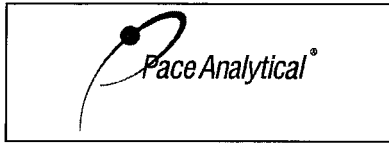
ADDITIONAL COMMENTS:		DATE:	TIME:	ACCEPTED BY:	DATE:	TIME:	SAMPLE CONDITIONS
				<i>Carol Munn</i>	8/13/20	1930	Received on Ice (Y/N) * Y N Y
							Custody Sealed Cooler (Y/N) * Y N Y
							Samples Intact (Y/N) * Y N Y
							Temp (°C) *

SAMPLER NAME AND SIGNATURE:

PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____

DATE Signed (MM/DD/YYYY): _____



Document Name:
Sample Condition Upon Receipt (SCUR) - MN

Document No.:
ENV-FRM-MIN4-0150 Rev.01

Document Revised: 12Aug2020
Page 1 of 1

Pace Analytical Services -
Minneapolis

Sample Condition Upon Receipt

Client Name: Bay West **Project #:**

WO# : 10528450

PM: CL1 Due Date: 08/28/20

CLIENT: BW-BAY WEST

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

Tracking Number: _____ **See Exceptions**
 ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459)
 T4(0254) T5(0489) **Type of Ice:** Wet Blue None Dry Melted

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.4, 0.6, 0.9, 3.4, 3.7, 0.9, 1.2 °C **Average Corrected Temp (no temp blank only):** _____ °C See Exceptions ENV-FRM-MIN4-0142 1 Container

Correction Factor: -0.2 **Cooler Temp Corrected w/temp blank:** 1.2, 0.4, 0.7, 3.2, 3.5, 0.7, 1.0 °C

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** CEG 8/13/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142 044 has 6 containers 001 has 3 containers for PCBs
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	Positive for Res. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142 Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No pH Paper Lot#
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception ENV-FRM-MIN4-0140
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased):

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____
 Comments/Resolution: _____

Field Data Required? Yes No

Date/Time: _____

Project Manager Review: _____

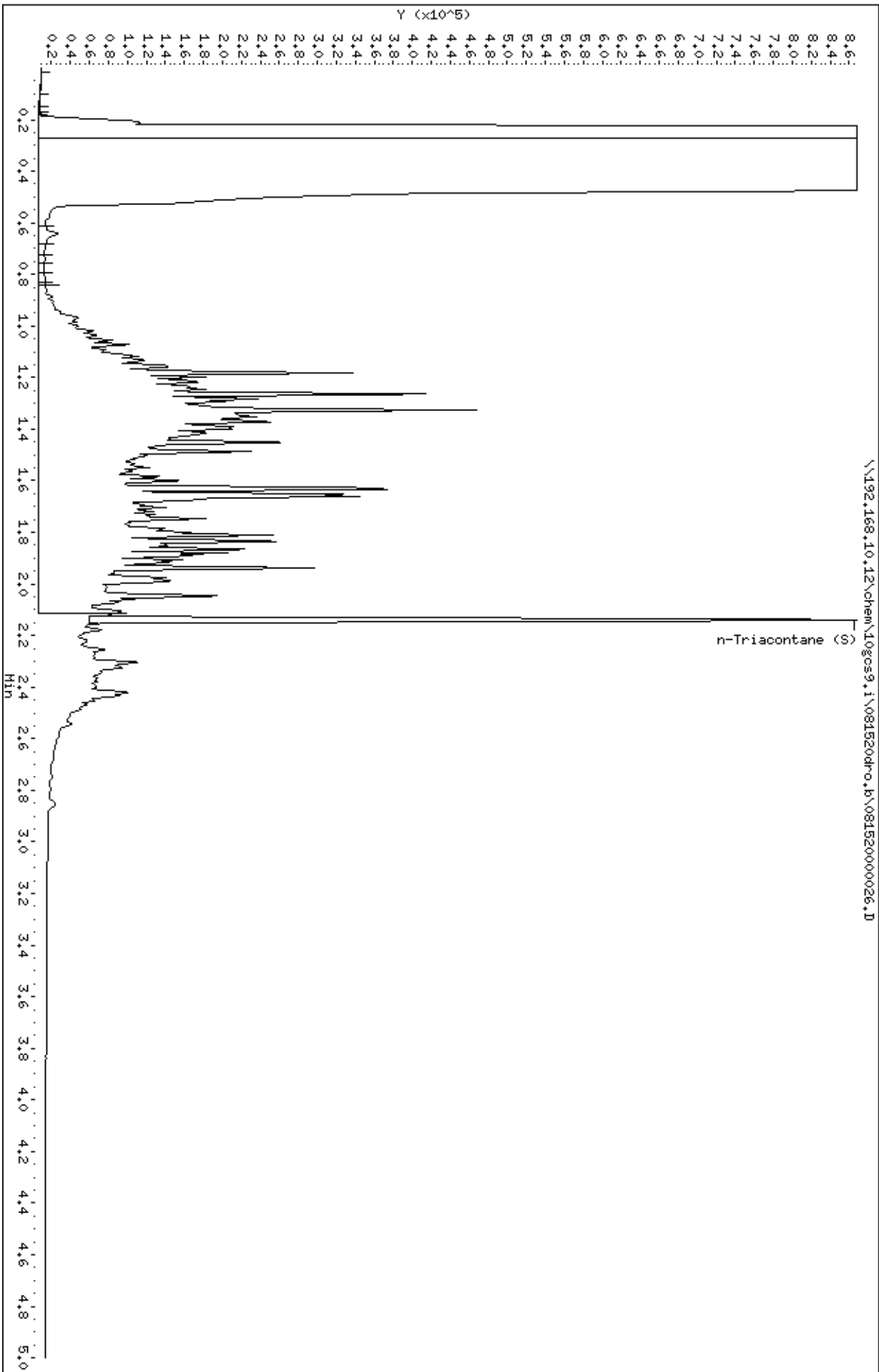
Date: 8/13/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: CMI ①

Data File: \\192.168.10.12\chem\10gos9.i\081520dr.o.b\081520000026.D
Date: 15-AUG-2020 19:45
Client ID: BM20HL-142-1.0-1.2
Sample Info: 10528450044
Volume Injected (uL): 1.0
Column phase: DB-5-MS20180032

Instrument: 10gos9.i
Operator: JVH
Column diameter: 0.32



Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10528450 Report date (mm/dd/yyyy): 8/27/2020
 Laboratory: Pace Review date (mm/dd/yyyy): 8/28/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Batch: 693047 WIDRO [M5] For the rinse blank sample, a project matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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2. Calibration

Question	Yes	No	N/A	Comments
A.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>2M: The 8260 continuing calibration for the analytes below exceeded 20% difference acceptance criteria for EPA method. Analyte presence was below reporting limits in associated samples and qualified estimated "UJ".</p> <ul style="list-style-type: none"> • BW20ML-142-1.0-1.2 (Lab ID: 10528450044) • 2,2-Dichloropropane • Chloroethane • Dichlorofluoromethane • Trichlorofluoromethane <p>3M: The 8260 continuing calibration for the analytes below exceeded 20% difference acceptance criteria for EPA method; however no reported samples were performed under this CCV. No impacts.</p> <ul style="list-style-type: none"> • 2,2-Dichloropropane • Chloroethane • Dichlorofluoromethane • Trichlorofluoromethane <p>4M: The 8260 continuing calibration for this analyte is below 20% difference acceptance criteria for EPA method 8260D but within closing 50% of the true value. Instrument sensitivity verified with reporting limit check. No impacts.</p> <ul style="list-style-type: none"> • BW20ML-142-1.0-1.2 (Lab ID: 10528450044) • 1,2-Dibromo-3-chloropropane • Bromoform • Tetrahydrofuran <p>5M: The 8260 continuing calibration for this analyte is below 20% difference acceptance criteria for EPA method 8260D but within closing 50% of the true value. No reported samples were performed under this CCV; therefore, no impacts.</p> <p>6M: This analyte did not meet the secondary source verification criteria for the initial calibration. Analyte recovery exceeded the 130% upper control limit at 148%. The associated sample was ND; no impacts.</p> <ul style="list-style-type: none"> • BW20ML-142-1.0-1.2 (Lab ID: 10528450044) • Bromomethane
				<p>Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.</p>

3. Blanks

Question		Yes	No	N/A	Comments
A.	Do any of the analyses contain samples for field or trip blanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rinseblanks RB01: PCB-1260- (Aroclor 1260) = 0.054J (AL=0.27 ug/L=8.91 ug/kg) CF=33. PCB-1260 in all associated samples are >AL and >10x the detection in the blank, or ND.
	i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C.	Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question		Yes	No	N/A	Comments
A.	Are the lab recovery limits for surrogates specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv. Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	L3: 8260 analyte recovery in the laboratory control sample (LCS) below exceeded QC limits. All associated samples were ND for this compound. No impacts.

					<ul style="list-style-type: none"> • LCS (Lab ID: 3713915) • Dichlorofluoromethane 	
	i.	If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii.	Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question	Yes	No	N/A	Comments
A. Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
i. Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ii. If no, is there an explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
iii. Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
iv. Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
v. Are there compounds outside the lab QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10528450001</p> <p>M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. PCB 1260 was qualified estimated based on this outlier for the spiked sample.</p> <ul style="list-style-type: none"> • MS (Lab ID: 3702780) • PCB-1260 (Aroclor 1260) <p>R1: RPD value was outside control limits.</p> <ul style="list-style-type: none"> • MSD (Lab ID: 3702781) • PCB-1260 (Aroclor 1260) <p>E: Analyte concentration exceeded the calibration range for the MS/MSD for batch 692676. The parent sample was within calibration range. No further impacts.</p> <p>M1: A 8270 matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10528356001. The parent sample is not a part of this SDG, no data impacts.</p> <p>M0: A 8260 matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10529436002. The parent sample not a part of this SDG, No data impacts.</p>

	vi.	If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1.	Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2.	Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3.	Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.		Was a duplicate sample submitted for the analytical method(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Duplicate Pairs: BW20ML-001-0-0.21 : BW20ML-122-0-0.21 BW20ML-002-0-0.3 : BW20ML-125-0-0.3 BW20ML-003-0-0.3 : BW20ML-130-0-0.3 BW20ML-004-0-0.27 : BW20ML-132-0-0.27
	i.	Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	BW20ML-001-0-0.21 : BW20ML-122-0-0.21 PCB-1260 RPD and PCB Total RPD >100%. FD pair qualified estimated "J". BW20ML-002-0-0.3 : BW20ML-125-0-0.3 PCB-1248, PCB-1260, PCB-1268, PCB Total RPDs > 20%. FD pair qualified estimated "J". BW20ML-003-0-0.3 : BW20ML-130-0-0.3 PCB-1248, PCB-1260, PCB Total RPDs > 20%. FD pair qualified estimated "J". BW20ML-004-0-0.27 : BW20ML-132-0-0.27 PCB-1260, PCB Total RPDs > 20%. FD pair qualified estimated "J".

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

D.	Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

T6: For WDRO C10-C28, High boiling point hydrocarbons are present in the sample.

- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)

1M: 8260 Preserved from packed glass jar within 48 hours from collection.

- BW20ML-142-1.0-1.2 (Lab ID: 10528450044)

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek

(This document has been electronically signed.)

Title: Program Chemist

Date (mm/dd/yyyy): 08/28/20

September 04, 2020

Paul Raymaker
Bay West
5 Empire Drive
Saint Paul, MN 55103

RE: Project: 200633 Munger Landing
Pace Project No.: 10528491

Dear Paul Raymaker:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Virginia

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colin Lynch
colin.lynch@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Trey Harsch, Bay West LLC
Ryan Riley, Bay West LLC
Jeff Smith, Pace Analytical Services, Inc



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Pace Analytical Services Virginia Minnesota

315 Chestnut Street, Virginia, MN 55792

Montana Certificate #CERT0103

Alaska Certification UST-107

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10528491

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10528491001	BW20ML-124-0-0.3	Solid	08/12/20 11:45	08/13/20 19:30
10528491002	BW20ML-124-0.3-0.61	Solid	08/12/20 11:50	08/13/20 19:30
10528491003	BW20ML-125-0-0.3	Solid	08/12/20 13:35	08/13/20 19:30
10528491004	BW20ML-125-0.3-0.61	Solid	08/12/20 13:40	08/13/20 19:30
10528491005	BW20ML-126-0-0.3	Solid	08/12/20 13:50	08/13/20 19:30
10528491006	BW20ML-126-0.3-0.61	Solid	08/12/20 13:55	08/13/20 19:30
10528491007	BW20ML-126-0.61-0.76	Solid	08/12/20 14:00	08/13/20 19:30
10528491008	BW20ML-118-0-0.3	Solid	08/12/20 13:00	08/13/20 19:30
10528491009	BW20ML-118-0.3-0.61	Solid	08/12/20 13:05	08/13/20 19:30
10528491010	BW20ML-118-0.61-0.76	Solid	08/12/20 13:10	08/13/20 19:30
10528491011	BW20ML-120-0-0.3	Solid	08/12/20 13:15	08/13/20 19:30
10528491012	BW20ML-120-0.3-0.45	Solid	08/12/20 13:20	08/13/20 19:30
10528491013	BW20ML-120-0.45-0.61	Solid	08/12/20 13:25	08/13/20 19:30
10528491014	BW20ML-122-0-0.21	Solid	08/12/20 10:55	08/13/20 19:30
10528491015	BW20ML-122-0.27-0.46	Solid	08/12/20 11:00	08/13/20 19:30
10528491016	BW20ML-122-0.46-0.91	Solid	08/12/20 11:05	08/13/20 19:30
10528491017	BW20ML-128-0-0.15	Solid	08/12/20 14:15	08/13/20 19:30
10528491018	BW20ML-128-0.15-0.45	Solid	08/12/20 14:20	08/13/20 19:30
10528491019	BW20ML-129-0-0.3	Solid	08/12/20 14:50	08/13/20 19:30
10528491020	BW20ML-129-0.3-0.61	Solid	08/12/20 14:55	08/13/20 19:30
10528491021	BW20ML-129-0.76-1.22	Solid	08/12/20 15:00	08/13/20 19:30
10528491022	BW20ML-130-0-0.3	Solid	08/12/20 15:35	08/13/20 19:30
10528491023	BW20ML-130-0.3-0.61	Solid	08/12/20 15:40	08/13/20 19:30
10528491024	BWML20-131-0-0.15	Solid	08/12/20 10:30	08/13/20 19:30
10528491025	BWML20-131-0.15-0.4	Solid	08/12/20 10:35	08/13/20 19:30
10528491026	BWML20-131-0.4-0.55	Solid	08/12/20 10:40	08/13/20 19:30
10528491027	BWML20-132-0-0.27	Solid	08/12/20 16:00	08/13/20 19:30
10528491028	BWML20-132-0.27-0.37	Solid	08/12/20 16:05	08/13/20 19:30
10528491029	BWML20-136-0-0.15	Solid	08/12/20 16:20	08/13/20 19:30
10528491030	BWML20-136-0.15-0.45	Solid	08/12/20 16:25	08/13/20 19:30
10528491031	BWML20-136-0.45-0.61	Solid	08/12/20 16:30	08/13/20 19:30
10528491032	BW20ML-138-0-0.15	Solid	08/12/20 09:45	08/13/20 19:30
10528491033	BW20ML-138-0.15-0.25	Solid	08/12/20 09:55	08/13/20 19:30
10528491034	BW20ML-138-0.25-0.34	Solid	08/12/20 10:00	08/13/20 19:30
10528491035	BW20ML-139-0-0.1	Solid	08/12/20 16:55	08/13/20 19:30
10528491036	BW20ML-139-0.1-0.36	Solid	08/12/20 17:00	08/13/20 19:30
10528491037	BW20ML-139-0.36-0.61	Solid	08/12/20 17:05	08/13/20 19:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10528491

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10528491038	BW20ML-142-0-0.3	Solid	08/12/20 15:10	08/13/20 19:30
10528491039	BW20ML-142-0.45-0.91	Solid	08/12/20 15:15	08/13/20 19:30
10528491040	BWML20-142-1.0-1.2	Solid	08/12/20 15:20	08/13/20 19:30
10528491041	BWML20-143-0-0.24	Solid	08/12/20 16:40	08/13/20 19:30
10528491042	BWML20-143-0.3-0.61	Solid	08/12/20 16:45	08/13/20 19:30
10528491043	BWML20-143-0.61-0.76	Solid	08/12/20 16:50	08/13/20 19:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing

Pace Project No.: 10528491

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10528491001	BW20ML-124-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491002	BW20ML-124-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491003	BW20ML-125-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491004	BW20ML-125-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491005	BW20ML-126-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491006	BW20ML-126-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491008	BW20ML-118-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491009	BW20ML-118-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491011	BW20ML-120-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491012	BW20ML-120-0.3-0.45	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491014	BW20ML-122-0-0.21	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491015	BW20ML-122-0.27-0.46	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491017	BW20ML-128-0-0.15	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491018	BW20ML-128-0.15-0.45	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491019	BW20ML-129-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491020	BW20ML-129-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491021	BW20ML-129-0.76-1.22	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491022	BW20ML-130-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491023	BW20ML-130-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing
Pace Project No.: 10528491

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9060A	BE1	5	PASI-V
10528491024	BWML20-131-0-0.15	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491025	BWML20-131-0.15-0.4	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491027	BWML20-132-0-0.27	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491028	BWML20-132-0.27-0.37	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491029	BWML20-136-0-0.15	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491030	BWML20-136-0.15-0.45	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491032	BW20ML-138-0-0.15	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491033	BW20ML-138-0.15-0.25	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491035	BW20ML-139-0-0.1	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491036	BW20ML-139-0.1-0.36	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491038	BW20ML-142-0-0.3	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491039	BW20ML-142-0.45-0.91	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491040	BWML20-142-1.0-1.2	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491041	BWML20-143-0-0.24	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V
10528491042	BWML20-143-0.3-0.61	ASTM D 2974-13 (2013)	RC	1	PASI-V
		EPA 9060A	BE1	5	PASI-V

PASI-V = Pace Analytical Services - Virginia

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10528491

Method: EPA 9060A

Description: Total Organic Carbon Quad

Client: Bay West LLC

Date: September 04, 2020

General Information:

34 samples were analyzed for EPA 9060A by Pace Analytical Services Virginia. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-124-0-0.3 **Lab ID: 10528491001** Collected: 08/12/20 11:45 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	60.6	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	85500	mg/kg	11700	2880	1		09/01/20 15:45	7440-44-0	
Total Organic Carbon	91200	mg/kg	11300	2790	1		09/01/20 15:56	7440-44-0	
Total Organic Carbon	21300	mg/kg	11700	2870	1		09/01/20 16:03	7440-44-0	
Total Organic Carbon	19900	mg/kg	11700	2880	1		09/01/20 16:11	7440-44-0	
Mean Total Organic Carbon	54500	mg/kg	11600	2860	1		09/01/20 16:11	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-124-0.3-0.61 **Lab ID: 10528491002** Collected: 08/12/20 11:50 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	62.9	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	119000	mg/kg	14100	3480	1		08/25/20 16:19	7440-44-0	
Total Organic Carbon	10900J	mg/kg	14000	3450	1		08/25/20 16:26	7440-44-0	
Total Organic Carbon	16300	mg/kg	14000	3440	1		08/25/20 16:34	7440-44-0	
Total Organic Carbon	15200	mg/kg	14200	3500	1		08/25/20 16:41	7440-44-0	
Mean Total Organic Carbon	40400	mg/kg	14100	3470	1		08/25/20 16:41	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-125-0-0.3 **Lab ID: 10528491003** Collected: 08/12/20 13:35 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	62.1	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	130000	mg/kg	11700	2880	1		09/01/20 18:23	7440-44-0	
Total Organic Carbon	119000	mg/kg	12000	2950	1		09/01/20 18:31	7440-44-0	
Total Organic Carbon	121000	mg/kg	12700	3130	1		09/01/20 18:38	7440-44-0	
Total Organic Carbon	29200	mg/kg	12200	3010	1		09/01/20 18:45	7440-44-0	
Mean Total Organic Carbon	99600	mg/kg	12100	2990	1		09/01/20 18:45	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-125-0.3-0.61 **Lab ID: 10528491004** Collected: 08/12/20 13:40 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	59.3	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	80800	mg/kg	5360	1320	1		09/02/20 16:38	7440-44-0	
Total Organic Carbon	74200	mg/kg	6360	1570	1		09/02/20 16:45	7440-44-0	
Total Organic Carbon	26200	mg/kg	6240	1540	1		09/02/20 16:53	7440-44-0	
Total Organic Carbon	21800	mg/kg	5670	1400	1		09/02/20 17:00	7440-44-0	
Mean Total Organic Carbon	50800	mg/kg	5910	1460	1		09/02/20 17:00	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-126-0-0.3 **Lab ID: 10528491005** Collected: 08/12/20 13:50 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	53.5	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	48300	mg/kg	9920	2450	1		08/25/20 18:20	7440-44-0	
Total Organic Carbon	47800	mg/kg	9740	2400	1		08/25/20 18:28	7440-44-0	
Total Organic Carbon	49600	mg/kg	9880	2440	1		08/25/20 18:35	7440-44-0	
Total Organic Carbon	42700	mg/kg	9840	2430	1		08/25/20 18:43	7440-44-0	
Mean Total Organic Carbon	47100	mg/kg	9840	2430	1		08/25/20 18:43	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-126-0.3-0.61 **Lab ID: 10528491006** Collected: 08/12/20 13:55 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	53.4	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	12500	mg/kg	9050	2230	1		09/02/20 15:21	7440-44-0	
Total Organic Carbon	42100	mg/kg	8550	2110	1		09/02/20 15:29	7440-44-0	
Total Organic Carbon	12800	mg/kg	8310	2050	1		09/02/20 15:36	7440-44-0	
Total Organic Carbon	10300	mg/kg	8720	2150	1		09/02/20 15:43	7440-44-0	
Mean Total Organic Carbon	19400	mg/kg	8660	2140	1		09/02/20 15:43	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-118-0-0.3 **Lab ID: 10528491008** Collected: 08/12/20 13:00 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	54.7	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	26300	mg/kg	11900	2920	1		08/26/20 14:40	7440-44-0	
Total Organic Carbon	71000	mg/kg	11500	2850	1		08/26/20 14:52	7440-44-0	
Total Organic Carbon	70700	mg/kg	12000	2970	1		08/26/20 15:02	7440-44-0	
Total Organic Carbon	39500	mg/kg	11900	2940	1		08/26/20 15:09	7440-44-0	
Mean Total Organic Carbon	51900	mg/kg	11800	2920	1		08/26/20 15:09	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-118-0.3-0.61 **Lab ID: 10528491009** Collected: 08/12/20 13:05 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	63.2	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	14000	mg/kg	11700	2880	1		09/01/20 14:41	7440-44-0	
Total Organic Carbon	104000	mg/kg	11000	2730	1		09/01/20 14:51	7440-44-0	
Total Organic Carbon	110000	mg/kg	11500	2840	1		09/01/20 14:59	7440-44-0	
Total Organic Carbon	37800	mg/kg	11600	2860	1		09/01/20 15:07	7440-44-0	
Mean Total Organic Carbon	66400	mg/kg	11500	2830	1		09/01/20 15:07	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-120-0-0.3 **Lab ID: 10528491011** Collected: 08/12/20 13:15 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	85.5	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	55600	mg/kg	11900	2940	1		09/01/20 14:10	7440-44-0	
Total Organic Carbon	195000	mg/kg	11700	2880	1		09/01/20 14:19	7440-44-0	
Total Organic Carbon	43000	mg/kg	11700	2890	1		09/01/20 14:26	7440-44-0	
Total Organic Carbon	27400	mg/kg	12100	2980	1		09/01/20 14:33	7440-44-0	
Mean Total Organic Carbon	80300	mg/kg	11800	2920	1		09/01/20 14:33	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-120-0.3-0.45 **Lab ID: 10528491012** Collected: 08/12/20 13:20 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	85.7	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	200000	mg/kg	12800	3160	1		09/01/20 18:53	7440-44-0	
Total Organic Carbon	206000	mg/kg	14700	3620	1		09/01/20 19:01	7440-44-0	
Total Organic Carbon	58000	mg/kg	13800	3410	1		09/01/20 19:08	7440-44-0	
Total Organic Carbon	38800	mg/kg	13100	3240	1		09/01/20 19:16	7440-44-0	
Mean Total Organic Carbon	126000	mg/kg	13600	3360	1		09/01/20 19:16	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-122-0-0.21 **Lab ID: 10528491014** Collected: 08/12/20 10:55 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	39.2	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	83400	mg/kg	5330	1320	1		08/26/20 14:09	7440-44-0	
Total Organic Carbon	75900	mg/kg	5690	1400	1		08/26/20 14:19	7440-44-0	
Total Organic Carbon	78500	mg/kg	5780	1430	1		08/26/20 14:26	7440-44-0	
Total Organic Carbon	69700	mg/kg	5920	1460	1		08/26/20 14:33	7440-44-0	
Mean Total Organic Carbon	76900	mg/kg	5680	1400	1		08/26/20 14:33	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-122-0.27-0.46 **Lab ID: 10528491015** Collected: 08/12/20 11:00 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	54.7	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	85600	mg/kg	10900	2700	1		09/01/20 13:41	7440-44-0	
Total Organic Carbon	91900	mg/kg	10600	2610	1		09/01/20 13:48	7440-44-0	
Total Organic Carbon	79400	mg/kg	10900	2680	1		09/01/20 13:56	7440-44-0	
Total Organic Carbon	82200	mg/kg	10800	2660	1		09/01/20 14:03	7440-44-0	
Mean Total Organic Carbon	84800	mg/kg	10800	2660	1		09/01/20 14:03	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-128-0-0.15 **Lab ID: 10528491017** Collected: 08/12/20 14:15 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	38.3	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	22300	mg/kg	1940	479	1		09/01/20 12:41	7440-44-0	
Total Organic Carbon	27900	mg/kg	1940	478	1		09/01/20 12:49	7440-44-0	
Total Organic Carbon	24100	mg/kg	1900	468	1		09/01/20 12:56	7440-44-0	
Total Organic Carbon	25400	mg/kg	1910	472	1		09/01/20 13:03	7440-44-0	
Mean Total Organic Carbon	24900	mg/kg	1920	474	1		09/01/20 13:03	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-128-0.15-0.45 Lab ID: 10528491018 Collected: 08/12/20 14:20 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	29.0	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	10100	mg/kg	1500	370	1		08/25/20 15:34	7440-44-0	
Total Organic Carbon	12000	mg/kg	1490	367	1		08/25/20 15:43	7440-44-0	
Total Organic Carbon	9150	mg/kg	1450	358	1		08/25/20 15:50	7440-44-0	
Total Organic Carbon	9490	mg/kg	1480	365	1		08/25/20 15:57	7440-44-0	
Mean Total Organic Carbon	10200	mg/kg	1480	365	1		08/25/20 15:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-129-0-0.3 **Lab ID: 10528491019** Collected: 08/12/20 14:50 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	23.1	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	24000	mg/kg	6120	1510	1		08/25/20 18:51	7440-44-0	
Total Organic Carbon	23700	mg/kg	5880	1450	1		08/25/20 19:00	7440-44-0	
Total Organic Carbon	23300	mg/kg	5950	1470	1		08/25/20 19:07	7440-44-0	
Total Organic Carbon	23100	mg/kg	5600	1380	1		08/25/20 19:14	7440-44-0	
Mean Total Organic Carbon	23500	mg/kg	5880	1450	1		08/25/20 19:14	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-129-0.3-0.61 **Lab ID: 10528491020** Collected: 08/12/20 14:55 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	22.2	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	10000	mg/kg	5770	1420	1		08/26/20 12:00	7440-44-0	
Total Organic Carbon	12000	mg/kg	5520	1360	1		08/26/20 12:09	7440-44-0	
Total Organic Carbon	10100	mg/kg	5540	1370	1		08/26/20 12:16	7440-44-0	
Total Organic Carbon	10700	mg/kg	5520	1360	1		08/26/20 12:24	7440-44-0	
Mean Total Organic Carbon	10700	mg/kg	5590	1380	1		08/26/20 12:24	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-129-0.76-1.22 **Lab ID: 10528491021** Collected: 08/12/20 15:00 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	24.8	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	20200	mg/kg	5410	1330	1		08/26/20 12:31	7440-44-0	
Total Organic Carbon	14700	mg/kg	5400	1330	1		08/26/20 12:41	7440-44-0	
Total Organic Carbon	14400	mg/kg	5230	1290	1		08/26/20 12:52	7440-44-0	
Total Organic Carbon	15800	mg/kg	5410	1330	1		08/26/20 12:59	7440-44-0	
Mean Total Organic Carbon	16300	mg/kg	5360	1320	1		08/26/20 12:59	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-130-0-0.3 **Lab ID: 10528491022** Collected: 08/12/20 15:35 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	67.2	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	19300	mg/kg	11500	2850	1		09/01/20 12:10	7440-44-0	
Total Organic Carbon	137000	mg/kg	11500	2820	1		09/01/20 12:19	7440-44-0	
Total Organic Carbon	33800	mg/kg	11000	2730	1		09/01/20 12:26	7440-44-0	
Total Organic Carbon	32500	mg/kg	10500	2590	1		09/01/20 12:33	7440-44-0	
Mean Total Organic Carbon	55700	mg/kg	11100	2750	1		09/01/20 12:33	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-130-0.3-0.61 **Lab ID: 10528491023** Collected: 08/12/20 15:40 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	68.2	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	145000	mg/kg	11900	2930	1		09/01/20 16:19	7440-44-0	
Total Organic Carbon	150000	mg/kg	11500	2840	1		09/01/20 16:28	7440-44-0	
Total Organic Carbon	23600	mg/kg	11900	2920	1		09/01/20 16:35	7440-44-0	
Total Organic Carbon	22200	mg/kg	11700	2880	1		09/01/20 16:42	7440-44-0	
Mean Total Organic Carbon	85000	mg/kg	11700	2890	1		09/01/20 16:42	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-131-0-0.15 **Lab ID: 10528491024** Collected: 08/12/20 10:30 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	56.7	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	76700	mg/kg	6730	1660	1		08/31/20 17:42	7440-44-0	
Total Organic Carbon	25000	mg/kg	6820	1680	1		08/31/20 17:49	7440-44-0	
Total Organic Carbon	29200	mg/kg	6740	1660	1		08/31/20 17:56	7440-44-0	
Total Organic Carbon	18000	mg/kg	6330	1560	1		08/31/20 18:04	7440-44-0	
Mean Total Organic Carbon	37200	mg/kg	6660	1640	1		08/31/20 18:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-131-0.15-0.4 **Lab ID: 10528491025** Collected: 08/12/20 10:35 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	24.3	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	13200	mg/kg	4570	1130	1		08/26/20 13:38	7440-44-0	
Total Organic Carbon	14200	mg/kg	4260	1050	1		08/26/20 13:46	7440-44-0	
Total Organic Carbon	11300	mg/kg	4570	1130	1		08/26/20 13:53	7440-44-0	
Total Organic Carbon	15900	mg/kg	4540	1120	1		08/26/20 14:01	7440-44-0	
Mean Total Organic Carbon	13700	mg/kg	4480	1110	1		08/26/20 14:01	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-132-0-0.27 **Lab ID: 10528491027** Collected: 08/12/20 16:00 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	26.0	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	31700	mg/kg	9580	2360	1		08/26/20 15:48	7440-44-0	
Total Organic Carbon	33900	mg/kg	9390	2320	1		08/26/20 15:56	7440-44-0	
Total Organic Carbon	28400	mg/kg	9650	2380	1		08/26/20 16:03	7440-44-0	
Total Organic Carbon	31000	mg/kg	9870	2430	1		08/26/20 16:10	7440-44-0	
Mean Total Organic Carbon	31200	mg/kg	9620	2370	1		08/26/20 16:10	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-132-0.27-0.37 Lab ID: 10528491028 Collected: 08/12/20 16:05 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	23.1	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	8030	mg/kg	1490	366	1		08/25/20 17:51	7440-44-0	
Total Organic Carbon	7550	mg/kg	1500	369	1		08/25/20 17:58	7440-44-0	
Total Organic Carbon	7450	mg/kg	1470	363	1		08/25/20 18:06	7440-44-0	
Total Organic Carbon	7890	mg/kg	1460	361	1		08/25/20 18:13	7440-44-0	
Mean Total Organic Carbon	7730	mg/kg	1480	365	1		08/25/20 18:13	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-136-0-0.15 **Lab ID: 10528491029** Collected: 08/12/20 16:20 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	42.0	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	17700	mg/kg	9840	2430	1		09/02/20 14:21	7440-44-0	
Total Organic Carbon	30600	mg/kg	9040	2230	1		09/02/20 14:29	7440-44-0	
Total Organic Carbon	29900	mg/kg	8660	2140	1		09/02/20 14:36	7440-44-0	
Total Organic Carbon	17900	mg/kg	9160	2260	1		09/02/20 14:44	7440-44-0	
Mean Total Organic Carbon	24000	mg/kg	9170	2260	1		09/02/20 14:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-136-0.15-0.45 Lab ID: 10528491030 Collected: 08/12/20 16:25 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	45.3	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	16300	mg/kg	10800	2670	1		09/02/20 14:51	7440-44-0	
Total Organic Carbon	73800	mg/kg	9190	2270	1		09/02/20 14:59	7440-44-0	
Total Organic Carbon	29400	mg/kg	8750	2160	1		09/02/20 15:06	7440-44-0	
Total Organic Carbon	17500	mg/kg	9690	2390	1		09/02/20 15:13	7440-44-0	
Mean Total Organic Carbon	34200	mg/kg	9610	2370	1		09/02/20 15:13	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-138-0-0.15 **Lab ID: 10528491032** Collected: 08/12/20 09:45 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	25.2	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	19600	mg/kg	5560	1370	1		09/02/20 13:52	7440-44-0	
Total Organic Carbon	22500	mg/kg	5010	1240	1		09/02/20 14:00	7440-44-0	
Total Organic Carbon	16100	mg/kg	4750	1170	1		09/02/20 14:07	7440-44-0	
Total Organic Carbon	15200	mg/kg	5340	1320	1		09/02/20 14:14	7440-44-0	
Mean Total Organic Carbon	18300	mg/kg	5160	1270	1		09/02/20 14:14	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-138-0.15-0.25 **Lab ID: 10528491033** Collected: 08/12/20 09:55 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	29.9	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	7710	mg/kg	3000	739	1		08/25/20 14:03	7440-44-0	
Total Organic Carbon	7840	mg/kg	2970	733	1		08/25/20 14:12	7440-44-0	
Total Organic Carbon	8150	mg/kg	2920	721	1		08/25/20 14:19	7440-44-0	
Total Organic Carbon	8190	mg/kg	2940	725	1		08/25/20 14:26	7440-44-0	
Mean Total Organic Carbon	7970	mg/kg	2960	730	1		08/25/20 14:26	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-139-0-0.1 **Lab ID: 10528491035** Collected: 08/12/20 16:55 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	38.8	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	33400	mg/kg	11600	2870	1		08/26/20 15:17	7440-44-0	
Total Organic Carbon	35900	mg/kg	11400	2810	1		08/26/20 15:25	7440-44-0	
Total Organic Carbon	35100	mg/kg	10800	2670	1		08/26/20 15:32	7440-44-0	
Total Organic Carbon	37000	mg/kg	12000	2950	1		08/26/20 15:41	7440-44-0	
Mean Total Organic Carbon	35400	mg/kg	11400	2820	1		08/26/20 15:41	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-139-0.1-0.36 **Lab ID: 10528491036** Collected: 08/12/20 17:00 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	24.2	%	0.10	0.10	1		08/24/20 18:46		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	7080	mg/kg	4590	1130	1		08/26/20 13:06	7440-44-0	
Total Organic Carbon	7370	mg/kg	4410	1090	1		08/26/20 13:16	7440-44-0	
Total Organic Carbon	6890	mg/kg	4510	1110	1		08/26/20 13:23	7440-44-0	
Total Organic Carbon	9380	mg/kg	4490	1110	1		08/26/20 13:30	7440-44-0	
Mean Total Organic Carbon	7680	mg/kg	4500	1110	1		08/26/20 13:30	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-142-0-0.3 **Lab ID: 10528491038** Collected: 08/12/20 15:10 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	21.0	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	27300	mg/kg	5190	1280	1		09/02/20 13:20	7440-44-0	
Total Organic Carbon	27000	mg/kg	4990	1230	1		09/02/20 13:27	7440-44-0	
Total Organic Carbon	27600	mg/kg	5080	1250	1		09/02/20 13:35	7440-44-0	
Total Organic Carbon	27900	mg/kg	5170	1270	1		09/02/20 13:42	7440-44-0	
Mean Total Organic Carbon	27400	mg/kg	5110	1260	1		09/02/20 13:42	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BW20ML-142-0.45-0.91 Lab ID: 10528491039 Collected: 08/12/20 15:15 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	18.9	%	0.10	0.10	1		08/28/20 18:30		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	8070	mg/kg	1480	364	1		08/25/20 14:34	7440-44-0	
Total Organic Carbon	8090	mg/kg	1490	367	1		08/25/20 14:41	7440-44-0	
Total Organic Carbon	7740	mg/kg	1490	366	1		08/25/20 14:48	7440-44-0	
Total Organic Carbon	8170	mg/kg	1480	364	1		08/25/20 14:56	7440-44-0	
Mean Total Organic Carbon	8020	mg/kg	1480	365	1		08/25/20 14:56	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-142-1.0-1.2 **Lab ID: 10528491040** Collected: 08/12/20 15:20 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	19.6	%	0.10	0.10	1		08/28/20 18:30		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	4940	mg/kg	1490	368	1		08/25/20 15:03	7440-44-0	
Total Organic Carbon	5460	mg/kg	1490	367	1		08/25/20 15:11	7440-44-0	
Total Organic Carbon	6940	mg/kg	1440	355	1		08/25/20 15:19	7440-44-0	
Total Organic Carbon	5850	mg/kg	1470	363	1		08/25/20 15:27	7440-44-0	
Mean Total Organic Carbon	5800	mg/kg	1470	363	1		08/25/20 15:27	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-143-0-0.24 **Lab ID: 10528491041** Collected: 08/12/20 16:40 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	61.5	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	58600	mg/kg	11800	2900	1		09/01/20 16:49	7440-44-0	
Total Organic Carbon	151000	mg/kg	11300	2800	1		09/01/20 16:58	7440-44-0	
Total Organic Carbon	83100	mg/kg	11500	2840	1		09/01/20 17:05	7440-44-0	
Total Organic Carbon	96200	mg/kg	11700	2880	1		09/01/20 17:12	7440-44-0	
Mean Total Organic Carbon	97200	mg/kg	11600	2860	1		09/01/20 17:12	7440-44-0	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10528491

Sample: BWML20-143-0.3-0.61 **Lab ID: 10528491042** Collected: 08/12/20 16:45 Received: 08/13/20 19:30 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
Dry Weight	Analytical Method: ASTM D 2974-13 (2013) Pace Analytical Services - Virginia								
Percent Moisture	79.0	%	0.10	0.10	1		08/21/20 19:41		
Total Organic Carbon Quad	Analytical Method: EPA 9060A Pace Analytical Services - Virginia								
Total Organic Carbon	193000	mg/kg	10700	2630	1		09/02/20 12:50	7440-44-0	
Total Organic Carbon	199000	mg/kg	10800	2670	1		09/02/20 12:58	7440-44-0	
Total Organic Carbon	201000	mg/kg	11600	2860	1		09/02/20 13:05	7440-44-0	
Total Organic Carbon	110000	mg/kg	11600	2870	1		09/02/20 13:13	7440-44-0	
Mean Total Organic Carbon	176000	mg/kg	11200	2760	1		09/02/20 13:13	7440-44-0	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528491

QC Batch:	196741	Analysis Method:	ASTM D 2974-13 (2013)
QC Batch Method:	ASTM D 2974-13 (2013)	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Virginia

Associated Lab Samples: 10528491001, 10528491004, 10528491006, 10528491009, 10528491011, 10528491012, 10528491015, 10528491017, 10528491022, 10528491024, 10528491029, 10528491030, 10528491032, 10528491038, 10528491041, 10528491042

SAMPLE DUPLICATE: 777723

Parameter	Units	12149567002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.8	9.6	2	5	

SAMPLE DUPLICATE: 777724

Parameter	Units	12149566002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.7	9.7	0	5	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528491

QC Batch: 196743

Analysis Method: ASTM D 2974-13 (2013)

QC Batch Method: ASTM D 2974-13 (2013)

Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Virginia

Associated Lab Samples: 10528491003, 10528491023

SAMPLE DUPLICATE: 777725

Parameter	Units	10528611012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	29.5	29.8	1	5	

SAMPLE DUPLICATE: 777726

Parameter	Units	10528611002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.0	21.5	7	5	D6

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10528491

QC Batch:	196843	Analysis Method:	ASTM D 2974-13 (2013)
QC Batch Method:	ASTM D 2974-13 (2013)	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Virginia

Associated Lab Samples: 10528491002, 10528491005, 10528491008, 10528491018, 10528491019, 10528491020, 10528491021, 10528491025, 10528491028, 10528491033, 10528491036

SAMPLE DUPLICATE: 778187

Parameter	Units	10528491005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	53.5	55.9	4	5	

SAMPLE DUPLICATE: 778188

Parameter	Units	10528491025 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	24.3	23.1	5	5	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528491

QC Batch: 196844

Analysis Method: ASTM D 2974-13 (2013)

QC Batch Method: ASTM D 2974-13 (2013)

Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Virginia

Associated Lab Samples: 10528491014, 10528491027, 10528491035

SAMPLE DUPLICATE: 778189

Parameter	Units	10528491014 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	39.2	38.7	1	5	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10528491

QC Batch: 197265

Analysis Method: ASTM D 2974-13 (2013)

QC Batch Method: ASTM D 2974-13 (2013)

Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Virginia

Associated Lab Samples: 10528491039, 10528491040

SAMPLE DUPLICATE: 779884

Parameter	Units	12149881002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.6	9.6	0	5	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10528491

QC Batch:	196478	Analysis Method:	EPA 9060A
QC Batch Method:	EPA 9060A	Analysis Description:	9060 TOC Average
		Laboratory:	Pace Analytical Services - Virginia

Associated Lab Samples: 10528491002, 10528491005, 10528491008, 10528491014, 10528491018, 10528491019, 10528491020, 10528491021, 10528491025, 10528491027, 10528491028, 10528491033, 10528491035, 10528491036, 10528491039, 10528491040

METHOD BLANK: 776541 Matrix: Solid
Associated Lab Samples: 10528491002, 10528491005, 10528491008, 10528491014, 10528491018, 10528491019, 10528491020, 10528491021, 10528491025, 10528491027, 10528491028, 10528491033, 10528491035, 10528491036, 10528491039, 10528491040

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<603	603	149	08/24/20 15:11	

LABORATORY CONTROL SAMPLE: 776542

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	3280	3370	103	49-151	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 776543 776544

Parameter	Units	10528083012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	16700	53300	52500	66000	63900	93	90	70-130	3	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 776545 776546

Parameter	Units	10528083013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	2000	6030	6030	8160	8120	102	101	70-130	1	25	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10528491

QC Batch:	197154	Analysis Method:	EPA 9060A
QC Batch Method:	EPA 9060A	Analysis Description:	9060 TOC Average
		Laboratory:	Pace Analytical Services - Virginia

Associated Lab Samples: 10528491001, 10528491003, 10528491004, 10528491006, 10528491009, 10528491011, 10528491012, 10528491015, 10528491017, 10528491022, 10528491023, 10528491024, 10528491029, 10528491030, 10528491032, 10528491038, 10528491041, 10528491042

METHOD BLANK: 779600 Matrix: Solid
Associated Lab Samples: 10528491001, 10528491003, 10528491004, 10528491006, 10528491009, 10528491011, 10528491012, 10528491015, 10528491017, 10528491022, 10528491023, 10528491024, 10528491029, 10528491030, 10528491032, 10528491038, 10528491041, 10528491042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<603	603	149	08/31/20 13:27	

LABORATORY CONTROL SAMPLE: 779601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	3280	3320	101	49-151	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 779602 779603

Parameter	Units	10528568014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	6870	19200	19100	24500	24300	92	91	70-130	0	25	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 779604 779605

Parameter	Units	10528568020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	1510	11600	11600	12500	12500	95	94	70-130	0	25	

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QUALIFIERS

Project: 200633 Munger Landing

Pace Project No.: 10528491

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

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing

Pace Project No.: 10528491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10528491001	BW20ML-124-0-0.3	ASTM D 2974-13 (2013)	196741		
10528491002	BW20ML-124-0.3-0.61	ASTM D 2974-13 (2013)	196843		
10528491003	BW20ML-125-0-0.3	ASTM D 2974-13 (2013)	196743		
10528491004	BW20ML-125-0.3-0.61	ASTM D 2974-13 (2013)	196741		
10528491005	BW20ML-126-0-0.3	ASTM D 2974-13 (2013)	196843		
10528491006	BW20ML-126-0.3-0.61	ASTM D 2974-13 (2013)	196741		
10528491008	BW20ML-118-0-0.3	ASTM D 2974-13 (2013)	196843		
10528491009	BW20ML-118-0.3-0.61	ASTM D 2974-13 (2013)	196741		
10528491011	BW20ML-120-0-0.3	ASTM D 2974-13 (2013)	196741		
10528491012	BW20ML-120-0.3-0.45	ASTM D 2974-13 (2013)	196741		
10528491014	BW20ML-122-0-0.21	ASTM D 2974-13 (2013)	196844		
10528491015	BW20ML-122-0.27-0.46	ASTM D 2974-13 (2013)	196741		
10528491017	BW20ML-128-0-0.15	ASTM D 2974-13 (2013)	196741		
10528491018	BW20ML-128-0.15-0.45	ASTM D 2974-13 (2013)	196843		
10528491019	BW20ML-129-0-0.3	ASTM D 2974-13 (2013)	196843		
10528491020	BW20ML-129-0.3-0.61	ASTM D 2974-13 (2013)	196843		
10528491021	BW20ML-129-0.76-1.22	ASTM D 2974-13 (2013)	196843		
10528491022	BW20ML-130-0-0.3	ASTM D 2974-13 (2013)	196741		
10528491023	BW20ML-130-0.3-0.61	ASTM D 2974-13 (2013)	196743		
10528491024	BWML20-131-0-0.15	ASTM D 2974-13 (2013)	196741		
10528491025	BWML20-131-0.15-0.4	ASTM D 2974-13 (2013)	196843		
10528491027	BWML20-132-0-0.27	ASTM D 2974-13 (2013)	196844		
10528491028	BWML20-132-0.27-0.37	ASTM D 2974-13 (2013)	196843		
10528491029	BWML20-136-0-0.15	ASTM D 2974-13 (2013)	196741		
10528491030	BWML20-136-0.15-0.45	ASTM D 2974-13 (2013)	196741		
10528491032	BW20ML-138-0-0.15	ASTM D 2974-13 (2013)	196741		
10528491033	BW20ML-138-0.15-0.25	ASTM D 2974-13 (2013)	196843		
10528491035	BW20ML-139-0-0.1	ASTM D 2974-13 (2013)	196844		
10528491036	BW20ML-139-0.1-0.36	ASTM D 2974-13 (2013)	196843		
10528491038	BW20ML-142-0-0.3	ASTM D 2974-13 (2013)	196741		
10528491039	BW20ML-142-0.45-0.91	ASTM D 2974-13 (2013)	197265		
10528491040	BWML20-142-1.0-1.2	ASTM D 2974-13 (2013)	197265		
10528491041	BWML20-143-0-0.24	ASTM D 2974-13 (2013)	196741		
10528491042	BWML20-143-0.3-0.61	ASTM D 2974-13 (2013)	196741		
10528491001	BW20ML-124-0-0.3	EPA 9060A	197154		
10528491001	BW20ML-124-0-0.3	EPA 9060A	197155		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing
Pace Project No.: 10528491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10528491002	BW20ML-124-0.3-0.61	EPA 9060A	196478		
10528491002	BW20ML-124-0.3-0.61	EPA 9060A	196480		
10528491003	BW20ML-125-0-0.3	EPA 9060A	197154		
10528491003	BW20ML-125-0-0.3	EPA 9060A	197155		
10528491004	BW20ML-125-0.3-0.61	EPA 9060A	197154		
10528491004	BW20ML-125-0.3-0.61	EPA 9060A	197155		
10528491005	BW20ML-126-0-0.3	EPA 9060A	196478		
10528491005	BW20ML-126-0-0.3	EPA 9060A	196480		
10528491006	BW20ML-126-0.3-0.61	EPA 9060A	197154		
10528491006	BW20ML-126-0.3-0.61	EPA 9060A	197155		
10528491008	BW20ML-118-0-0.3	EPA 9060A	196478		
10528491008	BW20ML-118-0-0.3	EPA 9060A	196480		
10528491009	BW20ML-118-0.3-0.61	EPA 9060A	197154		
10528491009	BW20ML-118-0.3-0.61	EPA 9060A	197155		
10528491011	BW20ML-120-0-0.3	EPA 9060A	197154		
10528491011	BW20ML-120-0-0.3	EPA 9060A	197155		
10528491012	BW20ML-120-0.3-0.45	EPA 9060A	197154		
10528491012	BW20ML-120-0.3-0.45	EPA 9060A	197155		
10528491014	BW20ML-122-0-0.21	EPA 9060A	196478		
10528491014	BW20ML-122-0-0.21	EPA 9060A	196480		
10528491015	BW20ML-122-0.27-0.46	EPA 9060A	197154		
10528491015	BW20ML-122-0.27-0.46	EPA 9060A	197155		
10528491017	BW20ML-128-0-0.15	EPA 9060A	197154		
10528491017	BW20ML-128-0-0.15	EPA 9060A	197155		
10528491018	BW20ML-128-0.15-0.45	EPA 9060A	196478		
10528491018	BW20ML-128-0.15-0.45	EPA 9060A	196480		
10528491019	BW20ML-129-0-0.3	EPA 9060A	196478		
10528491019	BW20ML-129-0-0.3	EPA 9060A	196480		
10528491020	BW20ML-129-0.3-0.61	EPA 9060A	196478		
10528491020	BW20ML-129-0.3-0.61	EPA 9060A	196480		
10528491021	BW20ML-129-0.76-1.22	EPA 9060A	196478		
10528491021	BW20ML-129-0.76-1.22	EPA 9060A	196480		
10528491022	BW20ML-130-0-0.3	EPA 9060A	197154		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing
Pace Project No.: 10528491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10528491022	BW20ML-130-0-0.3	EPA 9060A	197155		
10528491023	BW20ML-130-0.3-0.61	EPA 9060A	197154		
10528491023	BW20ML-130-0.3-0.61	EPA 9060A	197155		
10528491024	BWML20-131-0-0.15	EPA 9060A	197154		
10528491024	BWML20-131-0-0.15	EPA 9060A	197155		
10528491025	BWML20-131-0.15-0.4	EPA 9060A	196478		
10528491025	BWML20-131-0.15-0.4	EPA 9060A	196480		
10528491027	BWML20-132-0-0.27	EPA 9060A	196478		
10528491027	BWML20-132-0-0.27	EPA 9060A	196480		
10528491028	BWML20-132-0.27-0.37	EPA 9060A	196478		
10528491028	BWML20-132-0.27-0.37	EPA 9060A	196480		
10528491029	BWML20-136-0-0.15	EPA 9060A	197154		
10528491029	BWML20-136-0-0.15	EPA 9060A	197155		
10528491030	BWML20-136-0.15-0.45	EPA 9060A	197154		
10528491030	BWML20-136-0.15-0.45	EPA 9060A	197155		
10528491032	BW20ML-138-0-0.15	EPA 9060A	197154		
10528491032	BW20ML-138-0-0.15	EPA 9060A	197155		
10528491033	BW20ML-138-0.15-0.25	EPA 9060A	196478		
10528491033	BW20ML-138-0.15-0.25	EPA 9060A	196480		
10528491035	BW20ML-139-0-0.1	EPA 9060A	196478		
10528491035	BW20ML-139-0-0.1	EPA 9060A	196480		
10528491036	BW20ML-139-0.1-0.36	EPA 9060A	196478		
10528491036	BW20ML-139-0.1-0.36	EPA 9060A	196480		
10528491038	BW20ML-142-0-0.3	EPA 9060A	197154		
10528491038	BW20ML-142-0-0.3	EPA 9060A	197155		
10528491039	BW20ML-142-0.45-0.91	EPA 9060A	196478		
10528491039	BW20ML-142-0.45-0.91	EPA 9060A	196480		
10528491040	BWML20-142-1.0-1.2	EPA 9060A	196478		
10528491040	BWML20-142-1.0-1.2	EPA 9060A	196480		
10528491041	BWML20-143-0-0.24	EPA 9060A	197154		
10528491041	BWML20-143-0-0.24	EPA 9060A	197155		
10528491042	BWML20-143-0.3-0.61	EPA 9060A	197154		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing
Pace Project No.: 10528491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10528491042	BWML20-143-0.3-0.61	EPA 9060A	197155		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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WO#: 10528491



10528491

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Bay West	Project Name: Bay West	Munger Landing	Accounts Payable	Lab Name: 1700 Elm St. Minneapolis MN, 55414	COC ID:
Address: 5 Empire Dr. St. Paul MN, 55103	Project Number: 200633	Company Name: Bay West LLC	Company Name: Bay West LLC	Address: 1700 Elm St. Minneapolis MN, 55414	Work Order No. 3000025404
Project Manager: Paul Raymaker	Turnaround Time: Standard	Address: 5 Empire Dr. St. Paul, MN 55103	Address: 5 Empire Dr. St. Paul, MN 55103	Lab Project Manager: Colin Lynch	Facility Code: SR1015
Email To: praymaker@baywest.com	Site Location (State): MN	Purchase Order No. 206553	Purchase Order No. 206553	Lab Phone: 612-656-2286	Project Task Code: PRJ07955
Phone: 651-291-3411	Copy To:				Program Code
Copy To: Eweaver@baywest.com					

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB, C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	Requested Analysis		
														Preservatives		
1	69-1291-00-265	BW20ML-124-0-0.3	0	0.3	Sample	G	SE	SD	Sed. Useve	12-Aug	1145	1				
2	69-1291-00-265	BW20ML-124-0-0.61	0.3	0.61	Sample	G	SE	SD	Sed. Useve	12-Aug	1150	1				
3																
4	69-1291-00-266	BW20ML-125-0-0.3	0	0.3	Sample	G	SE	SD	Sed. Useve	12-Aug	1335	1				
5	69-1291-00-266	BW20ML-125-0-0.61	0.3	0.61	Sample	G	SE	SD	Sed. Useve	12-Aug	1340	1				
6																
7	69-1291-00-267	BW20ML-126-0-0.3	0	0.3	Sample	G	SE	SD	Sed. Useve	12-Aug	1350	1				
8	69-1291-00-267	BW20ML-126-0-0.61	0.3	0.61	Sample	G	SE	SD	Sed. Useve	12-Aug	1355	1				
9	69-1291-00-267	BW20ML-126-0.61-0.76	0.61	0.76	Sample	G	SE	SD	Sed. Useve	12-Aug	1400	1				
10																
11																
12																

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE		TIME		DATE		TIME		SAMPLE CONDITIONS	
		Paul Raymaker		Colin Lynch		8/13/20		13:05		8/13/20		1930		V N V	
		Paul Raymaker		Colin Lynch		8/13/20		1410		8/13/20		1930		* * * * *	
SAMPLER NAME AND SIGNATURE														Temp (C)	
PRINT Name of SAMPLER:														Temp (C)	
SIGNATURE of SAMPLER:														Temp (C)	

3.1, 4.7, 8.6, 2.3, 8.0°C

* T = 1.2, 4.0, 0.7, 3.2, 3.5, 0.7, 1.0



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.	206553	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	SAMPLE TYPE (G-RAB C-COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	Requested Analysis			PRESERVATIVES		
														Relinquished by Affiliation	Date	Time	Relinquished by Affiliation	Date	Time
1	69-1291-00-259	BW20ML-118-0-0.3	0	0.3	Sample	G	SE SD	Sed-Usieve		12-AUG	1300	1							
2	69-1291-00-259	BW20ML-118-0.3-0.61	0.3	0.61	Sample	G	SE SD	Usieve		12-AUG	1305	1							
3	69-1291-00-259	BW20ML-118-0.61-0.76	0.61	0.76	Sample	G	SE SD	Sed-Usieve		12-AUG	1310	1							
4	69-1291-00-261	BW20ML-120-0-0.3	0	0.3	Sample	G	SE SD	Sed-Usieve		12-AUG	1315	1							
5	69-1291-00-261	BW20ML-120-0.3-0.45	0.3	0.45	Sample	G	SE SD	Usieve		12-AUG	1320	1							
6	69-1291-00-261	BW20ML-120-0.45-0.61	0.45	0.61	Sample	G	SE SD	Sed-Usieve		12-AUG	1325	1							
7	69-1291-00-263	BW20ML-122-0-0.21	0	0.21	Sample	G	SE SD	Sed-Usieve		12-AUG	1055	1							
8	69-1291-00-263	BW20ML-122-0.27-0.46	0.27	0.46	Sample	G	SE SD	Usieve		12-AUG	1100	1							
9	69-1291-00-263	BW20ML-122-0.46-0.91	0.5	0.91	Sample	G	SE SD	Sed-Usieve		12-AUG	1105	1							
10																			
11																			
12																			

ADDITIONAL COMMENTS	RELINQUISHED BY/AFFILIATION	DATE	TIME	RECEIVED BY/AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Paul Raymaker	8/13/20	1305	Colin Lynch	8/13/20	13:05	3.1
	Charles Pace	8/13/20	1410	Charles Pace	8/13/20	1930	* V M V
							Received on Ice (Y/N)
							Custody Sealed Cooler (Y/N)
							Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	DATE Signed (MM/DD/YYYY):
SIGNATURE of SAMPLER:	

3.1, 4.7, 2.3, 8.6, 8.0'e
Page 55 of 64



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	1700 Elm St. Minneapolis MN, 55414	Work Order No.:	3000025404
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Facility Code:	SR1015
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Project Task Code:	PRJ07955
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206553	Lab Phone:	612-656-2286	Program Code:	
Phone:	651-291-3411	Copy To:							
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		Temp (°C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Inlet (Y/N)
													DATE	TIME	DATE	TIME				
1	69-1291-00-271	BWML20-131-0-0.15	0	0.15	Sample	G	SE	SD	12-Aug	1030	1		X							
2	69-1291-00-271	BWML20-131-0.15-0.4	0.15	0.4	Sample	G	SE	SD	12-Aug	1035	1		X							
3	69-1291-00-271	BWML20-131-0.4-0.55	0.4	0.55	Sample	G	SE	SD	12-Aug	1040	1									
4	69-1291-00-272	BWML20-132-0-0.27	0	0.27	Sample	G	SE	SD	12-Aug	1600	1									
5	69-1291-00-272	BWML20-132-0.27-0.37	0.27	0.37	Sample	G	SE	SD	12-Aug	1605	1									
6	69-1291-00-276	BWML20-136-0-0.15	0	0.15	Sample	G	SE	SD	12-Aug	1620	1									
7	69-1291-00-276	BWML20-136-0.15-0.45	0.15	0.45	Sample	G	SE	SD	12-Aug	1625	1									
8	69-1291-00-276	BWML20-136-0.45-0.61	0.45	0.61	Sample	G	SE	SD	12-Aug	1630	1									
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS

8/13/20 13:05
8/13/20 14:10
APR OMB ERCE
Pace

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER:

8/13/20

3.1
*
Y N V

Temp (°C)

Received on Ice (Y/N)

Custody Sealed Cooler (Y/N)

Samples Inlet (Y/N)

8/13/20



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206553	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	EPA 9060 (Quad Bur)	Comments	SAMPLE CONDITIONS			
															Relinquished by / Affiliation	Date	Time	Received on Ice (Y/N)
1	69-1291-00-278	BW20ML-138-0-0.15	0	0.15	Sample	G	SE	SD	Sed-Useave	12-Aug	945	1	X					
2	69-1291-00-278	BW20ML-138-0.15-0.25	0.15	0.25	Sample	G	SE	SD	Sed-Useave	12-Aug	955	1	X					
3	69-1291-00-278	BW20ML-138-0.25-0.34	0.25	0.34	Sample	G	SE	SD	Sed-Useave	12-Aug	1000	1						
4	69-1291-00-279	BW20ML-139-0-0.1	0	0.1	Sample	G	SE	SD	Sed-Useave	12-Aug	1655	1	X					
5	69-1291-00-279	BW20ML-139-0.1-0.36	0.1	0.36	Sample	G	SE	SD	Sed-Useave	12-Aug	1700	1	X					
6	69-1291-00-279	BW20ML-139-0.36-0.61	0.36	0.61	Sample	G	SE	SD	Sed-Useave	12-Aug	1705	1						
7	2001006932	BW20ML-142-0-0.3	0	0.3	Sample	G	SO	SD	Soil-Sub	12-Aug	1510	1	X					
8	2001006932	BW20ML-142-0.45-0.91	0.45	0.91	Sample	G	SO	SD	Soil-Sub	12-Aug	1515	1	X					
9	2001006932	BW20ML-142-1.0-1.2	1	1.2	Sample	G	SO	SD	Soil-Sub	12-Aug	1520	1	X					
10																		
11																		
12																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	<i>[Signature]</i>	8/30	1305	<i>[Signature]</i>	8/13/20	13:05
	<i>[Signature]</i>	8/30	1410	<i>[Signature]</i>	8/13/20	1430

SAMPLER NAME AND SIGNATURE		DATE SIGNED (MM/DD/YYYY)
<i>[Signature]</i>		8/13/20
PRINT NAME OF SAMPLER:		
SIGNATURE OF SAMPLER:		

3.1, 4.7, 8.6, 2.3, 80 °C



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:			Section B Required Project Information:			Section C Invoice Information:			Section D Laboratory Information:			Section E MPCA Information:			
Company:	Bay West	Munger Landing	Project Name:	200633	Accounts Payable	Lab Name:	Pace	COC ID:	3000025404	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	SR1015	Project Task Code:	PRJ07955
Address:	5 Empire Dr. St. Paul MN, 55103	Standard	Project Number:	MN	Company Name:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	612-656-2286	Facility Code:	Lab Phone:	206553	Project Task Code:	PRJ07955	Program Code:	
Project Manager:	Paul Raymaker	Standard	Turnaround Time:		Address:		Lab Project Manager:								
Email To:	praymaker@baywest.com		Site Location (State):		Purchase Order No.:		Lab Phone:								
Phone:	651-291-3411		Copy To:												
Copy To:	Eweaver@baywest.com														

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	Matrix Code	Relinquished By / Affiliation		Date	Time	Accepted by / Affiliation	Date	Time	Sample Conditions	Comments
							Lab Mark Code (MPCA ONLY)	Field Mark Code (MPCA ONLY)							
1	69-1291-00-282	BWML20-143-0-0.24	0	0.24	Sample	SE SD	Sed-Useve	8/12/2020	1640	X	EPA 9060 (Quad Bur)	8/13/20	13:05	Y	
2	69-1291-00-282	BWML20-143-0.3-0.61	0.3	0.61	Sample	SE SD	Sed-Useve	8/12/2020	1645	X		8/13/20	1930	N	
3	69-1291-00-282	BWML20-143-0.61-0.76	0.61	0.76	Sample	SE SD	Sed-Useve	8/12/2020	1650			8/13/20	1930	V	HOLD FOR TOC ANALYSIS
4															
5															
6															
7															
8															
9															
10															
11															
12															

ADDITIONAL COMMENTS: Bay West
 8/13/20 13:05
 PACE
 In-Custody Here
 8/13/20 1930
 * T=12, 6, 40, 7, 3, 2, 3, 5, 0, 8, 1, 0

RELINQUISHED BY / AFFILIATION: *[Signature]* PACE
DATE: 8/13/20
TIME: 13:05
ACCEPTED BY / AFFILIATION: *[Signature]* Here
DATE: 8/13/20
TIME: 1930

RECEIVED ON ICE (Y/N): Y
CUSTODY SEALED COOLER (Y/N): N
SAMPLES INTACT (Y/N): V

TEMP (C): 3.1

SAMPLER NAME AND SIGNATURE: *[Signature]*
PRINT NAME OF SAMPLER: PACE
SIGNATURE OF SAMPLER: *[Signature]*

Sample Condition Upon Receipt **Client Name:** Bay West **Project #:** _____

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

Tracking Number: _____ See Exceptions ENV-FRM-MIN4-0142

WO#: 10528491

PM: CL1 **Due Date: 08/28/20**
CLIENT: BW-BAY WEST

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459)
 T4(0254) T5(0489) **Type of Ice:** Wet Blue None Dry Melted

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.4, 0.6, 0.9, 3.4, 3.7, 0.9, 1.2 °C

Correction Factor: -0.2 **Cooler Temp Corrected w/temp blank:** 1.2, 0.4, 0.7, 3.2, 3.5, 0.7, 1.0 °C

Average Corrected Temp (no temp blank only): _____ °C See Exceptions ENV-FRM-MIN4-0142
 1 Container

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** CEG 8/13/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142 <u>016 is labeled "ZZ-0.5-0.91"</u> <u>024-031 are labeled "BW20ML"</u> > don't match COC
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142 Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No pH Paper Lot#
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: *Col Lynch* **Date:** 8/14/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Internal Transfer Chain of Custody

Samples Pre-Logged into eCOC.

Workorder: 10528491 Workorder Name: 200633 Munger Landing

Report To

Subcontract To

Colin Lynch
Pace Analytical Minnesota
1700 Elm Street
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

Pace Analytical Virginia MN
315 Chestnut Street
Virginia, MN 55792
Phone (218)742-1042

State Of Origin: MN
Cert. Needed: Yes No
Owner Received Date: 8/13/2020 Results Requested By: 8/28/2020
Requested Analysis

MO#: 12149184



12149184

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Sample Disposal	TOC by EPA 9060 (Quad Burn)											LAB USE ONLY
						Unpreserved JGFU														
1	BW20ML-124-0-0.3	PS	8/12/2020 11:45	10528491001	Solid	1		X	X											
2	BW20ML-124-0-3-0.61	PS	8/12/2020 11:50	10528491002	Solid	1		X	X											
3	BW20ML-125-0-0.3	PS	8/12/2020 13:35	10528491003	Solid	1		X	X											
4	BW20ML-125-0-3-0.61	PS	8/12/2020 13:40	10528491004	Solid	1		X	X											
5	BW20ML-126-0-0.3	PS	8/12/2020 13:50	10528491005	Solid	1		X	X											
6	BW20ML-126-0-3-0.61	PS	8/12/2020 13:55	10528491006	Solid	1		X	X											
7	BW20ML-118-0-0.3	PS	8/12/2020 13:00	10528491008	Solid	1		X	X											
8	BW20ML-118-0-3-0.61	PS	8/12/2020 13:05	10528491009	Solid	1		X	X											
9	BW20ML-120-0-0.3	PS	8/12/2020 13:15	10528491011	Solid	1		X	X											
10	BW20ML-120-0-3-0.45	PS	8/12/2020 13:20	10528491012	Solid	1		X	X											
11	BW20ML-122-0-0.21	PS	8/12/2020 10:55	10528491014	Solid	1		X	X											
12	BW20ML-122-0.27-0.46	PS	8/12/2020 11:00	10528491015	Solid	1		X	X											
13	BW20ML-128-0-0.15	PS	8/12/2020 14:15	10528491017	Solid	1		X	X											
14	BW20ML-128-0-15-0.45	PS	8/12/2020 14:20	10528491018	Solid	1		X	X											
15	BW20ML-129-0-0.3	PS	8/12/2020 14:50	10528491019	Solid	1		X	X											
16	BW20ML-129-0-3-0.61	PS	8/12/2020 14:55	10528491020	Solid	1		X	X											
17	BW20ML-129-0.76-1.22	PS	8/12/2020 15:00	10528491021	Solid	1		X	X											
18	BW20ML-130-0-0.3	PS	8/12/2020 15:35	10528491022	Solid	1		X	X											
19	BW20ML-130-0.3-0.61	PS	8/12/2020 15:40	10528491023	Solid	1		X	X											

Internal Transfer Chain of Custody

Samples Pre-Logged into eCOC.

Workorder: 10528491 Workorder Name: 200633 Munger Landing

Report To: Colin Lynch Subcontract To: Pace Analytical Virginia MN

Pace Analytical Minnesota
1700 Elm Street
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

315 Chestnut Street
Virginia, MN 55792
Phone (218)742-1042

State Of Origin: MN
Cert. Needed: Yes No
Owner Received Date: 8/13/2020 Results Requested By: 8/28/2020
Requested Analysis



Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Sample Disposal	TOC by EPA 9060 (Quad Burn)											LAB USE ONLY
						Unpreserved	Preserved													
20	BWML20-131-0-0.15	PS	8/12/2020 10:30	10528491024	Solid	1		X	X											
21	BWML20-131-0-15-0.4	PS	8/12/2020 10:35	10528491025	Solid	1		X	X											
22	BWML20-132-0-0.27	PS	8/12/2020 16:00	10528491027	Solid	1		X	X											
23	BWML20-132-0-27-0.37	PS	8/12/2020 16:05	10528491028	Solid	1		X	X											
24	BWML20-136-0-0.15	PS	8/12/2020 16:20	10528491029	Solid	1		X	X											
25	BWML20-136-0-15-0.45	PS	8/12/2020 16:25	10528491030	Solid	1		X	X											
26	BWML20-138-0-0.15	PS	8/12/2020 09:45	10528491032	Solid	1		X	X											
27	BWML20-138-0-15-0.25	PS	8/12/2020 09:55	10528491033	Solid	1		X	X											
28	BWML20-139-0-0.1	PS	8/12/2020 16:55	10528491035	Solid	1		X	X											
29	BWML20-139-0-1-0.36	PS	8/12/2020 17:00	10528491036	Solid	1		X	X											
30	BWML20-142-0-0.3	PS	8/12/2020 15:10	10528491038	Solid	1		X	X											
31	BWML20-142-0-45-0.91	PS	8/12/2020 15:15	10528491039	Solid	1		X	X											
32	BWML20-142-1-0-1.2	PS	8/12/2020 15:20	10528491040	Solid	1		X	X											
33	BWML20-143-0-0.24	PS	8/12/2020 16:40	10528491041	Solid	1		X	X											
34	BWML20-143-0-3-0.61	PS	8/12/2020 16:45	10528491042	Solid	1		X	X											

						Comments
Transfers	Released By	Date/Time	Received By	Date/Time		
1	RH/Ace	8/16/2015	DCC	8/14/20	1900	
2	DCC	8/19/20	B. Matthews	8/17/20	000000	
3						
Cooler Temperature on Receipt		2.6 °C	Custody Seal <input checked="" type="checkbox"/> or N	Received on Ice <input checked="" type="checkbox"/> or N	Samples Intact <input checked="" type="checkbox"/> or N	

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



Document Name:
Sample Condition Upon Receipt Form

Document Revised: 25Feb2020
Page 1 of 1

Document No.:
F-VM-C-001-rev.14

Issuing Authority:
Pace Virginia Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:
Pace MN

Project #:

WO# : 12149184

PM: LM2

Due Date: 08/28/20

CLIENT : PACE MPLS

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.3 Cooler Temp Corrected °C: 2.6 Biological Tissue Frozen? Yes No NA

Temp should be above freezing to 6 °C Correction Factor: 0.3 Date and Initials of Person Examining Contents: 8/14/20 DC

Comments:

Bm 8/17/20

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If Fecal: <input type="checkbox"/> <8 hours <input type="checkbox"/> >8, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>		
All containers needing acid/base preservation properly preserved?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. Note samples needing adjustment:
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

SEE EXCEPTION FORM Y N

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Nikki Jarve Date: 8/18/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10528491 Report date (mm/dd/yyyy): 9/4/2020
 Laboratory: Pace Review date (mm/dd/yyyy): 9/9/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Note on Sample Condition Upon Receipt form indicates mis-labeling on COC or sample jar. ID corrected per client.
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Calibration

Question		Yes	No	N/A	Comments
A.	Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question		Yes	No	N/A	Comments
A.	Do any of the analyses contain samples for field or trip blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C.	Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question		Yes	No	N/A	Comments
A.	Are the lab recovery limits for surrogates specified on the report?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B.	Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv. Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question		Yes	No	N/A	Comments
A.	Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. If no, is there and explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	iv. Are the lab QC limits specified on the report?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	v. Are there compounds outside the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	vi. If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1. Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2. Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3. Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Was a duplicate sample submitted for the analytical method(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lab duplicates
	i. Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SAMPLE DUPLICATE: 777726 D6: The precision between the sample and sample duplicate exceeded laboratory control limits; however, parent sample not a part of this SDG. No impacts.

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek

Title: Program Chemist

(This document has been electronically signed.)

Date (mm/dd/yyyy): 09/09/2020

Report Prepared for:

Paul Raymaker
Bay West, LLC
5 Empire Drive
Saint Paul MN 55103

**REPORT OF
LABORATORY
ANALYSIS FOR
PCDD/PCDF**

Report Information:

Pace Project #: 10528571
Sample Receipt Date: 08/13/2020
Client Project #: 200633 Munger Landing
Client Sub PO #: 206552
State Cert #: 027-053-137

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Ashley Williams, your Pace Project Manager.

This report has been reviewed by:



September 03, 2020

Ashley Williams, Project Manager
(612) 346-8158
(612) 607-6444 (fax)
ashley.williams@pacelabs.com



Report of Laboratory Analysis

This report should not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

The results relate only to the samples included in this report.

Report Prepared Date:

September 3, 2020



DISCUSSION

This report presents the results from the analyses performed on sixteen samples submitted by a representative of BayWest, LLC. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290A. The estimated detection limits (EDLs) were based on signal-to-noise measurements. Estimated maximum possible concentration (EMPC) values were treated as positives in the toxic equivalence calculations.

Second column confirmation analyses of 2,3,7,8-TCDF values obtained from the primary (DB5-MS) column are performed only when specifically requested for a project and only when the values are above the concentration of the lowest calibration standard. Typical resolution for this isomer using the DB5-MS column ranges from 25-30%.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 30-174%. Except for seven values, which were flagged "R" on the results tables, the labeled internal standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290A. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

Values were flagged "I" where incorrect isotope ratios were obtained. Concentrations below the calibration range were flagged "J" and should be regarded as estimates. Values obtained from analyses of diluted extracts were flagged "D".

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show that PCDDs and PCDFs were not detected.

Laboratory and matrix spike samples were also prepared with each sample batch using clean reference matrix or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 92-130% with relative percent differences of 0.4-36.1%. Three background-subtracted recovery values obtained for 1,2,3,4,6,7,8-HpCDF and OCDD in the matrix spike sample analyses were above the 70-130% target range and flagged "R" on the results tables. Also, the RPD values obtained for 1,2,3,4,6,7,8-HpCDF and OCDD in the matrix spikes prepared using sample BW20ML-130-0-0.3 were above the 20% target upper limit. These deviations may indicate high biases and/or elevated variability for the affected congeners in these determinations.

The response obtained for the labeled OCDD in calibration standard analysis F200902A_16 was outside the target range. As specified in our procedures for this method, the average of the daily response factors for this compound was used in the calculations for the samples from this runshift. The affected values were flagged "Y" on the results tables. It should be noted that the accuracy of the native congener determinations was not impacted by this deviation.

REPORT OF LABORATORY ANALYSIS

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Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
A2LA	2926.01	Mississippi	MN00064
Alabama	40770	Missouri	10100
Alaska-DW	MN00064	Montana	CERT0092
Alaska-UST	17-009	Nebraska	NE-OS-18-06
Arizona	AZ0014	Nevada	MN00064
Arkansas - WW	88-0680	New Hampshire	2081
Arkansas-DW	MN00064	New Jersey	MN002
California	2929	New York	11647
Colorado	MN00064	North Carolina-	27700
Connecticut	PH-0256	North Carolina-	530
Florida	E87605	North Dakota	R-036
Georgia	959	Ohio - VAP	CL101
Hawaii	MN00064	Ohio-DW	41244
Idaho	MN00064	Oklahoma	9507
Illinois	200011	Oregon- rimary	MN300001
Indiana	C-MN-01	Oregon-Second	MN200001
Iowa	368	Pennsylvania	68-00563
Kansas	E-10167	Puerto Rico	MN00064
Kentucky-DW	90062	South Carolina	74003
Kentucky-WW	90062	Tennessee	TN02818
Louisiana-DEQ	AI-84596	Texas	T104704192
Louisiana-DW	MN00064	Utah	MN00064
Maine	MN00064	Vermont	VT-027053137
Maryland	322	Virginia	460163
Massachusetts-	via MN 027-053	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.

REPORT OF LABORATORY ANALYSIS

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Report No.....10528571

Appendix A

Sample Management



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Report No.: 10528571_8290FC_DFR

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code:	
Copy To:	Eweaver@baywest.com	Copy To:							

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G-GRAB C-COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Preservatives		Comments
													Tetra-Octa Full Scan Dioxin/Furan EPA 8290A	PCBs EPA 8082A	
1	69-1291-00-259	BW20ML-118-0-0.3	0	0.3	Sample	G	SE	SD	Sed-Usieve	12-Aug	1300	2	x	x	
2	69-1291-00-259	BW20ML-118-0.3-0.61	0.3	0.61	Sample	G	SE	SD	Sed-Usieve	12-Aug	1305	2		x	HOLD DIOXIN/FURAN SAMPLE
3	69-1291-00-259	BW20ML-118-0.61-0.76	0.61	0.76	Sample	G	SE	SD	Sed-Usieve	12-Aug	1310	2			HOLD PCB AND DIOXIN/FURAN SAMPLE
4	69-1291-00-261	BW20ML-120-0-0.3	0	0.3	Sample	G	SE	SD	Sed-Usieve	12-Aug	1315	2	x	x	
5	69-1291-00-261	BW20ML-120-0.3-0.45	0.3	0.45	Sample	G	SE	SD	Sed-Usieve	12-Aug	1320	2		x	HOLD DIOXIN/FURAN SAMPLE
6	69-1291-00-261	BW20ML-120-0.45-0.61	0.45	0.61	Sample	G	SE	SD	Sed-Usieve	12-Aug	1325	2			HOLD PCB AND DIOXIN/FURAN SAMPLE
7	69-1291-00-263	BW20ML-122-0-0.21	0	0.21	Sample	G	SE	SD	Sed-Usieve	12-Aug	1055	2	x	x	
8	69-1291-00-263	BW20ML-122-0.27-0.46	0.27	0.46	Sample	G	SE	SD	Sed-Usieve	12-Aug	1100	2		x	HOLD DIOXIN/FURAN SAMPLE
9	69-1291-00-263	BW20ML-122-0.5-0.91	0.5	0.91	Sample	G	SE	SD	Sed-Usieve	12-Aug	1105	2			HOLD PCB AND DIOXIN/FURAN SAMPLE
10	69-1291-00-263	BW20ML-001-0-0.21	0	0.21	QC-FR	G	SE	SD	Sed-Usieve	12-Aug	1115	2	x	x	

ADDITIONAL COMMENTS	REMOVED BY AFFILIATION	DATE	TIME	ACCEPTED BY AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
				<i>CONF M/M/PACE</i>	8/13/20	1930	*	Y	N	Y	

PREPARE NAME AND SIGNATURE

PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): _____

Page 6 of 43



CHAIN-OF-CUSTODY / Analytical Request Document

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Report No.: 10528571_8290FC_DFR

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code:	
Copy To:	Eweaver@baywest.com	Copy To:							

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (S=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Preservative												Comments	
													Tetra-Octa Full Scan Dioxin/Furan EPA 8290A	PCBs EPA 8032A	Requestor Analytes											
															1	2	3	4	5	6	7	8	9	10		11
1	69-1291-00-269	BW20ML-128-0-0.15	0	0.15	Sample	G	SE	SD	Sed-U sieve	12-Aug	1415	2	X	X												
2	69-1291-00-269	BW20ML-128-0.15-0.45	0.15	0.45	Sample	G	SE	SD	Sed-U sieve	12-Aug	1420	2		X												HOLD DIOXIN/FURAN SAMPLE
3																										
4	2001006933	BW20ML-129-0-0.3	0	0.3	Sample	G	SO	SD	Soil-Sub	12-Aug	1450	1		X												
5	2001006933	BW20ML-129-0.3-0.61	0.3	0.61	Sample	G	SO	SD	Soil-Sub	12-Aug	1455	1		X												
6	2001006933	BW20ML-129-0.76-1.22	0.76	1.22	Sample	G	SO	SD	Soil-Sub	12-Aug	1500	1		X												
7																										
8	69-1291-00-270	BW20ML-130-0-0.3	0	0.3	Sample	G	SE	SD	Sed-U sieve	12-Aug	1535	6	X	X												MS/MSD
9	69-1291-00-270	BW20ML-130-0.3-0.61	0.3	0.61	Sample	G	SE	SD	Sed-U sieve	12-Aug	1540	2		X												HOLD DIOXIN/FURAN SAMPLE
10	69-1291-00-270	BW20ML-003-0-0.3	0	0.3	QC-FR	G	SE	SD	Sed-U sieve	12-Aug	1545	1		X												
11																										
12																										

019
020

021
022

SAMPLER NAME AND SIGNATURE:		DATE	TIME	DATE	TIME	SAMPLE CONDITIONS				
PRINT Name of SAMPLER:						Temp (°C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	
SIGNATURE of SAMPLER:				DATE Signed (MM/DD/YY):						



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A	Section B	Section C	Section D	Section E
Required Client Information:	Required Project Information:	Invoice Information:	Laboratory Information:	MPCA Information:
Company: Bay West	Project Name: Munger Landing	Attention: Accounts Payable	Lab Name: Pace	COC ID:
Address: 5 Empire Dr. St. Paul MN, 55103	Project Number: 200633	Company Name: Bay West LLC	Address: 1700 Elm St. Minneapolis MN, 55414	Work Order No. 300025404
Project Manager: Paul Raymaker	Turnaround Time: Standard	Address: 5 Empire Dr. St. Paul, MN 55103	Lab Project Manager: Colin Lynch	Facility Code: SR1015
Email To: praymaker@baywest.com	Site Location (State): MN	Purchase Order No. 206552	Lab Phone: 612-656-2286	Project Task Code: PRJ07955
Phone: 651-291-3411	Copy To:			Program Code
Copy To: Eweaver@baywest.com	Copy To:			

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)			Date	Time	# of Cont.	PRESERVATIVES										Comments			
						Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)				Tetra-Octa Full Scan Dioxin/Furan EPA 8290A	PCBs EPA 8092A	REQUESTED ANALYTES											
1	69-1291-00-282	BW20ML-143-0-0.24	0	0.24	Sample	G	SE	SD	Sed-Usieve	12-Aug	1640	2	X	X											
2	69-1291-00-282	BW20ML-143-0.3-0.61	0.3	0.61	Sample	G	SE	SD	Sed-Usieve	12-Aug	1645	2		X											HOLD DIOXIN/FURAN SAMPLE
3	69-1291-00-282	BW20ML-143-0.61-0.76	0.61	0.76	Sample	G	SE	SD	Sed-Usieve	12-Aug	1650	2													HOLD PCB AND DIOXIN/FURAN SAMPLE
4																									
5		ML-RB01-081220			QC-EB	G	W	NW	QC-BLAN	12-Aug	800	1		X											HAND AUGER
6		ML-RB02-081220			QC-EB	G	W	NW	QC-BLAN	12-Aug	810	1		X											PEAT BORER
7		ML-RB03-081320			QC-EB	G	W	NW	QC-BLAN	13-Aug	1000	1		X											HAND AUGER
8																									
9																									
10																									
11																									
12																									
ADDITIONAL COMMENTS						RELINQUISHED BY / AFFILIATION			DATE	TIME	ACCEPTED BY / AFFILIATION			DATE	TIME	SAMPLE CONDITIONS									
											Pony Mann PACE			8/13/20	1930	* Y N Y									

037
038
039

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: _____

SIGNATURE of SAMPLER: _____

DATE Signed (MM/DD/YY): _____

Temp (°C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	*	Y	N Y

Report No.: 10528571_8290FC_DFR

Sample Condition Upon Receipt

Client Name: Bay West **Project #:**

WO#: 10528571

PM: AW1 Due Date: 08/28/20
CLIENT: BW-BAY WEST

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

Tracking Number: _____ See Exceptions
ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459)
 T4(0254) T5(0489) **Type of Ice:** Wet Blue None Dry Melted

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.4, 0.6, 0.9, 3.4, 3.7, 0.9, 1.2°C

Correction Factor: -0.2 **Cooler Temp Corrected w/temp blank:** 1.2, 0.4, 0.7, 3.2, 3.5, 0.7, 1.0 °C

Average Corrected Temp (no temp blank only): _____ °C See Exceptions ENV-FRM-MIN4-0142
 1 Container

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** CEG 8/13/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other _____
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: See Exception <input type="checkbox"/> <small>ENV-FRM-MIN4-0142</small> CO1 has 3 containers for COC CMI 8/14/20 MS/MSD
Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other _____	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
(HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No See Exception <input type="checkbox"/> <small>ENV-FRM-MIN4-0142</small>
	pH Paper Lot#
	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. See Exception <input type="checkbox"/> <small>ENV-FRM-MIN4-0140</small>
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Field Data Required? Yes No

Project Manager Review: *Ashley Williams* **Date:** 08/17/2020

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Reporting Flags

- A = Reporting Limit based on signal to noise
- B = Less than 10x higher than method blank level
- C = Result obtained from confirmation analysis
- D = Result obtained from analysis of diluted sample
- E = Exceeds calibration range
- I = Interference present
- J = Estimated value
- L = Suppressive interference, analyte may be biased low
- Nn = Value obtained from additional analysis
- P = PCDE Interference
- R = Recovery outside target range
- S = Peak saturated
- U = Analyte not detected
- V = Result verified by confirmation analysis
- X = %D Exceeds limits
- Y = Calculated using average of daily RFs
- * = See Discussion

REPORT OF LABORATORY ANALYSIS

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Report No.....10528571

Appendix B

Sample Analysis Summary



Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-124-0-0.3		
Lab Sample ID	10528571001		
Filename	Y200823A_10		
Injected By	BAL		
Total Amount Extracted	13.1 g	Matrix	Sediment
% Moisture	52.6	Dilution	NA
Dry Weight Extracted	6.21 g	Collected	08/12/2020 11:45
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_19 & Y200823A_18	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/23/2020 08:12

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.30	2,3,7,8-TCDF-13C	2.00	76
Total TCDF	5.3	----	0.30	2,3,7,8-TCDD-13C	2.00	74
				1,2,3,7,8-PeCDF-13C	2.00	83
2,3,7,8-TCDD	ND	----	0.43	2,3,4,7,8-PeCDF-13C	2.00	77
Total TCDD	ND	----	0.43	1,2,3,7,8-PeCDD-13C	2.00	83
				1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	----	0.52	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	ND	----	0.34	2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	4.2	----	0.34 J	1,2,3,7,8,9-HxCDF-13C	2.00	77
				1,2,3,4,7,8-HxCDD-13C	2.00	78
1,2,3,7,8-PeCDD	ND	----	0.45	1,2,3,6,7,8-HxCDD-13C	2.00	65
Total PeCDD	ND	----	0.45	1,2,3,4,6,7,8-HpCDF-13C	2.00	62
				1,2,3,4,7,8,9-HpCDF-13C	2.00	64
1,2,3,4,7,8-HxCDF	1.6	----	0.42 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	66
1,2,3,6,7,8-HxCDF	0.56	----	0.45 J	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	ND	----	0.44			
1,2,3,7,8,9-HxCDF	ND	----	0.55	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	6.1	----	0.42 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.40	2,3,7,8-TCDD-37Cl4	0.20	71
1,2,3,6,7,8-HxCDD	0.54	----	0.43 J			
1,2,3,7,8,9-HxCDD	ND	----	0.43			
Total HxCDD	3.0	----	0.40 J			
1,2,3,4,6,7,8-HpCDF	6.3	----	0.44 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.3	----	0.61 J	Equivalence: 0.39 ng/Kg		
Total HpCDF	7.6	----	0.44 J	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	3.4	----	0.46 J			
Total HpCDD	7.5	----	0.46 J			
OCDF	15	----	1.00 J			
OCDD	21	----	1.1			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.
 J = Estimated value

REPORT OF LABORATORY ANALYSIS

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-125-0-0.3		
Lab Sample ID	10528571003		
Filename	Y200821B_10		
Injected By	BAL		
Total Amount Extracted	13.5 g	Matrix	Sediment
% Moisture	68.5	Dilution	NA
Dry Weight Extracted	4.25 g	Collected	08/12/2020 13:35
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200821B_01 & Y200821B_18	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/21/2020 20:32

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.97	2,3,7,8-TCDF-13C	2.00	57
Total TCDF	11	----	0.97	2,3,7,8-TCDD-13C	2.00	56
				1,2,3,7,8-PeCDF-13C	2.00	64
2,3,7,8-TCDD	ND	----	1.4	2,3,4,7,8-PeCDF-13C	2.00	55
Total TCDD	ND	----	1.4	1,2,3,7,8-PeCDD-13C	2.00	56
				1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	ND	----	1.3	1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	0.80	----	0.74 J	2,3,4,6,7,8-HxCDF-13C	2.00	65
Total PeCDF	7.5	----	0.74 J	1,2,3,7,8,9-HxCDF-13C	2.00	55
				1,2,3,4,7,8-HxCDD-13C	2.00	62
1,2,3,7,8-PeCDD	ND	----	1.0	1,2,3,6,7,8-HxCDD-13C	2.00	55
Total PeCDD	ND	----	1.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	43
				1,2,3,4,7,8,9-HpCDF-13C	2.00	48
1,2,3,4,7,8-HxCDF	----	2.1	1.4 U	1,2,3,4,6,7,8-HpCDD-13C	2.00	50
1,2,3,6,7,8-HxCDF	ND	----	1.5	OCDD-13C	4.00	44
2,3,4,6,7,8-HxCDF	ND	----	1.5			
1,2,3,7,8,9-HxCDF	ND	----	1.7	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	11	----	1.4 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	2.5	2,3,7,8-TCDD-37Cl4	0.20	66
1,2,3,6,7,8-HxCDD	ND	----	2.6			
1,2,3,7,8,9-HxCDD	ND	----	2.0			
Total HxCDD	ND	----	2.0			
1,2,3,4,6,7,8-HpCDF	9.0	----	2.2 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	3.2	Equivalence: 0.68 ng/Kg		
Total HpCDF	19	----	2.2	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	11	----	2.6 J			
Total HpCDD	22	----	2.6			
OCDF	20	----	4.0 J			
OCDD	74	----	5.3			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

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 I = Interference present

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-126-0-0.3		
Lab Sample ID	10528571005		
Filename	Y200821B_11		
Injected By	BAL		
Total Amount Extracted	13.6 g	Matrix	Sediment
% Moisture	54.6	Dilution	NA
Dry Weight Extracted	6.15 g	Collected	08/12/2020 13:50
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200821B_01 & Y200821B_18	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/21/2020 21:15

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.74	2,3,7,8-TCDF-13C	2.00	67
Total TCDF	12	----	0.74	2,3,7,8-TCDD-13C	2.00	67
				1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	ND	----	0.72	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	3.1	----	0.72	1,2,3,7,8-PeCDD-13C	2.00	75
				1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	1.4	----	0.90 J	1,2,3,6,7,8-HxCDF-13C	2.00	74
2,3,4,7,8-PeCDF	2.2	----	0.80 J	2,3,4,6,7,8-HxCDF-13C	2.00	72
Total PeCDF	38	----	0.80	1,2,3,7,8,9-HxCDF-13C	2.00	68
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	1.8	----	0.67 J	1,2,3,6,7,8-HxCDD-13C	2.00	59
Total PeCDD	21	----	0.67	1,2,3,4,6,7,8-HpCDF-13C	2.00	52
				1,2,3,4,7,8,9-HpCDF-13C	2.00	56
1,2,3,4,7,8-HxCDF	6.7	----	1.6 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	57
1,2,3,6,7,8-HxCDF	10	----	0.77	OCDD-13C	4.00	51
2,3,4,6,7,8-HxCDF	4.5	----	0.83 J			
1,2,3,7,8,9-HxCDF	1.5	----	0.69 J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	270	----	0.69	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	2.3	----	1.3 J	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	12	----	1.3			
1,2,3,7,8,9-HxCDD	6.2	----	1.3 J			
Total HxCDD	100	----	1.3			
1,2,3,4,6,7,8-HpCDF	410	----	1.2	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	4.5	----	2.0 J	Equivalence: 12 ng/Kg		
Total HpCDF	740	----	1.2	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	81	----	1.8			
Total HpCDD	180	----	1.8			
OCDF	180	----	2.2			
OCDD	670	----	3.5			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-002-0-0.3		
Lab Sample ID	10528571008		
Filename	Y200828B_12		
Injected By	JRH		
Total Amount Extracted	14.7 g	Matrix	Sediment
% Moisture	66.5	Dilution	NA
Dry Weight Extracted	4.93 g	Collected	08/12/2020 13:45
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200828B_02 & Y200828C_15	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/28/2020 16:45

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.48	----	0.24	J	2,3,7,8-TCDF-13C	2.00	63
Total TCDF	8.0	----	0.24		2,3,7,8-TCDD-13C	2.00	61
					1,2,3,7,8-PeCDF-13C	2.00	69
2,3,7,8-TCDD	ND	----	0.33		2,3,4,7,8-PeCDF-13C	2.00	59
Total TCDD	0.49	----	0.33	J	1,2,3,7,8-PeCDD-13C	2.00	63
					1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	----	0.49	0.32	J	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	0.56	----	0.20	J	2,3,4,6,7,8-HxCDF-13C	2.00	69
Total PeCDF	6.4	----	0.20	J	1,2,3,7,8,9-HxCDF-13C	2.00	61
					1,2,3,4,7,8-HxCDD-13C	2.00	68
1,2,3,7,8-PeCDD	ND	----	0.31		1,2,3,6,7,8-HxCDD-13C	2.00	56
Total PeCDD	0.53	----	0.31	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	48
					1,2,3,4,7,8,9-HpCDF-13C	2.00	53
1,2,3,4,7,8-HxCDF	1.6	----	0.53	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	52
1,2,3,6,7,8-HxCDF	0.65	----	0.45	J	OCDD-13C	4.00	49
2,3,4,6,7,8-HxCDF	0.47	----	0.47	J			
1,2,3,7,8,9-HxCDF	ND	----	0.54		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	8.4	----	0.45	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.58		2,3,7,8-TCDD-37Cl4	0.20	64
1,2,3,6,7,8-HxCDD	ND	----	0.66				
1,2,3,7,8,9-HxCDD	ND	----	0.63				
Total HxCDD	ND	----	0.58				
1,2,3,4,6,7,8-HpCDF	6.7	----	0.78	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	1.1		Equivalence: 0.65 ng/Kg		
Total HpCDF	14	----	0.78		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	6.1	----	0.73	J			
Total HpCDD	13	----	0.73				
OCDF	14	----	2.2	J			
OCDD	52	----	2.4				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-118-0-0.3		
Lab Sample ID	10528571009		
Filename	Y200828B_10		
Injected By	JRH		
Total Amount Extracted	13.7 g	Matrix	Sediment
% Moisture	53.9	Dilution	NA
Dry Weight Extracted	6.32 g	Collected	08/12/2020 13:00
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200828B_02 & Y200828C_15	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/28/2020 15:21

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.52	----	0.44	J	2,3,7,8-TCDF-13C	2.00	57
Total TCDF	16	----	0.44		2,3,7,8-TCDD-13C	2.00	53
					1,2,3,7,8-PeCDF-13C	2.00	58
2,3,7,8-TCDD	ND	----	0.43		2,3,4,7,8-PeCDF-13C	2.00	49
Total TCDD	3.2	----	0.43		1,2,3,7,8-PeCDD-13C	2.00	51
					1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	ND	----	0.62		1,2,3,6,7,8-HxCDF-13C	2.00	65
2,3,4,7,8-PeCDF	1.1	----	0.35	J	2,3,4,6,7,8-HxCDF-13C	2.00	63
Total PeCDF	22	----	0.35		1,2,3,7,8,9-HxCDF-13C	2.00	54
					1,2,3,4,7,8-HxCDD-13C	2.00	60
1,2,3,7,8-PeCDD	0.36	----	0.26	J	1,2,3,6,7,8-HxCDD-13C	2.00	50
Total PeCDD	3.5	----	0.26	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	41
					1,2,3,4,7,8,9-HpCDF-13C	2.00	44
1,2,3,4,7,8-HxCDF	7.8	----	0.70	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	45
1,2,3,6,7,8-HxCDF	3.6	----	0.61	J	OCDD-13C	4.00	43
2,3,4,6,7,8-HxCDF	1.7	----	0.58	J			
1,2,3,7,8,9-HxCDF	0.97	----	0.78	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	56	----	0.58		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.1		2,3,7,8-TCDD-37Cl4	0.20	57
1,2,3,6,7,8-HxCDD	2.1	----	1.1	J			
1,2,3,7,8,9-HxCDD	1.3	----	1.3	J			
Total HxCDD	13	----	1.1				
1,2,3,4,6,7,8-HpCDF	50	----	1.5		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	7.8	----	1.6	J	Equivalence: 3.4 ng/Kg		
Total HpCDF	100	----	1.5		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	18	----	1.3				
Total HpCDD	43	----	1.3				
OCDF	89	----	2.5				
OCDD	160	----	2.9				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-120-0-0.3		
Lab Sample ID	10528571012-R		
Filename	F200902A_05		
Injected By	SMT		
Total Amount Extracted	65.1 g	Matrix	Sediment
% Moisture	84.3	Dilution	NA
Dry Weight Extracted	10.2 g	Collected	08/12/2020 13:15
ICAL ID	F200714	Received	08/13/2020 19:00
CCal Filename(s)	F200901A_17 & F200902A_16	Extracted	08/28/2020 15:38
Method Blank ID	BLANK-82043	Analyzed	09/02/2020 09:50

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.56	2,3,7,8-TCDF-13C	2.00	55
Total TCDF	2.4	----	0.56	2,3,7,8-TCDD-13C	2.00	49
				1,2,3,7,8-PeCDF-13C	2.00	57
2,3,7,8-TCDD	ND	----	0.50	2,3,4,7,8-PeCDF-13C	2.00	55
Total TCDD	0.51	----	0.50 J	1,2,3,7,8-PeCDD-13C	2.00	57
				1,2,3,4,7,8-HxCDF-13C	2.00	54
1,2,3,7,8-PeCDF	ND	----	0.31	1,2,3,6,7,8-HxCDF-13C	2.00	52
2,3,4,7,8-PeCDF	ND	----	0.36	2,3,4,6,7,8-HxCDF-13C	2.00	54
Total PeCDF	3.8	----	0.31 J	1,2,3,7,8,9-HxCDF-13C	2.00	55
				1,2,3,4,7,8-HxCDD-13C	2.00	53
1,2,3,7,8-PeCDD	ND	----	0.32	1,2,3,6,7,8-HxCDD-13C	2.00	42
Total PeCDD	1.3	----	0.32 J	1,2,3,4,6,7,8-HpCDF-13C	2.00	39 R
				1,2,3,4,7,8,9-HpCDF-13C	2.00	41
1,2,3,4,7,8-HxCDF	0.62	----	0.23 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	39 R
1,2,3,6,7,8-HxCDF	0.39	----	0.34 J	OCDD-13C	4.00	45 Y
2,3,4,6,7,8-HxCDF	ND	----	0.21			
1,2,3,7,8,9-HxCDF	ND	----	0.24	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.5	----	0.21 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.47	2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	----	0.56	0.47 U			
1,2,3,7,8,9-HxCDD	ND	----	0.30			
Total HxCDD	3.3	----	0.30 J			
1,2,3,4,6,7,8-HpCDF	6.9	----	0.35	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.45	Equivalence: 0.27 ng/Kg		
Total HpCDF	14	----	0.35	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	3.7	----	0.73 J			
Total HpCDD	9.0	----	0.73			
OCDF	ND	----	1.3			
OCDD	28	----	1.2			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value
R = Recovery outside target range
I = Interference present
Y = Calculated using average of daily RFs

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-122-0-0.21		
Lab Sample ID	10528571015		
Filename	Y200828B_13		
Injected By	JRH		
Total Amount Extracted	13.4 g	Matrix	Sediment
% Moisture	40.1	Dilution	NA
Dry Weight Extracted	8.01 g	Collected	08/12/2020 10:55
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200828B_02 & Y200828C_15	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/28/2020 17:27

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.48	2,3,7,8-TCDF-13C	2.00	59
Total TCDF	2.6	----	0.48	2,3,7,8-TCDD-13C	2.00	55
				1,2,3,7,8-PeCDF-13C	2.00	68
2,3,7,8-TCDD	ND	----	0.68	2,3,4,7,8-PeCDF-13C	2.00	55
Total TCDD	1.1	----	0.68 J	1,2,3,7,8-PeCDD-13C	2.00	60
				1,2,3,4,7,8-HxCDF-13C	2.00	67
1,2,3,7,8-PeCDF	ND	----	0.27	1,2,3,6,7,8-HxCDF-13C	2.00	61
2,3,4,7,8-PeCDF	0.41	----	0.20 J	2,3,4,6,7,8-HxCDF-13C	2.00	60
Total PeCDF	1.7	----	0.20 J	1,2,3,7,8,9-HxCDF-13C	2.00	40
				1,2,3,4,7,8-HxCDD-13C	2.00	59
1,2,3,7,8-PeCDD	ND	----	0.28	1,2,3,6,7,8-HxCDD-13C	2.00	52
Total PeCDD	ND	----	0.28	1,2,3,4,6,7,8-HpCDF-13C	2.00	44
				1,2,3,4,7,8,9-HpCDF-13C	2.00	46
1,2,3,4,7,8-HxCDF	0.46	----	0.37 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	45
1,2,3,6,7,8-HxCDF	0.36	----	0.33 J	OCDD-13C	4.00	40
2,3,4,6,7,8-HxCDF	ND	----	0.36			
1,2,3,7,8,9-HxCDF	ND	----	0.45	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	5.2	----	0.33 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.49	2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	ND	----	0.51			
1,2,3,7,8,9-HxCDD	ND	----	0.48			
Total HxCDD	2.9	----	0.48 J			
1,2,3,4,6,7,8-HpCDF	4.5	----	0.72 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.88	Equivalence: 0.28 ng/Kg		
Total HpCDF	8.2	----	0.72	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	2.6	----	0.58 J			
Total HpCDD	5.7	----	0.58 J			
OCDF	7.2	----	1.3 J			
OCDD	15	----	2.1			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

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 J = Estimated value

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-001-0-0.21		
Lab Sample ID	10528571018		
Filename	Y200828B_11		
Injected By	JRH		
Total Amount Extracted	12.9 g	Matrix	Sediment
% Moisture	41.6	Dilution	NA
Dry Weight Extracted	7.52 g	Collected	08/12/2020 11:15
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200828B_02 & Y200828C_15	Extracted	08/17/2020 14:53
Method Blank ID	BLANK-81738	Analyzed	08/28/2020 16:03

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.30	2,3,7,8-TCDF-13C	2.00	62
Total TCDF	1.8	----	0.30	2,3,7,8-TCDD-13C	2.00	66
				1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	ND	----	0.36	2,3,4,7,8-PeCDF-13C	2.00	61
Total TCDD	ND	----	0.36	1,2,3,7,8-PeCDD-13C	2.00	65
				1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	----	0.28	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	ND	----	0.18	2,3,4,6,7,8-HxCDF-13C	2.00	68
Total PeCDF	2.2	----	0.18 J	1,2,3,7,8,9-HxCDF-13C	2.00	56
				1,2,3,4,7,8-HxCDD-13C	2.00	62
1,2,3,7,8-PeCDD	ND	----	0.25	1,2,3,6,7,8-HxCDD-13C	2.00	56
Total PeCDD	ND	----	0.25	1,2,3,4,6,7,8-HpCDF-13C	2.00	45
				1,2,3,4,7,8,9-HpCDF-13C	2.00	49
1,2,3,4,7,8-HxCDF	ND	----	0.46	1,2,3,4,6,7,8-HpCDD-13C	2.00	49
1,2,3,6,7,8-HxCDF	ND	----	0.55	OCDD-13C	4.00	42
2,3,4,6,7,8-HxCDF	ND	----	0.49			
1,2,3,7,8,9-HxCDF	ND	----	0.59	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	4.7	----	0.46 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.68	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	ND	----	0.50			
1,2,3,7,8,9-HxCDD	ND	----	0.66			
Total HxCDD	1.3	----	0.50 J			
1,2,3,4,6,7,8-HpCDF	5.2	----	0.79 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	1.3	Equivalence: 0.10 ng/Kg		
Total HpCDF	5.2	----	0.79 J	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	4.2	----	0.99 J			
Total HpCDD	9.0	----	0.99			
OCDF	ND	----	2.5			
OCDD	28	----	3.5			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-128-0-0.15		
Lab Sample ID	10528571019		
Filename	Y200822B_11		
Injected By	BAL		
Total Amount Extracted	11.4 g	Matrix	Sediment
% Moisture	37.9	Dilution	NA
Dry Weight Extracted	7.11 g	Collected	08/12/2020 14:15
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_02 & Y200822B_19	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/22/2020 19:22

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.58	2,3,7,8-TCDF-13C	2.00	68
Total TCDF	0.63	----	0.58 J	2,3,7,8-TCDD-13C	2.00	69
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	----	0.60	2,3,4,7,8-PeCDF-13C	2.00	74
Total TCDD	ND	----	0.60	1,2,3,7,8-PeCDD-13C	2.00	79
				1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	----	0.43	1,2,3,6,7,8-HxCDF-13C	2.00	76
2,3,4,7,8-PeCDF	ND	----	0.27	2,3,4,6,7,8-HxCDF-13C	2.00	76
Total PeCDF	0.82	----	0.27 J	1,2,3,7,8,9-HxCDF-13C	2.00	67
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	ND	----	0.35	1,2,3,6,7,8-HxCDD-13C	2.00	57
Total PeCDD	ND	----	0.35	1,2,3,4,6,7,8-HpCDF-13C	2.00	63
				1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	ND	----	0.31	1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	ND	----	0.38	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	ND	----	0.31			
1,2,3,7,8,9-HxCDF	ND	----	0.22	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.9	----	0.22 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.29	2,3,7,8-TCDD-37Cl4	0.20	77
1,2,3,6,7,8-HxCDD	ND	----	0.50			
1,2,3,7,8,9-HxCDD	ND	----	0.43			
Total HxCDD	1.1	----	0.29 J			
1,2,3,4,6,7,8-HpCDF	3.4	----	0.35 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.43	Equivalence: 0.080 ng/Kg		
Total HpCDF	6.9	----	0.35 J	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	3.5	----	0.46 J			
Total HpCDD	8.8	----	0.46			
OCDF	3.2	----	0.68 J			
OCDD	29	----	1.0			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

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NC = Not Calculated

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-130-0-0.3		
Lab Sample ID	10528571021		
Filename	Y200823A_09		
Injected By	BAL		
Total Amount Extracted	13.2 g	Matrix	Sediment
% Moisture	69.4	Dilution	NA
Dry Weight Extracted	4.03 g	Collected	08/12/2020 15:35
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_19 & Y200823A_18	Extracted	08/19/2020 14:56
Method Blank ID	BLANK-81795	Analyzed	08/23/2020 07:29

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.4	----	0.90	J	2,3,7,8-TCDF-13C	2.00	68
Total TCDF	35	----	0.90		2,3,7,8-TCDD-13C	2.00	68
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	ND	----	0.66		2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	1.2	----	0.66	J	1,2,3,7,8-PeCDD-13C	2.00	78
					1,2,3,4,7,8-HxCDF-13C	2.00	77
1,2,3,7,8-PeCDF	ND	----	1.1		1,2,3,6,7,8-HxCDF-13C	2.00	73
2,3,4,7,8-PeCDF	2.8	----	0.68	J	2,3,4,6,7,8-HxCDF-13C	2.00	70
Total PeCDF	42	----	0.68		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	69
1,2,3,7,8-PeCDD	0.92	----	0.44	J	1,2,3,6,7,8-HxCDD-13C	2.00	55
Total PeCDD	10	----	0.44	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	62
					1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	2.3	----	0.50	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	67
1,2,3,6,7,8-HxCDF	4.2	----	0.51	J	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	2.1	----	0.34	J			
1,2,3,7,8,9-HxCDF	ND	----	0.40		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	59	----	0.34		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.2		2,3,7,8-TCDD-37Cl4	0.20	74
1,2,3,6,7,8-HxCDD	4.4	----	0.87	J			
1,2,3,7,8,9-HxCDD	3.1	----	0.73	J			
Total HxCDD	41	----	0.73				
1,2,3,4,6,7,8-HpCDF	63	----	0.90		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.7	----	1.2	J	Equivalence: 4.7 ng/Kg		
Total HpCDF	120	----	0.90		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	42	----	0.69				
Total HpCDD	93	----	0.69				
OCDF	38	----	1.4				
OCDD	310	----	2.0				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

ND = Not Detected
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 NC = Not Calculated

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-131-0-0.15		
Lab Sample ID	10528571023		
Filename	Y200822B_12		
Injected By	BAL		
Total Amount Extracted	11.9 g	Matrix	Sediment
% Moisture	53.7	Dilution	NA
Dry Weight Extracted	5.49 g	Collected	08/12/2020 10:30
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_02 & Y200822B_19	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/22/2020 20:05

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	3.7	----	0.31		2,3,7,8-TCDF-13C	2.00	67
Total TCDF	71	----	0.31		2,3,7,8-TCDD-13C	2.00	66
					1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	0.81	----	0.66	J	2,3,4,7,8-PeCDF-13C	2.00	70
Total TCDD	2.7	----	0.66		1,2,3,7,8-PeCDD-13C	2.00	75
					1,2,3,4,7,8-HxCDF-13C	2.00	77
1,2,3,7,8-PeCDF	ND	----	1.7		1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	5.6	----	1.0	J	2,3,4,6,7,8-HxCDF-13C	2.00	73
Total PeCDF	81	----	1.0		1,2,3,7,8,9-HxCDF-13C	2.00	65
					1,2,3,4,7,8-HxCDD-13C	2.00	70
1,2,3,7,8-PeCDD	1.1	----	0.56	J	1,2,3,6,7,8-HxCDD-13C	2.00	60
Total PeCDD	5.1	----	0.56	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	57
					1,2,3,4,7,8,9-HpCDF-13C	2.00	61
1,2,3,4,7,8-HxCDF	3.2	----	0.41	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	61
1,2,3,6,7,8-HxCDF	3.1	----	0.40	J	OCDD-13C	4.00	55
2,3,4,6,7,8-HxCDF	3.0	----	0.38	J			
1,2,3,7,8,9-HxCDF	----	0.65	0.52	U	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	55	----	0.38		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.92	----	0.80	J	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	3.2	----	0.75	J			
1,2,3,7,8,9-HxCDD	2.2	----	0.75	J			
Total HxCDD	30	----	0.75				
1,2,3,4,6,7,8-HpCDF	30	----	0.67		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	----	2.2	0.73	U	Equivalence: 6.4 ng/Kg		
Total HpCDF	62	----	0.67		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	39	----	0.75				
Total HpCDD	82	----	0.75				
OCDF	37	----	1.0				
OCDD	340	----	0.87				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value
I = Interference present

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-132-0-0.27		
Lab Sample ID	10528571026		
Filename	Y200822B_13		
Injected By	BAL		
Total Amount Extracted	12.4 g	Matrix	Sediment
% Moisture	26.5	Dilution	NA
Dry Weight Extracted	9.11 g	Collected	08/12/2020 16:00
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_02 & Y200822B_19	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/22/2020 20:48

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.66	----	0.33	J	2,3,7,8-TCDF-13C	2.00	62
Total TCDF	1.7	----	0.33		2,3,7,8-TCDD-13C	2.00	61
					1,2,3,7,8-PeCDF-13C	2.00	66
2,3,7,8-TCDD	ND	----	0.52		2,3,4,7,8-PeCDF-13C	2.00	61
Total TCDD	ND	----	0.52		1,2,3,7,8-PeCDD-13C	2.00	67
					1,2,3,4,7,8-HxCDF-13C	2.00	75
1,2,3,7,8-PeCDF	ND	----	0.33		1,2,3,6,7,8-HxCDF-13C	2.00	70
2,3,4,7,8-PeCDF	ND	----	0.23		2,3,4,6,7,8-HxCDF-13C	2.00	68
Total PeCDF	0.31	----	0.23	J	1,2,3,7,8,9-HxCDF-13C	2.00	30 R
					1,2,3,4,7,8-HxCDD-13C	2.00	68
1,2,3,7,8-PeCDD	ND	----	0.41		1,2,3,6,7,8-HxCDD-13C	2.00	57
Total PeCDD	ND	----	0.41		1,2,3,4,6,7,8-HpCDF-13C	2.00	51
					1,2,3,4,7,8,9-HpCDF-13C	2.00	55
1,2,3,4,7,8-HxCDF	ND	----	0.34		1,2,3,4,6,7,8-HpCDD-13C	2.00	50
1,2,3,6,7,8-HxCDF	0.43	----	0.30	J	OCDD-13C	4.00	47
2,3,4,6,7,8-HxCDF	ND	----	0.39				
1,2,3,7,8,9-HxCDF	ND	----	0.42		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	4.2	----	0.30	J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.48		2,3,7,8-TCDD-37Cl4	0.20	72
1,2,3,6,7,8-HxCDD	ND	----	0.64				
1,2,3,7,8,9-HxCDD	ND	----	0.65				
Total HxCDD	2.4	----	0.48	J			
1,2,3,4,6,7,8-HpCDF	4.1	----	0.41	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.56		Equivalence: 0.19 ng/Kg		
Total HpCDF	8.0	----	0.41		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	3.5	----	0.63	J			
Total HpCDD	8.1	----	0.63				
OCDF	3.4	----	0.90	J			
OCDD	27	----	0.99				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

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 J = Estimated value
 R = Recovery outside target range

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-136-0-0.15		
Lab Sample ID	10528571028		
Filename	Y200822B_14		
Injected By	BAL		
Total Amount Extracted	12.0 g	Matrix	Sediment
% Moisture	39.8	Dilution	NA
Dry Weight Extracted	7.20 g	Collected	08/12/2020 16:20
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_02 & Y200822B_19	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/22/2020 21:31

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.83	----	0.66	J	2,3,7,8-TCDF-13C	2.00	75
Total TCDF	7.4	----	0.66		2,3,7,8-TCDD-13C	2.00	76
					1,2,3,7,8-PeCDF-13C	2.00	85
2,3,7,8-TCDD	ND	----	0.54		2,3,4,7,8-PeCDF-13C	2.00	82
Total TCDD	1.3	----	0.54	J	1,2,3,7,8-PeCDD-13C	2.00	89
					1,2,3,4,7,8-HxCDF-13C	2.00	89
1,2,3,7,8-PeCDF	ND	----	0.66		1,2,3,6,7,8-HxCDF-13C	2.00	85
2,3,4,7,8-PeCDF	----	0.46	0.37	IJ	2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	9.4	----	0.37		1,2,3,7,8,9-HxCDF-13C	2.00	82
					1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	----	0.40	0.29	IJ	1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	2.3	----	0.29	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	66
					1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	1.0	----	0.56	J	1,2,3,4,6,7,8-HpCDD-13C	2.00	71
1,2,3,6,7,8-HxCDF	1.7	----	0.43	J	OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	0.85	----	0.39	J			
1,2,3,7,8,9-HxCDF	ND	----	0.54		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	22	----	0.39		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.66		2,3,7,8-TCDD-37Cl4	0.20	71
1,2,3,6,7,8-HxCDD	1.6	----	0.53	J			
1,2,3,7,8,9-HxCDD	0.83	----	0.60	J			
Total HxCDD	10	----	0.53				
1,2,3,4,6,7,8-HpCDF	22	----	0.50		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.57		Equivalence: 1.7 ng/Kg		
Total HpCDF	43	----	0.50		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	17	----	0.43				
Total HpCDD	40	----	0.43				
OCDF	14	----	0.83	J			
OCDD	160	----	0.76				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

ND = Not Detected
 NA = Not Applicable
 NC = Not Calculated

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 I = Interference present

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-138-0-0.15		
Lab Sample ID	10528571031		
Filename	Y200822B_15		
Injected By	BAL		
Total Amount Extracted	11.4 g	Matrix	Sediment
% Moisture	34.0	Dilution	NA
Dry Weight Extracted	7.54 g	Collected	08/12/2020 09:45
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_02 & Y200822B_19	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/22/2020 22:13

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.90	----	0.43	J	2,3,7,8-TCDF-13C	2.00	78
Total TCDF	7.4	----	0.43		2,3,7,8-TCDD-13C	2.00	77
					1,2,3,7,8-PeCDF-13C	2.00	83
2,3,7,8-TCDD	ND	----	0.57		2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	ND	----	0.57		1,2,3,7,8-PeCDD-13C	2.00	87
					1,2,3,4,7,8-HxCDF-13C	2.00	87
1,2,3,7,8-PeCDF	ND	----	0.47		1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	0.62	----	0.30	J	2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	8.1	----	0.30		1,2,3,7,8,9-HxCDF-13C	2.00	64
					1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	ND	----	0.41		1,2,3,6,7,8-HxCDD-13C	2.00	64
Total PeCDD	1.8	----	0.41	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	65
					1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	ND	----	0.43		1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	----	0.87	0.63	I	OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	----	0.36	0.31	I			
1,2,3,7,8,9-HxCDF	ND	----	0.38		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	13	----	0.31		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.64		2,3,7,8-TCDD-37Cl4	0.20	94
1,2,3,6,7,8-HxCDD	----	1.3	0.52	I			
1,2,3,7,8,9-HxCDD	0.78	----	0.54	J			
Total HxCDD	9.6	----	0.52				
1,2,3,4,6,7,8-HpCDF	16	----	0.53		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.69		Equivalence: 0.94 ng/Kg		
Total HpCDF	31	----	0.53		(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	13	----	0.71				
Total HpCDD	32	----	0.71				
OCDF	12	----	0.89	J			
OCDD	120	----	0.95				

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-139-0-0.1		
Lab Sample ID	10528571034		
Filename	Y200822B_16		
Injected By	BAL		
Total Amount Extracted	12.0 g	Matrix	Sediment
% Moisture	35.9	Dilution	NA
Dry Weight Extracted	7.70 g	Collected	08/12/2020 16:55
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200822B_02 & Y200822B_19	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/22/2020 22:56

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.57	2,3,7,8-TCDF-13C	2.00	75
Total TCDF	11	----	0.57	2,3,7,8-TCDD-13C	2.00	75
				1,2,3,7,8-PeCDF-13C	2.00	83
2,3,7,8-TCDD	ND	----	0.46	2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	ND	----	0.46	1,2,3,7,8-PeCDD-13C	2.00	85
				1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	----	0.47	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	1.2	----	0.27 J	2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	25	----	0.27	1,2,3,7,8,9-HxCDF-13C	2.00	73
				1,2,3,4,7,8-HxCDD-13C	2.00	81
1,2,3,7,8-PeCDD	0.58	----	0.28 J	1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	3.3	----	0.28 J	1,2,3,4,6,7,8-HpCDF-13C	2.00	65
				1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	16	----	0.27	1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	3.1	----	0.27 J	OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	1.7	----	0.25 J			
1,2,3,7,8,9-HxCDF	1.7	----	0.24 J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	63	----	0.24	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	0.45	----	0.37 J	2,3,7,8-TCDD-37Cl4	0.20	69
1,2,3,6,7,8-HxCDD	1.8	----	0.33 J			
1,2,3,7,8,9-HxCDD	1.2	----	0.37 J			
Total HxCDD	18	----	0.33			
1,2,3,4,6,7,8-HpCDF	54	----	0.48	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	20	----	0.57	Equivalence: 4.6 ng/Kg		
Total HpCDF	140	----	0.48	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	21	----	0.31			
Total HpCDD	48	----	0.31			
OCDF	220	----	0.83			
OCDD	180	----	0.77			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 8290 Sample Analysis Results

Client - Bay West, LLC

Client's Sample ID	BW20ML-143-0-0.24		
Lab Sample ID	10528571037		
Filename	Y200826B_14		
Injected By	SMT		
Total Amount Extracted	11.8 g	Matrix	Sediment
% Moisture	61.1	Dilution	5
Dry Weight Extracted	4.59 g	Collected	08/12/2020 16:40
ICAL ID	Y200611	Received	08/13/2020 19:00
CCal Filename(s)	Y200826B_01 & Y200827A_17	Extracted	08/20/2020 14:56
Method Blank ID	BLANK-81831	Analyzed	08/26/2020 23:06

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	9.1 D	2,3,7,8-TCDF-13C	2.00	72 D
Total TCDF	ND	----	9.1 D	2,3,7,8-TCDD-13C	2.00	67 D
				1,2,3,7,8-PeCDF-13C	2.00	85 D
2,3,7,8-TCDD	ND	----	7.2 D	2,3,4,7,8-PeCDF-13C	2.00	66 D
Total TCDD	ND	----	7.2 D	1,2,3,7,8-PeCDD-13C	2.00	77 D
				1,2,3,4,7,8-HxCDF-13C	2.00	174 RD
1,2,3,7,8-PeCDF	ND	----	4.0 D	1,2,3,6,7,8-HxCDF-13C	2.00	170 RD
2,3,4,7,8-PeCDF	ND	----	2.1 D	2,3,4,6,7,8-HxCDF-13C	2.00	149 RD
Total PeCDF	ND	----	2.1 D	1,2,3,7,8,9-HxCDF-13C	2.00	56 D
				1,2,3,4,7,8-HxCDD-13C	2.00	154 RD
1,2,3,7,8-PeCDD	ND	----	1.2 D	1,2,3,6,7,8-HxCDD-13C	2.00	122 D
Total PeCDD	ND	----	1.2 D	1,2,3,4,6,7,8-HpCDF-13C	2.00	124 D
				1,2,3,4,7,8,9-HpCDF-13C	2.00	115 D
1,2,3,4,7,8-HxCDF	ND	----	1.9 D	1,2,3,4,6,7,8-HpCDD-13C	2.00	96 D
1,2,3,6,7,8-HxCDF	ND	----	2.1 D	OCDD-13C	4.00	106 D
2,3,4,6,7,8-HxCDF	ND	----	1.7 D			
1,2,3,7,8,9-HxCDF	ND	----	3.3 D	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	13	----	1.7 JD	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	2.3 D	2,3,7,8-TCDD-37Cl4	0.20	72 D
1,2,3,6,7,8-HxCDD	ND	----	1.1 D			
1,2,3,7,8,9-HxCDD	ND	----	3.2 D			
Total HxCDD	15	----	1.1 JD			
1,2,3,4,6,7,8-HpCDF	27	----	2.1 JD	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	2.2 D	Equivalence: 0.46 ng/Kg		
Total HpCDF	50	----	2.1 JD	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	14	----	2.9 JD			
Total HpCDD	44	----	2.9 JD			
OCDF	25	----	2.9 JD			
OCDD	130	----	3.7 D			

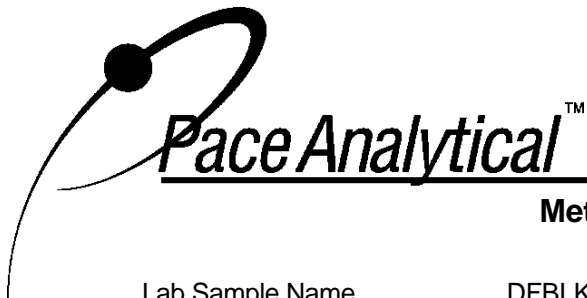
Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
EDL = Estimated Detection Limit

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

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J = Estimated value
R = Recovery outside target range
D = Result obtained from analysis of diluted sample

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Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKBV	Matrix	Solid
Lab Sample ID	BLANK-81738	Dilution	NA
Filename	Y200819A_13	Extracted	08/17/2020 14:53
Total Amount Extracted	10.2 g	Analyzed	08/19/2020 13:29
ICAL ID	Y200611	Injected By	SMT
CCal Filename(s)	Y200819A_04 & Y200819A_21		

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.20	2,3,7,8-TCDF-13C	2.00	67
Total TCDF	ND	----	0.20	2,3,7,8-TCDD-13C	2.00	63
				1,2,3,7,8-PeCDF-13C	2.00	66
2,3,7,8-TCDD	ND	----	0.36	2,3,4,7,8-PeCDF-13C	2.00	55
Total TCDD	ND	----	0.36	1,2,3,7,8-PeCDD-13C	2.00	56
				1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	ND	----	0.44	1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	ND	----	0.27	2,3,4,6,7,8-HxCDF-13C	2.00	68
Total PeCDF	ND	----	0.27	1,2,3,7,8,9-HxCDF-13C	2.00	67
				1,2,3,4,7,8-HxCDD-13C	2.00	62
1,2,3,7,8-PeCDD	ND	----	0.42	1,2,3,6,7,8-HxCDD-13C	2.00	64
Total PeCDD	ND	----	0.42	1,2,3,4,6,7,8-HpCDF-13C	2.00	54
				1,2,3,4,7,8,9-HpCDF-13C	2.00	55
1,2,3,4,7,8-HxCDF	ND	----	0.38	1,2,3,4,6,7,8-HpCDD-13C	2.00	57
1,2,3,6,7,8-HxCDF	ND	----	0.38	OCDD-13C	4.00	47
2,3,4,6,7,8-HxCDF	ND	----	0.40			
1,2,3,7,8,9-HxCDF	ND	----	0.66	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.38	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.53	2,3,7,8-TCDD-37Cl4	0.20	70
1,2,3,6,7,8-HxCDD	ND	----	0.50			
1,2,3,7,8,9-HxCDD	ND	----	0.53			
Total HxCDD	ND	----	0.50			
1,2,3,4,6,7,8-HpCDF	ND	----	0.52	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.69	Equivalence: 0.0071 ng/Kg		
Total HpCDF	ND	----	0.52	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	----	0.71	0.61 J			
Total HpCDD	ND	----	0.61			
OCDF	ND	----	1.3			
OCDD	ND	----	1.7			

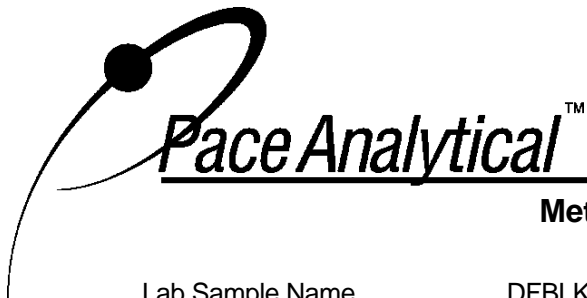
Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

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Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKCP	Matrix	Solid
Lab Sample ID	BLANK-81795	Dilution	NA
Filename	Y200821B_04	Extracted	08/19/2020 14:56
Total Amount Extracted	10.1 g	Analyzed	08/21/2020 16:15
ICAL ID	Y200611	Injected By	BAL
CCal Filename(s)	Y200821B_01 & Y200821B_18		

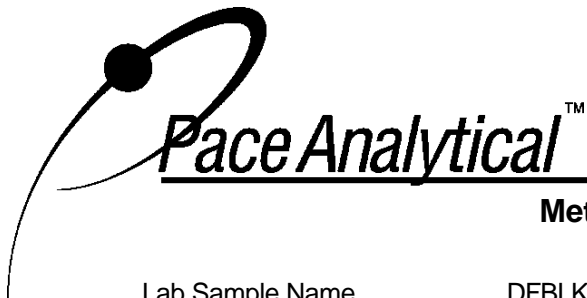
Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.19	2,3,7,8-TCDF-13C	2.00	72
Total TCDF	ND	----	0.19	2,3,7,8-TCDD-13C	2.00	70
				1,2,3,7,8-PeCDF-13C	2.00	85
2,3,7,8-TCDD	ND	----	0.31	2,3,4,7,8-PeCDF-13C	2.00	68
Total TCDD	ND	----	0.31	1,2,3,7,8-PeCDD-13C	2.00	79
				1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	----	0.20	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	ND	----	0.14	2,3,4,6,7,8-HxCDF-13C	2.00	80
Total PeCDF	ND	----	0.14	1,2,3,7,8,9-HxCDF-13C	2.00	79
				1,2,3,4,7,8-HxCDD-13C	2.00	77
1,2,3,7,8-PeCDD	ND	----	0.22	1,2,3,6,7,8-HxCDD-13C	2.00	68
Total PeCDD	ND	----	0.22	1,2,3,4,6,7,8-HpCDF-13C	2.00	66
				1,2,3,4,7,8,9-HpCDF-13C	2.00	73
1,2,3,4,7,8-HxCDF	ND	----	0.26	1,2,3,4,6,7,8-HpCDD-13C	2.00	74
1,2,3,6,7,8-HxCDF	ND	----	0.26	OCDD-13C	4.00	69
2,3,4,6,7,8-HxCDF	ND	----	0.27			
1,2,3,7,8,9-HxCDF	ND	----	0.34	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.26	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.38	2,3,7,8-TCDD-37Cl4	0.20	76
1,2,3,6,7,8-HxCDD	ND	----	0.36			
1,2,3,7,8,9-HxCDD	ND	----	0.39			
Total HxCDD	ND	----	0.36			
1,2,3,4,6,7,8-HpCDF	ND	----	0.41	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.53	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	----	0.41	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.46			
Total HpCDD	ND	----	0.46			
OCDF	ND	----	0.60			
OCDD	ND	----	0.66			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
 EMPC = Estimated Maximum Possible Concentration
 EDL = Estimated Detection Limit

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Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKCZ	Matrix	Solid
Lab Sample ID	BLANK-81831	Dilution	NA
Filename	Y200826B_11	Extracted	08/20/2020 14:56
Total Amount Extracted	10.3 g	Analyzed	08/26/2020 21:00
ICAL ID	Y200611	Injected By	SMT
CCal Filename(s)	Y200826B_01 & Y200826B_18		

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.21	2,3,7,8-TCDF-13C	2.00	74
Total TCDF	ND	----	0.21	2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	ND	----	0.21	2,3,4,7,8-PeCDF-13C	2.00	54
Total TCDD	ND	----	0.21	1,2,3,7,8-PeCDD-13C	2.00	55
				1,2,3,4,7,8-HxCDF-13C	2.00	102
1,2,3,7,8-PeCDF	ND	----	0.26	1,2,3,6,7,8-HxCDF-13C	2.00	99
2,3,4,7,8-PeCDF	ND	----	0.16	2,3,4,6,7,8-HxCDF-13C	2.00	92
Total PeCDF	ND	----	0.16	1,2,3,7,8,9-HxCDF-13C	2.00	75
				1,2,3,4,7,8-HxCDD-13C	2.00	87
1,2,3,7,8-PeCDD	ND	----	0.23	1,2,3,6,7,8-HxCDD-13C	2.00	62
Total PeCDD	ND	----	0.23	1,2,3,4,6,7,8-HpCDF-13C	2.00	59
				1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	ND	----	0.27	1,2,3,4,6,7,8-HpCDD-13C	2.00	69
1,2,3,6,7,8-HxCDF	ND	----	0.34	OCDD-13C	4.00	53
2,3,4,6,7,8-HxCDF	ND	----	0.31			
1,2,3,7,8,9-HxCDF	ND	----	0.49	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.27	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.48	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	ND	----	0.37			
1,2,3,7,8,9-HxCDD	ND	----	0.37			
Total HxCDD	ND	----	0.37			
1,2,3,4,6,7,8-HpCDF	ND	----	0.42	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.53	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	----	0.42	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.41			
Total HpCDD	ND	----	0.41			
OCDF	ND	----	0.82			
OCDD	ND	----	1.1			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).

EMPC = Estimated Maximum Possible Concentration

EDL = Estimated Detection Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.

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Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKGO	Matrix	Solid
Lab Sample ID	BLANK-82043	Dilution	NA
Filename	F200902A_03	Extracted	08/28/2020 15:38
Total Amount Extracted	10.6 g	Analyzed	09/02/2020 08:23
ICAL ID	F200714	Injected By	SMT
CCal Filename(s)	F200901A_17 & F200902A_16		

Native Isomers	Conc ng/Kg	EMPC ng/Kg	EDL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.14	2,3,7,8-TCDF-13C	2.00	103
Total TCDF	ND	----	0.14	2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	124
2,3,7,8-TCDD	ND	----	0.16	2,3,4,7,8-PeCDF-13C	2.00	122
Total TCDD	ND	----	0.16	1,2,3,7,8-PeCDD-13C	2.00	121
				1,2,3,4,7,8-HxCDF-13C	2.00	94
1,2,3,7,8-PeCDF	ND	----	0.075	1,2,3,6,7,8-HxCDF-13C	2.00	107
2,3,4,7,8-PeCDF	ND	----	0.039	2,3,4,6,7,8-HxCDF-13C	2.00	107
Total PeCDF	ND	----	0.039	1,2,3,7,8,9-HxCDF-13C	2.00	102
				1,2,3,4,7,8-HxCDD-13C	2.00	85
1,2,3,7,8-PeCDD	ND	----	0.071	1,2,3,6,7,8-HxCDD-13C	2.00	88
Total PeCDD	ND	----	0.071	1,2,3,4,6,7,8-HpCDF-13C	2.00	78
				1,2,3,4,7,8,9-HpCDF-13C	2.00	81
1,2,3,4,7,8-HxCDF	ND	----	0.040	1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,6,7,8-HxCDF	ND	----	0.033	OCDD-13C	4.00	92
2,3,4,6,7,8-HxCDF	ND	----	0.033			
1,2,3,7,8,9-HxCDF	ND	----	0.050	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.033	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.052	2,3,7,8-TCDD-37Cl4	0.20	95
1,2,3,6,7,8-HxCDD	ND	----	0.062			
1,2,3,7,8,9-HxCDD	ND	----	0.055			
Total HxCDD	ND	----	0.052			
1,2,3,4,6,7,8-HpCDF	ND	----	0.044	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.072	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	----	0.044	(Lower-bound - Using 2005 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.12			
Total HpCDD	ND	----	0.12			
OCDF	ND	----	0.16			
OCDD	ND	----	0.15			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).

EMPC = Estimated Maximum Possible Concentration

EDL = Estimated Detection Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-81739	Matrix	Solid
Filename	Y200819A_07	Dilution	NA
Total Amount Extracted	10.0 g	Extracted	08/17/2020 14:53
ICAL ID	Y200611	Analyzed	08/19/2020 09:13
CCal Filename(s)	Y200819A_04 & Y200819A_21	Injected By	SMT
Method Blank ID	BLANK-81738		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	109	2,3,7,8-TCDF-13C	2.0	72
Total TCDF				2,3,7,8-TCDD-13C	2.0	70
				1,2,3,7,8-PeCDF-13C	2.0	82
2,3,7,8-TCDD	0.20	0.22	110	2,3,4,7,8-PeCDF-13C	2.0	71
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	74
				1,2,3,4,7,8-HxCDF-13C	2.0	98
1,2,3,7,8-PeCDF	1.0	0.99	99	1,2,3,6,7,8-HxCDF-13C	2.0	94
2,3,4,7,8-PeCDF	1.0	1.0	102	2,3,4,6,7,8-HxCDF-13C	2.0	85
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	84
				1,2,3,4,7,8-HxCDD-13C	2.0	62
1,2,3,7,8-PeCDD	1.0	0.97	97	1,2,3,6,7,8-HxCDD-13C	2.0	72
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	69
				1,2,3,4,7,8,9-HpCDF-13C	2.0	69
1,2,3,4,7,8-HxCDF	1.0	1.1	111	1,2,3,4,6,7,8-HpCDD-13C	2.0	70
1,2,3,6,7,8-HxCDF	1.0	1.0	103	OCDD-13C	4.0	62
2,3,4,6,7,8-HxCDF	1.0	1.0	104			
1,2,3,7,8,9-HxCDF	1.0	1.0	102	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.2	121	2,3,7,8-TCDD-37Cl4	0.20	69
1,2,3,6,7,8-HxCDD	1.0	1.2	115			
1,2,3,7,8,9-HxCDD	1.0	1.3	130			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.0	103			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	103			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	1.0	103			
Total HpCDD						
OCDF	2.0	2.4	119			
OCDD	2.0	2.2	110			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-81796	Matrix	Solid
Filename	Y200821B_02	Dilution	NA
Total Amount Extracted	10.3 g	Extracted	08/19/2020 14:56
ICAL ID	Y200611	Analyzed	08/21/2020 14:51
CCal Filename(s)	Y200821B_01 & Y200821B_18	Injected By	BAL
Method Blank ID	BLANK-81795		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	110	2,3,7,8-TCDF-13C	2.0	72
Total TCDF				2,3,7,8-TCDD-13C	2.0	70
				1,2,3,7,8-PeCDF-13C	2.0	86
2,3,7,8-TCDD	0.20	0.22	112	2,3,4,7,8-PeCDF-13C	2.0	69
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	80
				1,2,3,4,7,8-HxCDF-13C	2.0	77
1,2,3,7,8-PeCDF	1.0	1.0	101	1,2,3,6,7,8-HxCDF-13C	2.0	78
2,3,4,7,8-PeCDF	1.0	1.0	105	2,3,4,6,7,8-HxCDF-13C	2.0	80
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	78
				1,2,3,4,7,8-HxCDD-13C	2.0	74
1,2,3,7,8-PeCDD	1.0	0.97	97	1,2,3,6,7,8-HxCDD-13C	2.0	69
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	67
				1,2,3,4,7,8,9-HpCDF-13C	2.0	74
1,2,3,4,7,8-HxCDF	1.0	1.2	118	1,2,3,4,6,7,8-HpCDD-13C	2.0	77
1,2,3,6,7,8-HxCDF	1.0	1.1	111	OCDD-13C	4.0	71
2,3,4,6,7,8-HxCDF	1.0	1.1	106			
1,2,3,7,8,9-HxCDF	1.0	1.1	108	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.2	119	2,3,7,8-TCDD-37Cl4	0.20	74
1,2,3,6,7,8-HxCDD	1.0	1.2	118			
1,2,3,7,8,9-HxCDD	1.0	1.1	115			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	111			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	105			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	1.0	102			
Total HpCDD						
OCDF	2.0	2.4	120			
OCDD	2.0	2.3	114			

Qs = Quantity Spiked
 Qm = Quantity Measured
 Rec. = Recovery (Expressed as Percent)
 R = Recovery outside of target range

Y = RF averaging used in calculations
 Nn = Value obtained from additional analysis
 NA = Not Applicable
 * = See Discussion

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-81832	Matrix	Solid
Filename	Y200826B_05	Dilution	NA
Total Amount Extracted	10.4 g	Extracted	08/20/2020 14:56
ICAL ID	Y200611	Analyzed	08/26/2020 16:46
CCal Filename(s)	Y200826B_01 & Y200826B_18	Injected By	SMT
Method Blank ID	BLANK-81831		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	105	2,3,7,8-TCDF-13C	2.0	61
Total TCDF				2,3,7,8-TCDD-13C	2.0	60
				1,2,3,7,8-PeCDF-13C	2.0	65
2,3,7,8-TCDD	0.20	0.21	105	2,3,4,7,8-PeCDF-13C	2.0	48
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	49
				1,2,3,4,7,8-HxCDF-13C	2.0	94
1,2,3,7,8-PeCDF	1.0	1.0	100	1,2,3,6,7,8-HxCDF-13C	2.0	88
2,3,4,7,8-PeCDF	1.0	1.00	100	2,3,4,6,7,8-HxCDF-13C	2.0	84
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	68
				1,2,3,4,7,8-HxCDD-13C	2.0	78
1,2,3,7,8-PeCDD	1.0	0.92	92	1,2,3,6,7,8-HxCDD-13C	2.0	55
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	57
				1,2,3,4,7,8,9-HpCDF-13C	2.0	59
1,2,3,4,7,8-HxCDF	1.0	1.1	109	1,2,3,4,6,7,8-HpCDD-13C	2.0	67
1,2,3,6,7,8-HxCDF	1.0	1.0	104	OCDD-13C	4.0	51
2,3,4,6,7,8-HxCDF	1.0	1.0	103			
1,2,3,7,8,9-HxCDF	1.0	1.0	104	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	0.98	98	2,3,7,8-TCDD-37Cl4	0.20	62
1,2,3,6,7,8-HxCDD	1.0	1.2	120			
1,2,3,7,8,9-HxCDD	1.0	1.2	116			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	111			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	105			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.99	99			
Total HpCDD						
OCDF	2.0	2.3	113			
OCDD	2.0	2.2	112			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-82044	Matrix	Solid
Filename	Y200903A_05	Dilution	NA
Total Amount Extracted	10.4 g	Extracted	08/28/2020 15:38
ICAL ID	Y200611	Analyzed	09/03/2020 09:46
CCal Filename(s)	Y200903A_02 & Y200903A_10	Injected By	SMT
Method Blank ID	BLANK-82043		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.23	116	2,3,7,8-TCDF-13C	2.0	75
Total TCDF				2,3,7,8-TCDD-13C	2.0	74
				1,2,3,7,8-PeCDF-13C	2.0	83
2,3,7,8-TCDD	0.20	0.23	115	2,3,4,7,8-PeCDF-13C	2.0	82
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	88
				1,2,3,4,7,8-HxCDF-13C	2.0	78
1,2,3,7,8-PeCDF	1.0	1.1	109	1,2,3,6,7,8-HxCDF-13C	2.0	82
2,3,4,7,8-PeCDF	1.0	1.1	111	2,3,4,6,7,8-HxCDF-13C	2.0	83
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	80
				1,2,3,4,7,8-HxCDD-13C	2.0	78
1,2,3,7,8-PeCDD	1.0	1.1	108	1,2,3,6,7,8-HxCDD-13C	2.0	73
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	75
				1,2,3,4,7,8,9-HpCDF-13C	2.0	76
1,2,3,4,7,8-HxCDF	1.0	1.3	126	1,2,3,4,6,7,8-HpCDD-13C	2.0	82
1,2,3,6,7,8-HxCDF	1.0	1.2	118	OCDD-13C	4.0	69
2,3,4,6,7,8-HxCDF	1.0	1.2	117			
1,2,3,7,8,9-HxCDF	1.0	1.2	118	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.2	124	2,3,7,8-TCDD-37Cl4	0.20	69
1,2,3,6,7,8-HxCDD	1.0	1.2	125			
1,2,3,7,8,9-HxCDD	1.0	1.2	123			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.2	120			
1,2,3,4,7,8,9-HpCDF	1.0	1.1	112			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	1.1	109			
Total HpCDD						
OCDF	2.0	2.5	127			
OCDD	2.0	2.5	124			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Spiked Sample Report

Client - Bay West, LLC

Client's Sample ID	BW20ML-124-0-0.3-MS	Matrix	Sediment
Lab Sample ID	10528571001-MS	Dilution	NA
Filename	Y200823A_03	Extracted	08/17/2020 14:53
Total Amount Extracted	13.1 g	Analyzed	08/23/2020 03:13
ICAL ID	Y200611	Injected By	BAL
CCal Filename(s)	Y200822B_19 & Y200823A_18		
Method Blank ID	BLANK-81738		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	108	2,3,7,8-TCDF-13C	2.00	71
				2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	0.20	0.20	102	2,3,4,7,8-PeCDF-13C	2.00	75
				1,2,3,7,8-PeCDD-13C	2.00	81
				1,2,3,4,7,8-HxCDF-13C	2.00	77
1,2,3,7,8-PeCDF	1.00	0.98	98	1,2,3,6,7,8-HxCDF-13C	2.00	77
2,3,4,7,8-PeCDF	1.00	1.00	100	2,3,4,6,7,8-HxCDF-13C	2.00	75
				1,2,3,7,8,9-HxCDF-13C	2.00	73
				1,2,3,4,7,8-HxCDD-13C	2.00	68
1,2,3,7,8-PeCDD	1.00	0.94	94	1,2,3,6,7,8-HxCDD-13C	2.00	58
				1,2,3,4,6,7,8-HpCDF-13C	2.00	61
				1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	1.00	1.14	114	1,2,3,4,6,7,8-HpCDD-13C	2.00	66
1,2,3,6,7,8-HxCDF	1.00	1.05	105	OCDD-13C	4.00	56
2,3,4,6,7,8-HxCDF	1.00	1.04	104			
1,2,3,7,8,9-HxCDF	1.00	1.02	102	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.10	110	2,3,7,8-TCDD-37Cl4	0.20	69
1,2,3,6,7,8-HxCDD	1.00	1.13	113			
1,2,3,7,8,9-HxCDD	1.00	1.20	120			
1,2,3,4,6,7,8-HpCDF	1.00	1.20	120			
1,2,3,4,7,8,9-HpCDF	1.00	1.02	102			
1,2,3,4,6,7,8-HpCDD	1.00	1.09	109			
OCDF	2.00	2.63	131			
OCDD	2.00	2.78	139 R			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

R = Recovery outside target range

REPORT OF LABORATORY ANALYSIS

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Method 8290 Spiked Sample Report

Client - Bay West, LLC

Client's Sample ID	BW20ML-124-0-0.3-MSD	Matrix	Sediment
Lab Sample ID	10528571001-MSD	Dilution	NA
Filename	Y200823A_04	Extracted	08/17/2020 14:53
Total Amount Extracted	13.1 g	Analyzed	08/23/2020 03:56
ICAL ID	Y200611	Injected By	BAL
CCal Filename(s)	Y200822B_19 & Y200823A_18		
Method Blank ID	BLANK-81738		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	107	2,3,7,8-TCDF-13C	2.00	69
				2,3,7,8-TCDD-13C	2.00	70
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	0.20	0.21	103	2,3,4,7,8-PeCDF-13C	2.00	71
				1,2,3,7,8-PeCDD-13C	2.00	80
				1,2,3,4,7,8-HxCDF-13C	2.00	76
1,2,3,7,8-PeCDF	1.00	0.99	99	1,2,3,6,7,8-HxCDF-13C	2.00	74
2,3,4,7,8-PeCDF	1.00	1.01	101	2,3,4,6,7,8-HxCDF-13C	2.00	76
				1,2,3,7,8,9-HxCDF-13C	2.00	74
				1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	1.00	0.94	94	1,2,3,6,7,8-HxCDD-13C	2.00	63
				1,2,3,4,6,7,8-HpCDF-13C	2.00	62
				1,2,3,4,7,8,9-HpCDF-13C	2.00	65
1,2,3,4,7,8-HxCDF	1.00	1.14	114	1,2,3,4,6,7,8-HpCDD-13C	2.00	67
1,2,3,6,7,8-HxCDF	1.00	1.06	106	OCDD-13C	4.00	54
2,3,4,6,7,8-HxCDF	1.00	1.05	105			
1,2,3,7,8,9-HxCDF	1.00	1.05	105	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.12	112	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	1.00	1.16	116			
1,2,3,7,8,9-HxCDD	1.00	1.08	108			
1,2,3,4,6,7,8-HpCDF	1.00	1.10	110			
1,2,3,4,7,8,9-HpCDF	1.00	1.01	101			
1,2,3,4,6,7,8-HpCDD	1.00	1.03	103			
OCDF	2.00	2.37	118			
OCDD	2.00	2.28	114			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)
 Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Method 8290 Spiked Sample Report

Client - Bay West, LLC

Client's Sample ID	BW20ML-130-0-0.3-MS	Matrix	Sediment
Lab Sample ID	10528571021-MS	Dilution	NA
Filename	Y200823A_05	Extracted	08/19/2020 14:56
Total Amount Extracted	13.2 g	Analyzed	08/23/2020 04:38
ICAL ID	Y200611	Injected By	BAL
CCal Filename(s)	Y200822B_19 & Y200823A_18		
Method Blank ID	BLANK-81795		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.23	113	2,3,7,8-TCDF-13C	2.00	72
				2,3,7,8-TCDD-13C	2.00	73
				1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	0.20	0.22	108	2,3,4,7,8-PeCDF-13C	2.00	74
				1,2,3,7,8-PeCDD-13C	2.00	81
				1,2,3,4,7,8-HxCDF-13C	2.00	85
1,2,3,7,8-PeCDF	1.00	1.00	100	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	1.00	1.01	101	2,3,4,6,7,8-HxCDF-13C	2.00	79
				1,2,3,7,8,9-HxCDF-13C	2.00	78
				1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	1.00	0.99	99	1,2,3,6,7,8-HxCDD-13C	2.00	66
				1,2,3,4,6,7,8-HpCDF-13C	2.00	65
				1,2,3,4,7,8,9-HpCDF-13C	2.00	66
1,2,3,4,7,8-HxCDF	1.00	1.13	113	1,2,3,4,6,7,8-HpCDD-13C	2.00	70
1,2,3,6,7,8-HxCDF	1.00	1.08	108	OCDD-13C	4.00	55
2,3,4,6,7,8-HxCDF	1.00	1.06	106			
1,2,3,7,8,9-HxCDF	1.00	1.02	102	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.10	110	2,3,7,8-TCDD-37Cl4	0.20	75
1,2,3,6,7,8-HxCDD	1.00	1.20	120			
1,2,3,7,8,9-HxCDD	1.00	1.07	107			
1,2,3,4,6,7,8-HpCDF	1.00	1.36	136			
1,2,3,4,7,8,9-HpCDF	1.00	1.00	100			
1,2,3,4,6,7,8-HpCDD	1.00	1.17	117			
OCDF	2.00	2.47	124			
OCDD	2.00	3.56	178			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)
 Results reported on a dry weight basis and are valid to no more than 2 significant figures.

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Method 8290 Spiked Sample Report

Client - Bay West, LLC

Client's Sample ID	BW20ML-130-0-0.3-MSD		
Lab Sample ID	10528571021-MSD		
Filename	Y200823A_06	Matrix	Sediment
Total Amount Extracted	13.2 g	Dilution	NA
ICAL ID	Y200611	Extracted	08/19/2020 14:56
CCal Filename(s)	Y200822B_19 & Y200823A_18	Analyzed	08/23/2020 05:21
Method Blank ID	BLANK-81795	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.23	115	2,3,7,8-TCDF-13C	2.00	63
				2,3,7,8-TCDD-13C	2.00	65
				1,2,3,7,8-PeCDF-13C	2.00	69
2,3,7,8-TCDD	0.20	0.21	106	2,3,4,7,8-PeCDF-13C	2.00	66
				1,2,3,7,8-PeCDD-13C	2.00	71
				1,2,3,4,7,8-HxCDF-13C	2.00	69
1,2,3,7,8-PeCDF	1.00	1.03	103	1,2,3,6,7,8-HxCDF-13C	2.00	67
2,3,4,7,8-PeCDF	1.00	1.03	103	2,3,4,6,7,8-HxCDF-13C	2.00	67
				1,2,3,7,8,9-HxCDF-13C	2.00	65
				1,2,3,4,7,8-HxCDD-13C	2.00	67
1,2,3,7,8-PeCDD	1.00	0.97	97	1,2,3,6,7,8-HxCDD-13C	2.00	53
				1,2,3,4,6,7,8-HpCDF-13C	2.00	54
				1,2,3,4,7,8,9-HpCDF-13C	2.00	58
1,2,3,4,7,8-HxCDF	1.00	1.17	117	1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	1.00	1.09	109	OCDD-13C	4.00	53
2,3,4,6,7,8-HxCDF	1.00	1.08	108			
1,2,3,7,8,9-HxCDF	1.00	1.06	106	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.05	105	2,3,7,8-TCDD-37Cl4	0.20	67
1,2,3,6,7,8-HxCDD	1.00	1.27	127			
1,2,3,7,8,9-HxCDD	1.00	1.10	110			
1,2,3,4,6,7,8-HpCDF	1.00	1.69	169 R			
1,2,3,4,7,8,9-HpCDF	1.00	1.01	101			
1,2,3,4,6,7,8-HpCDD	1.00	1.41	141			
OCDF	2.00	2.69	135			
OCDD	2.00	5.12	256 R			

Qs = Quantity Spiked Qm = Quantity Measured Rec. = Recovery (Expressed as Percent)

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

R = Recovery outside target range

REPORT OF LABORATORY ANALYSIS

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Method 8290 Spike Sample Results

Client - Bay West, LLC

Client Sample ID BW20ML-124-0-0.3
Lab Sample ID 10528571001
MS ID 10528571001-MS
MSD ID 10528571001-MSD

Sample Filename Y200823A_10
MS Filename Y200823A_03
MSD Filename Y200823A_04

Dry Weights
Sample Amount 6.21 g
MS Amount 6.2 g
MSD Amount 6.2 g

Analyte	Sample Qm (ng)	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted		
						MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	0.00	0.20	0.22	0.21	1.4	108	106	1.4
2,3,7,8-TCDD	0.00	0.20	0.20	0.21	0.7	102	103	0.7
1,2,3,7,8-PeCDF	0.00	1.00	0.98	0.99	1.1	98	99	1.1
2,3,4,7,8-PeCDF	0.00	1.00	1.00	1.01	1.4	100	101	1.4
1,2,3,7,8-PeCDD	0.00	1.00	0.94	0.94	0.6	94	94	0.6
1,2,3,4,7,8-HxCDF	0.01	1.00	1.14	1.14	0.5	113	113	0.5
1,2,3,6,7,8-HxCDF	0.00	1.00	1.05	1.06	0.9	105	106	0.9
2,3,4,6,7,8-HxCDF	0.00	1.00	1.04	1.05	1.1	104	105	1.1
1,2,3,7,8,9-HxCDF	0.00	1.00	1.02	1.05	2.6	102	105	2.6
1,2,3,4,7,8-HxCDD	0.00	1.00	1.10	1.12	1.8	110	112	1.8
1,2,3,6,7,8-HxCDD	0.00	1.00	1.13	1.16	2.6	113	116	2.6
1,2,3,7,8,9-HxCDD	0.00	1.00	1.20	1.08	10.5	120	108	10.5
1,2,3,4,6,7,8-HpCDF	0.04	1.00	1.20	1.10	8.4	116	106	8.7
1,2,3,4,7,8,9-HpCDF	0.01	1.00	1.02	1.01	1.0	101	100	1.1
1,2,3,4,6,7,8-HpCDD	0.02	1.00	1.09	1.03	5.1	107	101	5.2
OCDF	0.09	2.00	2.63	2.37	10.5	127	114	10.9
OCDD	0.13	2.00	2.78	2.28	19.7	132	107	20.8

Definitions

MS = Matrix Spike	CDD = Chlorinated dibenzo-p-dioxin
MSD = Matrix Spike Duplicate	CDF = Chlorinated dibenzo-p-furan
Qm = Quantity Measured	T = Tetra
Qs = Quantity Spiked	Pe = Penta
% Rec. = Percent Recovery	Hx = Hexa
RPD = Relative Percent Difference	Hp = Hepta
NA = Not Applicable	O = Octa
NC = Not Calculated	



Method 8290 Spike Sample Results

Client - Bay West, LLC

Client Sample ID	BW20ML-130-0-0.3	Sample Filename	Y200823A_09	<u>Dry Weights</u>	
Lab Sample ID	10528571021	MS Filename	Y200823A_05	Sample Amount	4.03 g
MS ID	10528571021-MS	MSD Filename	Y200823A_06	MS Amount	4.1 g
MSD ID	10528571021-MSD			MSD Amount	4.0 g

Analyte	Sample Qm (ng)	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted		RPD
						MS % Rec.	MSD % Rec.	
2,3,7,8-TCDF	0.01	0.20	0.23	0.23	2.0	110	112	2.0
2,3,7,8-TCDD	0.00	0.20	0.22	0.21	1.3	108	106	1.3
1,2,3,7,8-PeCDF	0.00	1.00	1.00	1.03	2.8	99	102	2.8
2,3,4,7,8-PeCDF	0.01	1.00	1.01	1.03	1.8	100	102	1.9
1,2,3,7,8-PeCDD	0.00	1.00	0.99	0.97	1.7	98	97	1.7
1,2,3,4,7,8-HxCDF	0.01	1.00	1.13	1.17	4.0	112	117	4.1
1,2,3,6,7,8-HxCDF	0.02	1.00	1.08	1.09	0.8	107	108	0.8
2,3,4,6,7,8-HxCDF	0.01	1.00	1.06	1.08	2.0	105	107	2.0
1,2,3,7,8,9-HxCDF	0.00	1.00	1.02	1.06	3.9	102	106	3.9
1,2,3,4,7,8-HxCDD	0.00	1.00	1.10	1.05	4.0	110	105	4.0
1,2,3,6,7,8-HxCDD	0.02	1.00	1.20	1.27	5.3	119	125	5.4
1,2,3,7,8,9-HxCDD	0.01	1.00	1.07	1.10	2.1	106	108	2.2
1,2,3,4,6,7,8-HpCDF	0.26	1.00	1.36	1.69	21.6	111	144	26.0
1,2,3,4,7,8,9-HpCDF	0.01	1.00	1.00	1.01	0.4	100	100	0.4
1,2,3,4,6,7,8-HpCDD	0.17	1.00	1.17	1.41	18.4	100	123	21.2
OCDF	0.15	2.00	2.47	2.69	8.6	116	127	9.1
OCDD	1.23	2.00	3.56	5.12	36.1	116	195	50.3

Definitions

MS = Matrix Spike	CDD = Chlorinated dibenzo-p-dioxin
MSD = Matrix Spike Duplicate	CDF = Chlorinated dibenzo-p-furan
Qm = Quantity Measured	T = Tetra
Qs = Quantity Spiked	Pe = Penta
% Rec. = Percent Recovery	Hx = Hexa
RPD = Relative Percent Difference	Hp = Hepta
NA = Not Applicable	O = Octa
NC = Not Calculated	

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10528571 Report date (mm/dd/yyyy): 9/3/2020
 Laboratory: Pace Review date (mm/dd/yyyy): 9/4/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Calibration

Question	Yes	No	N/A	Comments
A. Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question	Yes	No	N/A	Comments
A. Do any of the analyses contain samples for field or trip blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	BLANK-81738 Detection of: 1,2,3,4,6,7,8-HpCDD = 0.711J Affected Samples: BW20ML-124-0-0.3 (3.4J) BW20ML-002-0-0.3 (6.1J) BW20ML-122-0-0.21 (2.6J) BW20ML-001-0-0.21 (4.2J) Samples with detections > 10x the detection of the blank were not listed. Samples listed above had detections that were <10x the detection in the associated blank. The associated detection in method blank is an EMPC; therefore, professional judgement was applied and no qualifiers were applied to associated detects for 1,2,3,4,6,7,8-HpCDD in the project samples.
i. If yes, are the same compounds present in the samples?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question	Yes	No	N/A	Comments
A. Are the lab recovery limits for surrogates specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

B.	Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"R" Recovery outside Target Range: BW20ML-143-0-0.24 - 1,2,3,4,7,8-HxCDF-13C - 1,2,3,6,7,8-HxCDF-13C - 2,3,4,6,7,8-HxCDF-13C - 1,2,3,4,7,8-HxCDD-13C BW20ML-132-0-0.27 - 1,2,3,7,8,9-HxCDF-13C BW20ML-120-0-0.3 - 1,2,3,4,6,7,8-HpCDF-13C - 1,2,3,4,6,7,8-HpCDD-13C Since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained. No additional qualifiers were applied.
	i. If yes, are the surrogates above the lab QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Below the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv. Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question	Yes	No	N/A	Comments
A. Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question	Yes	No	N/A	Comments
A. Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

	i.	Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii.	If no, is there and explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii.	Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	iv.	Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	v.	Are there compounds outside the lab QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>R=Recovery outside Target Range:</p> <p>BW20ML-124-0-0.3-MS - OCDD</p> <p>BW20ML-130-0-0.3-MSD - 1,2,3,4,6,7,8-HpCDF - OCDD</p> <p>Detects for the parent samples and congeners listed above were qualified as estimated "J" due to %R above QC limits and maybe be biased high.</p>
	vi.	If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1.	Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2.	Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3.	Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B.		Was a duplicate sample submitted for the analytical method(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Duplicate Pairs:</p> <p>BW20ML-001-0-0.21 & BW20ML-122-0-0.21 BW20ML-002-0-0.3 & BW20ML-126-0-0.3</p>
	i.	Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Duplicate Pair 001:</p> <p>20%<RPD<100%</p> <p>Total TCDF, Total PeCDF, Total HxCDD, Total HpCDF, 1,2,3,4,6,7,8-HpCDD, Total HpCDD, OCDF, and OCDD</p> <p>Duplicate Pair 002:</p> <p>20%<RPD<100%</p> <p>Total TCDF, 1,2,3,7,8-PeCDF</p> <p>RPD>100%</p>

						<p>Total TCDD, 2,3,4,7,8-PeCDF, Total PeCDF, Total PeCDD, 1,2,3,4,7,8-HxCDF, 1,2,3,6,7,8-HxCDF, 2,3,4,6,7,8-HxCDF, Total HxCDF, 1,2,3,4,6,7,8-HpCDF, Total HpCDF, 1,2,3,4,6,7,8-HpCDD, Total HpCDD, OCDF, OCDD</p> <p>Congeners and samples listed above were qualified as estimated "J". OCDF result qualified as estimated non-detect in field duplicate BW20ML-122-0-0.21 due to detection above LOQ in parent sample.</p>
--	--	--	--	--	--	---

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

All results from sample BW20ML-143-0-0.24 were obtained from dilution and were flagged with "D"

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eddie Weaver Title: Bay West Project Chemist
(This document has been electronically signed.) Date (mm/dd/yyyy): 09/04/2020

September 18, 2020

Paul Raymaker
Bay West
5 Empire Drive
Saint Paul, MN 55103

RE: Project: 200633 Munger Landing
Pace Project No.: 10531833

Dear Paul Raymaker:

Enclosed are the analytical results for sample(s) received by the laboratory on August 13, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colin Lynch
colin.lynch@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Trey Harsch, Bay West LLC
Ryan Riley, Bay West LLC
Jeff Smith, Pace Analytical Services, Inc



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 200633 Munger Landing

Pace Project No.: 10531833

Pace Analytical Services - Minneapolis MN

A2LA Certification #: 2926.01	Minnesota Petrofund Certification #: 1240
Alabama Certification #: 40770	Mississippi Certification #: MN00064
Alaska Contaminated Sites Certification #: 17-009	Missouri Certification #: 10100
Alaska DW Certification #: MN00064	Montana Certification #: CERT0092
Arizona Certification #: AZ0014	Nebraska Certification #: NE-OS-18-06
Arkansas DW Certification #: MN00064	Nevada Certification #: MN00064
Arkansas WW Certification #: 88-0680	New Hampshire Certification #: 2081
California Certification #: 2929	New Jersey Certification #: MN002
CNMI Saipan Certification #: MP0003	New York Certification #: 11647
Colorado Certification #: MN00064	North Carolina DW Certification #: 27700
Connecticut Certification #: PH-0256	North Carolina WW Certification #: 530
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137	North Dakota Certification #: R-036
Florida Certification #: E87605	Ohio DW Certification #: 41244
Georgia Certification #: 959	Ohio VAP Certification #: CL101
Guam EPA Certification #: MN00064	Oklahoma Certification #: 9507
Hawaii Certification #: MN00064	Oregon Primary Certification #: MN300001
Idaho Certification #: MN00064	Oregon Secondary Certification #: MN200001
Illinois Certification #: 200011	Pennsylvania Certification #: 68-00563
Indiana Certification #: C-MN-01	Puerto Rico Certification #: MN00064
Iowa Certification #: 368	South Carolina Certification #: 74003001
Kansas Certification #: E-10167	Tennessee Certification #: TN02818
Kentucky DW Certification #: 90062	Texas Certification #: T104704192
Kentucky WW Certification #: 90062	Utah Certification #: MN00064
Louisiana DEQ Certification #: 03086	Vermont Certification #: VT-027053137
Louisiana DW Certification #: MN00064	Virginia Certification #: 460163
Maine Certification #: MN00064	Washington Certification #: C486
Maryland Certification #: 322	West Virginia DEP Certification #: 382
Massachusetts DWP Certification #: via MN 027-053-137	West Virginia DW Certification #: 9952 C
Michigan Certification #: 9909	Wisconsin Certification #: 999407970
Minnesota Certification #: 027-053-137	Wyoming UST Certification #: via A2LA 2926.01
Minnesota Dept of Ag Certification #: via MN 027-053-137	

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10531833

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10531833001	BW20ML-118-0.61-0.76	Solid	08/12/20 13:10	08/13/20 19:30

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing
Pace Project No.: 10531833

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10531833001	BW20ML-118-0.61-0.76	EPA 8082A	JVM	12
		ASTM D2974	JDL	1

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10531833

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Bay West LLC

Date: September 18, 2020

General Information:

1 sample was analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 698465

S0: Surrogate recovery outside laboratory control limits.

- MSD (Lab ID: 3731369)
- Decachlorobiphenyl (S)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10531833

Sample: BW20ML-118-0.61-0.76 Lab ID: 10531833001 Collected: 08/12/20 13:10 Received: 08/13/20 19:30 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<120	ug/kg	120	33.4	1	09/15/20 15:18	09/16/20 23:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<120	ug/kg	120	42.2	1	09/15/20 15:18	09/16/20 23:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<120	ug/kg	120	48.0	1	09/15/20 15:18	09/16/20 23:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<120	ug/kg	120	40.7	1	09/15/20 15:18	09/16/20 23:21	53469-21-9	
PCB-1248 (Aroclor 1248)	625	ug/kg	120	36.0	1	09/15/20 15:18	09/16/20 23:21	12672-29-6	
PCB-1254 (Aroclor 1254)	<120	ug/kg	120	35.3	1	09/15/20 15:18	09/16/20 23:21	11097-69-1	
PCB-1260 (Aroclor 1260)	434	ug/kg	120	28.7	1	09/15/20 15:18	09/16/20 23:21	11096-82-5	
PCB-1262 (Aroclor 1262)	<120	ug/kg	120	41.5	1	09/15/20 15:18	09/16/20 23:21	37324-23-5	
PCB-1268 (Aroclor 1268)	176	ug/kg	120	38.9	1	09/15/20 15:18	09/16/20 23:21	11100-14-4	
PCB, Total	1240	ug/kg	120	28.7	1	09/15/20 15:18	09/16/20 23:21	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84	%	46-146		1	09/15/20 15:18	09/16/20 23:21	877-09-8	
Decachlorobiphenyl (S)	70	%	48-139		1	09/15/20 15:18	09/16/20 23:21	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	72.5	%	0.10	0.10	1		09/15/20 11:05		N2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10531833

QC Batch: 698490

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10531833001

SAMPLE DUPLICATE: 3731406

Parameter	Units	10530723002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	24.7	26.0	5	30	N2

SAMPLE DUPLICATE: 3731657

Parameter	Units	10529960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.2	10.5	4	30	N2

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: 200633 Munger Landing

Pace Project No.: 10531833

QC Batch: 698465

Analysis Method: EPA 8082A

QC Batch Method: EPA 3550

Analysis Description: 8082A GCS PCB

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10531833001

METHOD BLANK: 3731343

Matrix: Solid

Associated Lab Samples: 10531833001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	09/16/20 16:46	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	09/16/20 16:46	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	09/16/20 16:46	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	09/16/20 16:46	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	09/16/20 16:46	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	09/16/20 16:46	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	09/16/20 16:46	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	09/16/20 16:46	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	09/16/20 16:46	
Decachlorobiphenyl (S)	%	87	48-139		09/16/20 16:46	
Tetrachloro-m-xylene (S)	%	90	46-146		09/16/20 16:46	

LABORATORY CONTROL SAMPLE: 3731344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	597	90	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	599	90	69-125	
Decachlorobiphenyl (S)	%			88	48-139	
Tetrachloro-m-xylene (S)	%			91	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3731368 3731369

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10531857001 Result	Spike Conc.	Spike Conc.	Result						
PCB-1016 (Aroclor 1016)	ug/kg	ND	664	664	472	397	71	60	49-125	17	30
PCB-1260 (Aroclor 1260)	ug/kg	ND	664	664	393	324	59	49	43-125	19	30
Decachlorobiphenyl (S)	%						53	40	48-139		S0
Tetrachloro-m-xylene (S)	%						65	49	46-146		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 200633 Munger Landing

Pace Project No.: 10531833

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 but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

S0 Surrogate recovery outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing
Pace Project No.: 10531833

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10531833001	BW20ML-118-0.61-0.76	EPA 3550	698465	EPA 8082A	698877
10531833001	BW20ML-118-0.61-0.76	ASTM D2974	698490		

REPORT OF LABORATORY ANALYSIS

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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.

WO#: 10528491



10528491

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Bay West	Project Name: Bay West	Munger Landing	Accounts Payable	Lab Name: 1700 Elm St. Minneapolis MN, 55414	Work Order No. 3000025404
Address: 5 Empire Dr. St. Paul MN, 55103	Project Number: 200633	Company Name: Bay West LLC	Company Name: Bay West LLC	Address: 1700 Elm St. Minneapolis MN, 55414	Facility Code: SR1015
Project Manager: Paul Raymaker	Turnaround Time: Standard	Address: 5 Empire Dr. St. Paul, MN 55103	Address: 5 Empire Dr. St. Paul, MN 55103	Lab Project Manager: Colin Lynch	Project Task Code: PRJ07955
Email To: praymaker@baywest.com	Site Location (State): MN	Purchase Order No. 206553	Purchase Order No. 206553	Lab Phone: 612-656-2286	Program Code
Phone: 651-291-3411	Copy To:				
Copy To: Eweaver@baywest.com					

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	SAMPLE TYPE (G-RAB C-COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Requested Analysis		Comments
													Preservatives		
1	69-1291-00-265	BW20ML-124-0-0.3	0	0.3	Sample	G	SE	SD	Sed. Useve	12-Aug	1145	1	X		
2	69-1291-00-265	BW20ML-124-0-0.61	0.3	0.61	Sample	G	SE	SD	Sed. Useve	12-Aug	1150	1	X		
3															
4	69-1291-00-266	BW20ML-125-0-0.3	0	0.3	Sample	G	SE	SD	Sed. Useve	12-Aug	1335	1	X		
5	69-1291-00-266	BW20ML-125-0-0.61	0.3	0.61	Sample	G	SE	SD	Sed. Useve	12-Aug	1340	1	X		
6															
7	69-1291-00-267	BW20ML-126-0-0.3	0	0.3	Sample	G	SE	SD	Sed. Useve	12-Aug	1350	1	X		
8	69-1291-00-267	BW20ML-126-0-0.61	0.3	0.61	Sample	G	SE	SD	Sed. Useve	12-Aug	1355	1	X		
9	69-1291-00-267	BW20ML-126-0.61-0.76	0.61	0.76	Sample	G	SE	SD	Sed. Useve	12-Aug	1400	1			HOLD FOR TOC ANALYSIS
10															
11															
12															

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
Eweaver@baywest.com		Paul Raymaker		8/13/20		13:05		Colin Lynch		8/13/20		13:05		Received on Ice (Y/N) <input checked="" type="checkbox"/>	
Eweaver@baywest.com		Paul Raymaker		8/13/20		14:10		Colin Lynch		8/13/20		1930		Custody Sealed Cooler (Y/N) <input checked="" type="checkbox"/>	
Eweaver@baywest.com		Paul Raymaker		8/13/20		14:10		Colin Lynch		8/13/20		1930		Samples Intact (Y/N) <input checked="" type="checkbox"/>	
SAMPLER NAME AND SIGNATURE														Temp (C)	
PRINT Name of SAMPLER:														3.1	
SIGNATURE of SAMPLER:														*	

3.1, 4.7, 8.6, 2.3, 8.0°C

* T = 1.2, 4.0, 0.7, 3.2, 3.5, 0.7, 1.0



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:				Section B Required Project Information:				Section C Invoice Information:				Section D Laboratory Information				Section E MPCA Information			
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:		Address:	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.:	3000025404			
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	5 Empire Dr. St. Paul, MN 55103	Address:	Standard	Purchase Order No.:	206553	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015	Project Task Code:	PRJ07955				
Project Manager:	Paul Raymaker	Turnaround Time:	MN	Address:		Site Location (State):		Program Code:		Lab Phone:	612-656-2286								
Email To:	praymaker@baywest.com	Copy To:		Purchase Order No.:															
Phone:	651-291-3411	Copy To:																	
Copy To:	Eweaver@baywest.com																		
Matrix Code	Lab Matrix Codes	Field Matrix Codes	Sample Type Codes	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	MPCA ONLY	SAMPLE TYPE (G-GRAB C-COMP)	Matrix Code	Lab MPCA ONLY	Field MPCA ONLY	Date	Time	# of Cont.	Comments			
	SE-Sediment SO-Soil OC-Soil OC WA-Aqueous WG-Groundwater S-Surface	DW-Drinking Water NW-Non-potable Water SD-Soil/Solid WP-Wipe AR-Air BL-Biological Material OT-Other	Wt-Groundwater Wt-Surface Water Wt-Surf-Surface Water OC-Blank/Artificial Blank Water Leachate-Leachate Sample SLS-Surf. Soil Surface SLS-Sub. Soil Substrate														S-Composite Sample S-CHOP-Composite Sample S-INT-Integrated Vertical Profile Sample CC-FB-Field Blank Sample CC-FR-Field Replicate Sample QC-TB-Trip Blank Sample		
1	69-1291-00-259	BW20ML-118-0-0.3	Sample	G	SE	SD	0	0.3	12-AUG	1300	1	X							
2	69-1291-00-259	BW20ML-118-0.3-0.61	Sample	G	SE	SD	0.3	0.61	12-AUG	1305	1	X							
3	69-1291-00-259	BW20ML-118-0.61-0.76	Sample	G	SE	SD	0.61	0.76	12-AUG	1310	1	X							
4	69-1291-00-261	BW20ML-120-0-0.3	Sample	G	SE	SD	0	0.3	12-AUG	1315	1	X				HOLD FOR TOC ANALYSIS			
5	69-1291-00-261	BW20ML-120-0.3-0.45	Sample	G	SE	SD	0.3	0.45	12-AUG	1320	1	X							
6	69-1291-00-261	BW20ML-120-0.45-0.61	Sample	G	SE	SD	0.45	0.61	12-AUG	1325	1	X							
7	69-1291-00-263	BW20ML-122-0-0.21	Sample	G	SE	SD	0	0.21	12-AUG	1055	1	X							
8	69-1291-00-263	BW20ML-122-0.27-0.46	Sample	G	SE	SD	0.27	0.46	12-AUG	1100	1	X							
9	69-1291-00-263	BW20ML-122-0.46-0.91	Sample	G	SE	SD	0.5	0.91	12-AUG	1105	1	X							
10																			
11																			
12																			

3.1, 4.7, 2.3, 8.6, 8.0'e

RELINQUISHED BY / AFFILIATION: *Bay West* DATE: 8/13/20 TIME: 13:05

RECEIVED BY / AFFILIATION: *John Gano Pace* DATE: 8/19/20 TIME: 1930

SAMPLER NAME AND SIGNATURE: *John P. Weaver*

PRINT Name of SAMPLER: *John P. Weaver*

SIGNATURE of SAMPLER: *John P. Weaver*

DATE Signed (MM/DD/YYYY): 8/13/20

Temp (C): 3.1

Received on Ice (Y/N): *Y*

Custody Sealed Cooler (Y/N): *N*

Samples Intact (Y/N): *N*



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:		Section B Required Project Information:			Section C Invoice Information:			Section D Laboratory Information			Section E MPCA Information					
Company:	Bay West	Project Name:	Munger Landing	Attention:	Company Name:	Accounts Payable	Lab Name:	Face	Work Order No.	COC ID:	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)			
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Company Name:	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)			
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Company Name:	Lab Project Manager	Colin Lynch	Facility Code:	SR1015	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)			
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206553	Company Name:	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)			
Phone:	651-291-3411	Copy To:									Temp (°C)					
Copy To:	Eweaver@baywest.com	Copy To:														
Matrix Code	Lab Matrix Codes	Field Matrix Codes	Sample Type Code	Sample Type Code	Matrix Code	Lab Matrix Code	Field Matrix Code	ACERTIFIED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS					
SE-Sediment	DW-Drinking Water	Wtr-Ground=Ground Water	G	G	SE SD	Sed-Uselev										
SO-Soil	NW-Non-potable Water	WTR-Surf=Surface Water	G	G	SE SD	Sed-Uselev										
QC-Soil QC	SD-Soil/Solid	QC-Blank=Artificial Blank Water	G	G	SE SD	Sed-Uselev										
WF-Aqueous	WP=Wipe	Leachate=Leachate Sample	G	G	SE SD	Sed-Uselev										
WG=Groundwater	AR=Air	Soil-Surf= Soil Surface	G	G	SE SD	Sed-Uselev										
S=Surface	BL=Biological Material	Soil-Sub= Soil Subsurface	G	G	SE SD	Sed-Uselev										
	OT=Other	QC-TB=Trip Blank Sample	G	G	SE SD	Sed-Uselev										
ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code	Field Matrix Code	Date	Time	# of Cont.	Time	Date	Time	Comments
1	69-1291-00-269	BW20ML-128-0-0.15	0	0.15	Sample	G	SE SD	SE SD	Sed-Uselev	12-Aug	1415	1	1415	12-Aug	1415	017
2	69-1291-00-269	BW20ML-128-0.15-0.45	0.15	0.45	Sample	G	SE SD	SE SD	Sed-Uselev	12-Aug	1420	1	1420	12-Aug	1420	018
3																
4	2001006933	BW20ML-129-0-0.3	0	0.3	Sample	G	SO SD	SO SD	Soil-Sub	12-Aug	1450	1	1450	12-Aug	1450	019
5	2001006933	BW20ML-129-0.3-0.61	0.3	0.61	Sample	G	SO SD	SO SD	Soil-Sub	12-Aug	1455	1	1455	12-Aug	1455	020
6	2001006933	BW20ML-129-0.76-1.22	0.76	1.22	Sample	G	SO SD	SO SD	Soil-Sub	12-Aug	1500	1	1500	12-Aug	1500	021
7																
8	69-1291-00-270	BW20ML-130-0-0.3	0	0.3	Sample	G	SE SD	SE SD	Sed-Uselev	12-Aug	1535	1	1535	12-Aug	1535	022
9	69-1291-00-270	BW20ML-130-0.3-0.61	0.3	0.61	Sample	G	SE SD	SE SD	Sed-Uselev	12-Aug	1540	1	1540	12-Aug	1540	023
10																
11																
12																
ADDITIONAL COMMENTS																
RELINQUISHED BY/AFFILIATION: <i>Paul Raymaker</i> DATE: <i>8/13/20</i> TIME: <i>1305</i>																
ACERTIFIED BY/AFFILIATION: <i>Colin Lynch</i> DATE: <i>8/13/20</i> TIME: <i>1430</i>																
DATE SIGNED (MM/DD/YYYY): <i>8/13/20</i>																
SIGNATURE OF SAMPLER: <i>Paul Raymaker</i>																
PRINT NAME OF SAMPLER: <i>Paul Raymaker</i>																
SIGNATURE OF SAMPLER: <i>Paul Raymaker</i>																
DATE SIGNED (MM/DD/YYYY): <i>8/13/20</i>																
SAMPLER NAME AND SIGNATURE: <i>Paul Raymaker</i>																
PRINT NAME OF SAMPLER: <i>Paul Raymaker</i>																
SIGNATURE OF SAMPLER: <i>Paul Raymaker</i>																
DATE SIGNED (MM/DD/YYYY): <i>8/13/20</i>																

3.1, 4.7, 8.6, 2.3, 8.0°C



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:		Lab Name:		COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	206833	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206553	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		Temp (°C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples In tact (Y/N)
														DATE	TIME	DATE	TIME				
1	69-1291-00-271	BWML20-131-0-0.15	0	0.15	Sample	G	SE SD	Sed. U/leave	12-Aug	1030	1	X	EPA 9060 (Quad Bur)								
2	69-1291-00-271	BWML20-131-0.15-0.4	0.15	0.4	Sample	G	SE SD	Sed. U/leave	12-Aug	1035	1	X									
3	69-1291-00-271	BWML20-131-0.4-0.55	0.4	0.55	Sample	G	SE SD	Sed. U/leave	12-Aug	1040	1										
4	69-1291-00-272	BWML20-132-0-0.27	0	0.27	Sample	G	SE SD	Sed. U/leave	12-Aug	1600	1	X									
5	69-1291-00-272	BWML20-132-0.27-0.37	0.27	0.37	Sample	G	SE SD	Sed. U/leave	12-Aug	1605	1	X									
6	69-1291-00-276	BWML20-136-0-0.15	0	0.15	Sample	G	SE SD	Sed. U/leave	12-Aug	1620	1	X									
7	69-1291-00-276	BWML20-136-0.15-0.45	0.15	0.45	Sample	G	SE SD	Sed. U/leave	12-Aug	1625	1	X									
8	69-1291-00-276	BWML20-136-0.45-0.61	0.45	0.61	Sample	G	SE SD	Sed. U/leave	12-Aug	1630	1	X									
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS: *8/13/20 13:05*

RELINQUISHED BY / AFFILIATION: *[Signature] Pace's Office*

ACCEPTED BY / AFFILIATION: *[Signature] Pace*

DATE: *8/13/20* TIME: *13:05*

DATE: *8/13/20* TIME: *1930*

Temp (°C): *3.1*

Received on Ice (Y/N): *Y*

Custody Sealed Cooler (Y/N): *N*

Samples In tact (Y/N): *Y*

SAMPLER NAME AND SIGNATURE: *[Signature]*

PRINT Name of SAMPLER: *[Name]*

SIGNATURE of SAMPLER: *[Signature]*

DATE Signed (MM/DD/YYYY): *8/13/20*

3.1, 4.7, 8.6, 2.3, 8.0



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206553	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	EPA 9060 (Quad Bur)	Comments	SAMPLE CONDITIONS		
															Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1	69-1291-00-278	BW20ML-138-0-0.15	0	0.15	Sample	G	SE SD	Sed-Useave	Sed-Useave	12-Aug	945	1	X				
2	69-1291-00-278	BW20ML-138-0.15-0.25	0.15	0.25	Sample	G	SE SD	Sed-Useave	Sed-Useave	12-Aug	955	1	X				
3	69-1291-00-278	BW20ML-138-0.25-0.34	0.25	0.34	Sample	G	SE SD	Sed-Useave	Sed-Useave	12-Aug	1000	1					
4	69-1291-00-279	BW20ML-139-0-0.1	0	0.1	Sample	G	SE SD	Sed-Useave	Sed-Useave	12-Aug	1655	1	X				
5	69-1291-00-279	BW20ML-139-0.1-0.36	0.1	0.36	Sample	G	SE SD	Sed-Useave	Sed-Useave	12-Aug	1700	1	X				
6	69-1291-00-279	BW20ML-139-0.36-0.61	0.36	0.61	Sample	G	SE SD	Sed-Useave	Sed-Useave	12-Aug	1705	1					
7	2001006932	BW20ML-142-0-0.3	0	0.3	Sample	G	SO SD	Soil-Sub	Soil-Sub	12-Aug	1510	1	X				
8	2001006932	BW20ML-142-0.45-0.91	0.45	0.91	Sample	G	SO SD	Soil-Sub	Soil-Sub	12-Aug	1515	1	X				
9	2001006932	BW20ML-142-1.0-1.2	1	1.2	Sample	G	SO SD	Soil-Sub	Soil-Sub	12-Aug	1520	1	X				
10																	
11																	
12																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	<i>[Signature]</i>	8/30	1305	<i>[Signature]</i>	8/13/20	13:05
	<i>[Signature]</i>	8/13/20	1410	<i>[Signature]</i>	8/13/20	1430

SAMPLER NAME AND SIGNATURE		DATE SIGNED (MM/DD/YYYY)
PRINT Name of SAMPLER:	<i>[Signature]</i>	8/13/20
SIGNATURE of SAMPLER:	<i>[Signature]</i>	8/13/20

31, 4.7, 8.6, 2.3, 80 °C



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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm St. Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206553	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code	Matrix Code	Lab Mark Code (MPCA ONLY)	Field Mark Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	Requested Analysis			SAMPLE CONDITIONS		
													Relinquished by / Affiliation	Date	Time	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1	69-1291-00-282	BWML20-143-0-0.24	0	0.24	Sample	G SE SD	8/12/2020	Sed-Useve	8/12/2020	1640	1							
2	69-1291-00-282	BWML20-143-0.3-0.61	0.3	0.61	Sample	G SE SD	8/12/2020	Sed-Useve	8/12/2020	1645	1							
3	69-1291-00-282	BWML20-143-0.61-0.76	0.61	0.76	Sample	G SE SD	8/12/2020	Sed-Useve	8/12/2020	1650	1							
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS: Bay West 8/12/20 1305 In City Here
Colin Lynch 8/12/20 1410

RELINQUISHED BY / AFFILIATION: Bay West
DATE: 8/12/20
TIME: 1305

ACCEPTED BY / AFFILIATION: In City Here
DATE: 8/12/20
TIME: 1430

DATE-SIGNED (MM/DD/YYYY): 8/12/20

SAMPLER NAME AND SIGNATURE: Paul Raymaker

PRINT Name of SAMPLER: Paul Raymaker

SIGNATURE of SAMPLER: [Signature]

Temp (C): 3.1

Received on Ice (Y/N): Y

Custody Sealed Cooler (Y/N): N

Samples Intact (Y/N): V

* T=12.6, 10.7, 3.2, 3.5, 0.8, 1.0

Sample Condition Upon Receipt **Client Name:** Bay West **Project #:** _____

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

Tracking Number: _____ See Exceptions ENV-FRM-MIN4-0142

WO#: 10528491

PM: CL1 **Due Date: 08/28/20**
CLIENT: BW-BAY WEST

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459)
 T4(0254) T5(0489) **Type of Ice:** Wet Blue None Dry Melted

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 1.4, 0.6, 0.9, 3.4, 3.7, 0.9, 1.2 °C

Correction Factor: -0.2 **Cooler Temp Corrected w/temp blank:** 1.2, 0.4, 0.7, 3.2, 3.5, 0.7, 1.0 °C

Average Corrected Temp (no temp blank only): _____ °C See Exceptions ENV-FRM-MIN4-0142
 1 Container

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** CEG 8/13/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No - Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	11. If no, write ID/ Date/Time on Container Below: See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142 <u>016 is labeled "ZZ-0.5-0.91"</u> <u>024-031 are labeled "BW20ML"</u> > don't match COC
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample # <input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. <input type="checkbox"/> Yes Chlorine? <input type="checkbox"/> No pH Paper Lot# See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. See Exception <input type="checkbox"/> ENV-FRM-MIN4-0142
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: *Col Lynch* **Date:** 8/14/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10531833 Report date (mm/dd/yyyy): 9/18/2022
 Laboratory: Pace Review date (mm/dd/yyyy): 9/22/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Calibration

Question	Yes	No	N/A	Comments
A. Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question	Yes	No	N/A	Comments
A. Do any of the analyses contain samples for field or trip blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question	Yes	No	N/A	Comments
A. Are the lab recovery limits for surrogates specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S0: Surrogate recovery outside laboratory control limits for the MSD (Lab ID: 3731369). No impacts. • Decachlorobiphenyl (S)
i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
ii. Below the lab QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
iv. Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i.	If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii.	Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question		Yes	No	N/A	Comments
A.	Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
i.	Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ii.	If no, is there and explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
iii.	Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
iv.	Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
v.	Are there compounds outside the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
vi.	If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
1.	Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2.	Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3.	Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Was a duplicate sample submitted for the analytical method(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i.	Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek

Title: Program Chemist

(This document has been electronically signed.)

Date (mm/dd/yyyy): 09/22/2020

November 04, 2020

Paul Raymaker
Bay West
5 Empire Drive
Saint Paul, MN 55103

RE: Project: 200633 Munger Landing (PES)
Pace Project No.: 10536541

Dear Paul Raymaker:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colin Lynch
colin.lynch@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Ryan Riley, Bay West LLC
Jeff Smith, Pace Analytical Services, Inc



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 200633 Munger Landing (PES)

Pace Project No.: 10536541

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009*

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014*

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605*

Georgia Certification #: 959

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064*

Maryland Certification #: 322

Massachusetts DWP Certification #: via MN 027-053-137

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137*

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240*

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081*

New Jersey Certification #: MN002

New York Certification #: 11647*

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507*

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001*

Pennsylvania Certification #: 68-00563*

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192*

Utah Certification #: MN00064*

Vermont Certification #: VT-027053137

Virginia Certification #: 460163*

Washington Certification #: C486*

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing (PES)

Pace Project No.: 10536541

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10536541001	AS2086	Solid	10/22/20 00:00	10/22/20 09:20

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing (PES)
Pace Project No.: 10536541

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10536541001	AS2086	EPA 8082A	RAG	12	PASI-M
		ASTM D2974	JDL	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: 200633 Munger Landing (PES)

Pace Project No.: 10536541

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Bay West LLC

Date: November 04, 2020

General Information:

1 sample was analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing (PES)

Pace Project No.: 10536541

Sample: AS2086 **Lab ID: 10536541001** Collected: 10/22/20 00:00 Received: 10/22/20 09:20 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<33.2	ug/kg	33.2	9.3	1	10/28/20 13:15	10/30/20 15:12	12674-11-2	
PCB-1221 (Aroclor 1221)	<33.2	ug/kg	33.2	11.7	1	10/28/20 13:15	10/30/20 15:12	11104-28-2	
PCB-1232 (Aroclor 1232)	<33.2	ug/kg	33.2	13.3	1	10/28/20 13:15	10/30/20 15:12	11141-16-5	
PCB-1242 (Aroclor 1242)	<33.2	ug/kg	33.2	11.3	1	10/28/20 13:15	10/30/20 15:12	53469-21-9	
PCB-1248 (Aroclor 1248)	<33.2	ug/kg	33.2	10	1	10/28/20 13:15	10/30/20 15:12	12672-29-6	
PCB-1254 (Aroclor 1254)	<33.2	ug/kg	33.2	9.8	1	10/28/20 13:15	10/30/20 15:12	11097-69-1	
PCB-1260 (Aroclor 1260)	899	ug/kg	33.2	7.9	1	10/28/20 13:15	10/30/20 15:12	11096-82-5	
PCB-1262 (Aroclor 1262)	<33.2	ug/kg	33.2	11.5	1	10/28/20 13:15	10/30/20 15:12	37324-23-5	
PCB-1268 (Aroclor 1268)	<33.2	ug/kg	33.2	10.8	1	10/28/20 13:15	10/30/20 15:12	11100-14-4	
PCB, Total	899	ug/kg	33.2	7.9	1	10/28/20 13:15	10/30/20 15:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	85	%	46-146		1	10/28/20 13:15	10/30/20 15:12	877-09-8	
Decachlorobiphenyl (S)	102	%	48-139		1	10/28/20 13:15	10/30/20 15:12	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	0.89	%	0.10	0.10	1		11/03/20 09:55		N2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing (PES)

Pace Project No.: 10536541

QC Batch: 708396

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10536541001

SAMPLE DUPLICATE: 3784569

Parameter	Units	10535386004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	29.3	30.1	3	30	N2

SAMPLE DUPLICATE: 3784570

Parameter	Units	10535386014 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	28.6	28.2	1	30	N2

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: 200633 Munger Landing (PES)

Pace Project No.: 10536541

QC Batch: 707217

Analysis Method: EPA 8082A

QC Batch Method: EPA 3550

Analysis Description: 8082A GCS PCB

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10536541001

METHOD BLANK: 3778450

Matrix: Solid

Associated Lab Samples: 10536541001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	10/30/20 08:38	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	10/30/20 08:38	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	10/30/20 08:38	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	10/30/20 08:38	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	10/30/20 08:38	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	10/30/20 08:38	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	10/30/20 08:38	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	10/30/20 08:38	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	10/30/20 08:38	
Decachlorobiphenyl (S)	%	96	48-139		10/30/20 08:38	
Tetrachloro-m-xylene (S)	%	80	46-146		10/30/20 08:38	

LABORATORY CONTROL SAMPLE: 3778451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	550	83	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	588	88	69-125	
Decachlorobiphenyl (S)	%			102	48-139	
Tetrachloro-m-xylene (S)	%			85	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778843 3778844

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10537018002 Result	Spike Conc.	Spike Conc.	Result						
PCB-1016 (Aroclor 1016)	ug/kg	<32.9	661	659	502	507	76	77	49-125	1	30
PCB-1260 (Aroclor 1260)	ug/kg	<32.9	661	659	522	515	79	78	43-125	1	30
Decachlorobiphenyl (S)	%						91	90	48-139		
Tetrachloro-m-xylene (S)	%						78	78	46-146		

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: 200633 Munger Landing (PES)

Pace Project No.: 10536541

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.

WORKORDER QUALIFIERS

WO: 10536541

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing (PES)
Pace Project No.: 10536541

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10536541001	AS2086	EPA 3550	707217	EPA 8082A	707672
10536541001	AS2086	ASTM D2974	708396		

REPORT OF LABORATORY ANALYSIS

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Recipient Copy

CHAIN-OF-CUSTODY RECORD

COC No. 14818

Order Number: CB014243


Date Shipped: 10/21/2020

AirBill No(s):

From: QATS LABORATORY
 2700 CHANDLER AVENUE, BLDG. B
 LAS VEGAS, NV 89120
 PHONE: 1-702-895-8712
 FAX: 1-702-795-8210

To: COLIN LYNCH
 PACE ANALYTICAL SERVICES INC.
 1800 ELM STREET SE
 MINNEAPOLIS MN 55414
 702-895-8712

460843965437

Sample ID	Qty	Description/Remarks	→ Catalogue Number
AS2086	1	AROCLOR SOIL PES	06-002
<p><i>Colin Lynch</i> 10/21/20</p> <p>WO#: 10536541</p>  10536541			
PES FOR MUNGER LANDING			

Please use the enclosed Sample Preparation Instructions. If catalogue number(s) are listed at the top of the Sample Preparation Instructions use the Sample Preparation Instructions with catalogue number(s) matching the catalogue number(s) of each of the samples listed above.

Relinquished by: (Signature) <i>Colin Lynch</i>	Date/Time 10/21/20 1400	Received by: (Signature) <i>S. P. A. C. A.</i>	Date/Time 10/22/20 9:20 T=16.6
Custody Seal(s): Present/Absent	Remarks:		
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time



Document Name:
Sample Condition Upon Receipt (SCUR) - MN

Document No.:
ENV-FRM-MIN4-0150 Rev.01

Document Revised: 12Aug2020
Page 1 of 1

Pace Analytical Services -
Minneapolis

Sample Condition Upon Receipt

Client Name: APTIM Project #: _____

WO# : 10536541

PM: BEF Due Date: 11/05/20
CLIENT: 11 APTIM

Courier: Fed Ex UPS USPS Client
 Pace SpeeDee Commercial

Tracking Number: 4009 4396 5437 See Exceptions
ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: P13 Temp Blank? Yes No

Thermometer: T1(0461) T2(1336) T3(0459)
 T4(0254) T5(0489) Type of Ice: Wet Blue None Dry Melted

Did Samples Originate in West Virginia? Yes No Were All Container Temps Taken? Yes No N/A

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: _____ °C Average Corrected Temp (no temp blank only): 16.4 °C See Exceptions ENV-FRM-MIN4-0142 Container

Correction Factor: none Cooler Temp Corrected w/temp blank: _____ °C

USDA Regulated Soil: N/A, water sample/Other: ot Date/Initials of Person Examining Contents: 8/10/22/20
Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	9.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Matrix: <input type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input checked="" type="checkbox"/> Other <u>ot</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
		pH Paper Lot#
		Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ Field Data Required? Yes No

Comments/Resolution: _____

Project Manager Review: [Signature] Date: 10/28/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10536541 Report date (mm/dd/yyyy): 11/4/2020
 Laboratory: Pace Review date (mm/dd/yyyy): 11/5/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Note on Sample Condition Upon Receipt form indicates samples received above temperature at 16 deg C. Sample was qualified estimated "J" or UJ based on this outlier. There is no prescribed holding time.

H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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2. Calibration

Question	Yes	No	N/A	Comments
A. Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question	Yes	No	N/A	Comments
A. Do any of the analyses contain samples for field or trip blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B. Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C. Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question	Yes	No	N/A	Comments
A. Are the lab recovery limits for surrogates specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
ii. Below the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

	iv.	Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
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5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question		Yes	No	N/A	Comments
A.	Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No site specific MS/MSD performed.
	ii. If no, is there an explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	iv. Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	v. Are there compounds outside the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	vi. If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1. Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2. Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3. Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Was a duplicate sample submitted for the analytical method(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

		*Other RPDs may be acceptable. Check with regulatory agency.				
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7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek

(This document has been electronically signed.)

Title: Program Chemist

Date (mm/dd/yyyy): 11/05/2020

November 10, 2020

Paul Raymaker
Bay West
5 Empire Drive
Saint Paul, MN 55103

RE: Project: 200633 Munger Landing
Pace Project No.: 10537001

Dear Paul Raymaker:

Enclosed are the analytical results for sample(s) received by the laboratory on October 27, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colin Lynch
colin.lynch@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Ryan Riley, Bay West LLC
Jeff Smith, Pace Analytical Services, Inc



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Pace Analytical Services Green Bay

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10537001001	BW20ML-114(0-03)	Solid	10/21/20 09:10	10/27/20 14:15
10537001002	BW20ML-114(0-3-0.65)	Solid	10/21/20 09:15	10/27/20 14:15
10537001005	BW20ML-116(0-0.3)	Solid	10/22/20 08:30	10/27/20 14:15
10537001006	BW20ML-116(0.3-0.6)	Solid	10/22/20 08:35	10/27/20 14:15
10537001007	BW20ML-116(0.6-0.9)	Solid	10/22/20 08:40	10/27/20 14:15
10537001009	BW20ML-133(0-0.3)	Solid	10/22/20 10:15	10/27/20 14:15
10537001010	BW20ML-133(0.3-0.6)	Solid	10/22/20 10:20	10/27/20 14:15
10537001011	BW20ML-133(0.6-0.83)	Solid	10/22/20 10:25	10/27/20 14:15
10537001013	BW20ML-117(0-0.35)	Solid	10/21/20 09:50	10/27/20 14:15
10537001014	BW20ML-117(0.35-0.6)	Solid	10/21/20 09:55	10/27/20 14:15
10537001018	BW20ML-123(0-0.35)	Solid	10/22/20 09:05	10/27/20 14:15
10537001019	BW20ML-123(0.35-0.65)	Solid	10/22/20 09:10	10/27/20 14:15
10537001020	BW20ML-123(0.65-0.95)	Solid	10/22/20 09:15	10/27/20 14:15
10537001022	BW20ML-127(0-0.35)	Solid	10/21/20 10:35	10/27/20 14:15
10537001023	BW20ML-127(0.35-0.7)	Solid	10/21/20 10:40	10/27/20 14:15
10537001027	BW20ML-134(0-0.42)	Solid	10/21/20 11:20	10/27/20 14:15
10537001028	BW20ML-134(0.42-0.6)	Solid	10/21/20 11:25	10/27/20 14:15
10537001031	BW20ML-135(0-0.3)	Solid	10/21/20 12:20	10/27/20 14:15
10537001032	BW20ML-135(0.3-0.52)	Solid	10/21/20 12:25	10/27/20 14:15
10537001035	BW20ML-137(0-0.3)	Solid	10/21/20 16:05	10/27/20 14:15
10537001036	BW20ML-137(0.3-0.65)	Solid	10/21/20 16:10	10/27/20 14:15
10537001037	BW20ML-137(0.65-0.95)	Solid	10/21/20 16:15	10/27/20 14:15
10537001039	BW20ML-140(0-0.3)	Solid	10/21/20 14:30	10/27/20 14:15
10537001040	BW20ML-140(0.4-0.65)	Solid	10/21/20 14:35	10/27/20 14:15
10537001043	BW20ML-141(0-0.3)	Solid	10/22/20 15:50	10/27/20 14:15
10537001045	BW20ML-076(0-0.3)	Solid	10/22/20 12:10	10/27/20 14:15
10537001046	BW20ML-076(0.5-0.9)	Solid	10/22/20 12:15	10/27/20 14:15
10537001048	MW20ML-049(0-0.3)	Solid	10/22/20 14:05	10/27/20 14:15
10537001049	MW20ML-049(0.3-0.6)	Solid	10/22/20 14:10	10/27/20 14:15
10537001050	MW20ML-049(0.6-0.9)	Solid	10/22/20 14:15	10/27/20 14:15
10537001052	MW20ML-038(0-0.35)	Solid	10/22/20 14:30	10/27/20 14:15
10537001053	MW20ML-038(0.35-0.65)	Solid	10/22/20 14:35	10/27/20 14:15
10537001054	MW20ML-038(0.65-0.95)	Solid	10/22/20 14:40	10/27/20 14:15
10537001056	MW20ML-121(0-0.35)	Solid	10/22/20 15:35	10/27/20 14:15
10537001057	MW20ML-121(0.35-0.6)	Solid	10/22/20 15:40	10/27/20 14:15
10537001058	MW20ML-121(0.6-0.9)	Solid	10/22/20 15:45	10/27/20 14:15
10537001060	MW20ML-118(1.2-1.35)	Solid	10/22/20 11:30	10/27/20 14:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10537001062	MW20ML-115(0-0.3)	Solid	10/21/20 13:55	10/27/20 14:15
10537001063	MW20ML-115(0.3-0.6)	Solid	10/21/20 14:00	10/27/20 14:15
10537001066	MW20ML-119(0-0.5)	Solid	10/21/20 11:50	10/27/20 14:15
10537001067	MW20ML-119(0.5-0.88)	Solid	10/21/20 11:55	10/27/20 14:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10537001001	BW20ML-114(0-03)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001002	BW20ML-114(0-3-0.65)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001005	BW20ML-116(0-0.3)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001006	BW20ML-116(0.3-0.6)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001007	BW20ML-116(0.6-0.9)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001009	BW20ML-133(0-0.3)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001010	BW20ML-133(0.3-0.6)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001011	BW20ML-133(0.6-0.83)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001013	BW20ML-117(0-0.35)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001014	BW20ML-117(0.35-0.6)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001018	BW20ML-123(0-0.35)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001019	BW20ML-123(0.35-0.65)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001020	BW20ML-123(0.65-0.95)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001022	BW20ML-127(0-0.35)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001023	BW20ML-127(0.35-0.7)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001027	BW20ML-134(0-0.42)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001028	BW20ML-134(0.42-0.6)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001031	BW20ML-135(0-0.3)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001032	BW20ML-135(0.3-0.52)	ASTM D2974-87	AH	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing
Pace Project No.: 10537001

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10537001035	BW20ML-137(0-0.3)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001036	BW20ML-137(0.3-0.65)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001037	BW20ML-137(0.65-0.95)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001039	BW20ML-140(0-0.3)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001040	BW20ML-140(0.4-0.65)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001043	BW20ML-141(0-0.3)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001045	BW20ML-076(0-0.3)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001046	BW20ML-076(0.5-0.9)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001048	MW20ML-049(0-0.3)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001049	MW20ML-049(0.3-0.6)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001050	MW20ML-049(0.6-0.9)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001052	MW20ML-038(0-0.35)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001053	MW20ML-038(0.35-0.65)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001054	MW20ML-038(0.65-0.95)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001056	MW20ML-121(0-0.35)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001057	MW20ML-121(0.35-0.6)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001058	MW20ML-121(0.6-0.9)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G
10537001060	MW20ML-118(1.2-1.35)	EPA 9060	TJJ	6	PASI-G
		ASTM D2974-87	AH	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10537001062	MW20ML-115(0-0.3)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001063	MW20ML-115(0.3-0.6)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001066	MW20ML-119(0-0.5)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G
10537001067	MW20ML-119(0.5-0.88)	ASTM D2974-87	AH	1	PASI-G
		EPA 9060	TJJ	6	PASI-G

PASI-G = Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 200633 Munger Landing

Pace Project No.: 10537001

Method: EPA 9060

Description: Total Organic Carbon Quad

Client: Bay West LLC

Date: November 10, 2020

General Information:

41 samples were analyzed for EPA 9060 by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-114(0-03) **Lab ID: 10537001001** Collected: 10/21/20 09:10 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	37.5	%	0.10	0.10	1		10/30/20 14:22		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	31500	mg/kg	6100	1830	1		11/05/20 14:38	7440-44-0	
Total Organic Carbon	31300	mg/kg	6220	1870	1		11/05/20 14:43	7440-44-0	
Total Organic Carbon	31200	mg/kg	6290	1890	1		11/05/20 14:49	7440-44-0	
Total Organic Carbon	31600	mg/kg	6280	1880	1		11/05/20 14:54	7440-44-0	
Mean Total Organic Carbon	31400	mg/kg	6220	1870	1		11/05/20 14:38	7440-44-0	
Surrogates									
RSD%	0.56	%			1		11/05/20 14:38		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-114(0-3-0.65) Lab ID: 10537001002 Collected: 10/21/20 09:15 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	32.9	%	0.10	0.10	1		10/30/20 14:22		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	25900	mg/kg	5310	1590	1		11/05/20 15:45	7440-44-0	
Total Organic Carbon	24500	mg/kg	5150	1540	1		11/05/20 15:54	7440-44-0	
Total Organic Carbon	21100	mg/kg	5320	1590	1		11/05/20 16:01	7440-44-0	
Total Organic Carbon	22200	mg/kg	5340	1600	1		11/05/20 16:08	7440-44-0	
Mean Total Organic Carbon	23400	mg/kg	5280	1580	1		11/05/20 15:45	7440-44-0	
Surrogates									
RSD%	9.2	%			1		11/05/20 15:45		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-116(0-0.3) **Lab ID: 10537001005** Collected: 10/22/20 08:30 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	30.9	%	0.10	0.10	1		10/30/20 14:22		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	21300	mg/kg	5080	1520	1		11/05/20 17:29	7440-44-0	
Total Organic Carbon	21900	mg/kg	5080	1520	1		11/05/20 17:35	7440-44-0	
Total Organic Carbon	20200	mg/kg	4930	1480	1		11/05/20 17:40	7440-44-0	
Total Organic Carbon	20300	mg/kg	5020	1500	1		11/05/20 17:45	7440-44-0	
Mean Total Organic Carbon	20900	mg/kg	5030	1510	1		11/05/20 17:29	7440-44-0	
Surrogates									
RSD%	4.0	%			1		11/05/20 17:29		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-116(0.3-0.6) **Lab ID: 10537001006** Collected: 10/22/20 08:35 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	33.1	%	0.10	0.10	1		10/30/20 14:23		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	21400	mg/kg	4780	1430	1		11/05/20 17:51	7440-44-0	
Total Organic Carbon	20200	mg/kg	4700	1410	1		11/05/20 17:56	7440-44-0	
Total Organic Carbon	21800	mg/kg	4740	1420	1		11/05/20 18:02	7440-44-0	
Total Organic Carbon	22200	mg/kg	4770	1430	1		11/05/20 18:07	7440-44-0	
Mean Total Organic Carbon	21400	mg/kg	4750	1420	1		11/05/20 17:51	7440-44-0	
Surrogates									
RSD%	3.9	%			1		11/05/20 17:51		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-116(0.6-0.9) Lab ID: 10537001007 Collected: 10/22/20 08:40 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	34.5	%	0.10	0.10	1		10/30/20 14:23		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	24400	mg/kg	5350	1610	1		11/05/20 18:24	7440-44-0	
Total Organic Carbon	22700	mg/kg	5300	1590	1		11/05/20 18:29	7440-44-0	
Total Organic Carbon	27100	mg/kg	5350	1600	1		11/05/20 18:35	7440-44-0	
Total Organic Carbon	34400	mg/kg	5290	1590	1		11/05/20 18:41	7440-44-0	
Mean Total Organic Carbon	27200	mg/kg	5330	1600	1		11/05/20 18:24	7440-44-0	
Surrogates									
RSD%	19.1	%			1		11/05/20 18:24		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-133(0-0.3) **Lab ID: 10537001009** Collected: 10/22/20 10:15 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	40.0	%	0.10	0.10	1		10/30/20 14:23		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	44000	mg/kg	5720	1710	1		11/05/20 18:47	7440-44-0	
Total Organic Carbon	38200	mg/kg	5700	1710	1		11/05/20 18:53	7440-44-0	
Total Organic Carbon	36800	mg/kg	5910	1770	1		11/05/20 18:59	7440-44-0	
Total Organic Carbon	36800	mg/kg	5730	1720	1		11/05/20 19:04	7440-44-0	
Mean Total Organic Carbon	39000	mg/kg	5760	1730	1		11/05/20 18:47	7440-44-0	
Surrogates									
RSD%	8.8	%			1		11/05/20 18:47		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-133(0.3-0.6) **Lab ID: 10537001010** Collected: 10/22/20 10:20 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	34.2	%	0.10	0.10	1		10/30/20 14:23		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	24400	mg/kg	5270	1580	1		11/05/20 19:11	7440-44-0	
Total Organic Carbon	23900	mg/kg	5420	1620	1		11/05/20 19:16	7440-44-0	
Total Organic Carbon	24900	mg/kg	5340	1600	1		11/05/20 19:22	7440-44-0	
Total Organic Carbon	25900	mg/kg	5260	1580	1		11/05/20 19:27	7440-44-0	
Mean Total Organic Carbon	24800	mg/kg	5320	1600	1		11/05/20 19:11	7440-44-0	
Surrogates									
RSD%	3.4	%			1		11/05/20 19:11		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-133(0.6-0.83) **Lab ID: 10537001011** Collected: 10/22/20 10:25 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	47.6	%	0.10	0.10	1		10/30/20 14:23		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	67300	mg/kg	8350	2500	1		11/05/20 19:33	7440-44-0	
Total Organic Carbon	56600	mg/kg	8280	2480	1		11/05/20 19:38	7440-44-0	
Total Organic Carbon	72700	mg/kg	8320	2490	1		11/05/20 19:44	7440-44-0	
Total Organic Carbon	63300	mg/kg	8430	2530	1		11/05/20 19:49	7440-44-0	
Mean Total Organic Carbon	65000	mg/kg	8340	2500	1		11/05/20 19:33	7440-44-0	
Surrogates									
RSD%	10.4	%			1		11/05/20 19:33		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-117(0-0.35) **Lab ID: 10537001013** Collected: 10/21/20 09:50 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	45.5	%	0.10	0.10	1		10/30/20 14:23		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	42800	mg/kg	6230	1870	1		11/05/20 19:54	7440-44-0	
Total Organic Carbon	39400	mg/kg	6060	1820	1		11/05/20 20:00	7440-44-0	
Total Organic Carbon	47500	mg/kg	6010	1800	1		11/05/20 20:06	7440-44-0	
Total Organic Carbon	39700	mg/kg	6130	1840	1		11/05/20 20:12	7440-44-0	
Mean Total Organic Carbon	42300	mg/kg	6110	1830	1		11/05/20 19:54	7440-44-0	
Surrogates									
RSD%	8.9	%			1		11/05/20 19:54		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-117(0.35-0.6) Lab ID: 10537001014 Collected: 10/21/20 09:55 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	29.5	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	18200	mg/kg	4430	1330	1		11/05/20 20:17	7440-44-0	
Total Organic Carbon	21300	mg/kg	4480	1340	1		11/05/20 20:23	7440-44-0	
Total Organic Carbon	20000	mg/kg	4410	1320	1		11/05/20 20:29	7440-44-0	
Total Organic Carbon	20400	mg/kg	4490	1340	1		11/05/20 20:36	7440-44-0	
Mean Total Organic Carbon	20000	mg/kg	4450	1330	1		11/05/20 20:17	7440-44-0	
Surrogates									
RSD%	6.6	%			1		11/05/20 20:17		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-123(0-0.35) **Lab ID: 10537001018** Collected: 10/22/20 09:05 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	32.4	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	25800	mg/kg	5010	1500	1		11/05/20 20:41	7440-44-0	
Total Organic Carbon	26400	mg/kg	4960	1490	1		11/05/20 20:46	7440-44-0	
Total Organic Carbon	27500	mg/kg	4840	1450	1		11/05/20 20:53	7440-44-0	
Total Organic Carbon	26000	mg/kg	5020	1510	1		11/05/20 20:58	7440-44-0	
Mean Total Organic Carbon	26400	mg/kg	4960	1490	1		11/05/20 20:41	7440-44-0	
Surrogates									
RSD%	2.9	%			1		11/05/20 20:41		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-123(0.35-0.65) Lab ID: 10537001019 Collected: 10/22/20 09:10 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	45.1	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	56000	mg/kg	6640	1990	1		11/05/20 21:05	7440-44-0	
Total Organic Carbon	58200	mg/kg	6750	2030	1		11/05/20 21:10	7440-44-0	
Total Organic Carbon	58100	mg/kg	6740	2020	1		11/05/20 21:16	7440-44-0	
Total Organic Carbon	59100	mg/kg	6820	2040	1		11/05/20 21:21	7440-44-0	
Mean Total Organic Carbon	57800	mg/kg	6740	2020	1		11/05/20 21:05	7440-44-0	
Surrogates									
RSD%	2.3	%			1		11/05/20 21:05		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-123(0.65-0.95) Lab ID: 10537001020 Collected: 10/22/20 09:15 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	60.3	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	109000	mg/kg	10300	3090	1		11/05/20 21:28	7440-44-0	
Total Organic Carbon	108000	mg/kg	10600	3180	1		11/05/20 21:33	7440-44-0	
Total Organic Carbon	110000	mg/kg	10400	3120	1		11/05/20 21:39	7440-44-0	
Total Organic Carbon	108000	mg/kg	10500	3160	1		11/05/20 21:45	7440-44-0	
Mean Total Organic Carbon	109000	mg/kg	10500	3140	1		11/05/20 21:28	7440-44-0	
Surrogates									
RSD%	0.97	%			1		11/05/20 21:28		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-127(0-0.35) **Lab ID: 10537001022** Collected: 10/21/20 10:35 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	35.7	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	33900	mg/kg	5370	1610	1		11/05/20 21:51	7440-44-0	
Total Organic Carbon	34700	mg/kg	5530	1660	1		11/05/20 21:57	7440-44-0	
Total Organic Carbon	32100	mg/kg	5430	1630	1		11/05/20 22:04	7440-44-0	
Total Organic Carbon	33200	mg/kg	5360	1610	1		11/05/20 22:10	7440-44-0	
Mean Total Organic Carbon	33500	mg/kg	5420	1630	1		11/05/20 21:51	7440-44-0	
Surrogates									
RSD%	3.3	%			1		11/05/20 21:51		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-127(0.35-0.7) Lab ID: 10537001023 Collected: 10/21/20 10:40 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	23.1	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	3770	mg/kg	1340	403	1		11/08/20 12:59	7440-44-0	
Total Organic Carbon	4080	mg/kg	1340	402	1		11/08/20 13:04	7440-44-0	
Total Organic Carbon	3080	mg/kg	1350	405	1		11/08/20 13:11	7440-44-0	
Total Organic Carbon	3930	mg/kg	1350	404	1		11/08/20 13:16	7440-44-0	
Mean Total Organic Carbon	3710	mg/kg	1350	404	1		11/08/20 12:59	7440-44-0	
Surrogates									
RSD%	11.8	%			1		11/08/20 12:59		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-134(0-0.42) **Lab ID: 10537001027** Collected: 10/21/20 11:20 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	77.6	%	0.10	0.10	1		10/30/20 14:24		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	159000	mg/kg	17500	5240	1		11/08/20 13:21	7440-44-0	
Total Organic Carbon	158000	mg/kg	17800	5350	1		11/08/20 13:27	7440-44-0	
Total Organic Carbon	164000	mg/kg	17200	5150	1		11/08/20 13:32	7440-44-0	
Total Organic Carbon	164000	mg/kg	17000	5100	1		11/08/20 13:38	7440-44-0	
Mean Total Organic Carbon	161000	mg/kg	17400	5210	1		11/08/20 13:21	7440-44-0	
Surrogates									
RSD%	2.0	%			1		11/08/20 13:21		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10537001

Sample: BW20ML-134(0.42-0.6) Lab ID: 10537001028 Collected: 10/21/20 11:25 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	82.6	%	0.10	0.10	1		11/02/20 15:02		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	247000	mg/kg	32700	9810	1		11/08/20 13:43	7440-44-0	
Total Organic Carbon	257000	mg/kg	33300	10000	1		11/08/20 13:49	7440-44-0	
Total Organic Carbon	242000	mg/kg	33000	9910	1		11/08/20 13:54	7440-44-0	
Total Organic Carbon	222000	mg/kg	33700	10100	1		11/08/20 14:00	7440-44-0	
Mean Total Organic Carbon	242000	mg/kg	33200	9960	1		11/08/20 13:43	7440-44-0	
Surrogates									
RSD%	6.0	%			1		11/08/20 13:43		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-135(0-0.3) **Lab ID: 10537001031** Collected: 10/21/20 12:20 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	70.0	%	0.10	0.10	1		11/02/20 15:02		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	131000	mg/kg	15900	4760	1		11/08/20 14:05	7440-44-0	
Total Organic Carbon	118000	mg/kg	16100	4820	1		11/08/20 14:10	7440-44-0	
Total Organic Carbon	131000	mg/kg	15900	4770	1		11/08/20 14:17	7440-44-0	
Total Organic Carbon	133000	mg/kg	16200	4860	1		11/08/20 14:22	7440-44-0	
Mean Total Organic Carbon	128000	mg/kg	16000	4800	1		11/08/20 14:05	7440-44-0	
Surrogates									
RSD%	5.4	%			1		11/08/20 14:05		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-135(0.3-0.52) Lab ID: 10537001032 Collected: 10/21/20 12:25 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	82.3	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	226000	mg/kg	31100	9310	1		11/08/20 14:28	7440-44-0	
Total Organic Carbon	266000	mg/kg	32300	9680	1		11/08/20 14:33	7440-44-0	
Total Organic Carbon	236000	mg/kg	32400	9730	1		11/08/20 14:39	7440-44-0	
Total Organic Carbon	273000	mg/kg	31200	9350	1		11/08/20 14:44	7440-44-0	
Mean Total Organic Carbon	250000	mg/kg	31700	9520	1		11/08/20 14:28	7440-44-0	
Surrogates									
RSD%	9.1	%			1		11/08/20 14:28		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-137(0-0.3) **Lab ID: 10537001035** Collected: 10/21/20 16:05 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	31.9	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	19000	mg/kg	6110	1830	1		11/08/20 14:49	7440-44-0	
Total Organic Carbon	19000	mg/kg	6320	1900	1		11/08/20 14:55	7440-44-0	
Total Organic Carbon	20300	mg/kg	6160	1850	1		11/08/20 15:00	7440-44-0	
Total Organic Carbon	20200	mg/kg	6210	1860	1		11/08/20 15:06	7440-44-0	
Mean Total Organic Carbon	19600	mg/kg	6200	1860	1		11/08/20 14:49	7440-44-0	
Surrogates									
RSD%	3.8	%			1		11/08/20 14:49		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-137(0.3-0.65) Lab ID: 10537001036 Collected: 10/21/20 16:10 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	28.4	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	16300	mg/kg	6230	1870	1		11/08/20 15:57	7440-44-0	
Total Organic Carbon	14100	mg/kg	6200	1860	1		11/08/20 16:02	7440-44-0	
Total Organic Carbon	13800	mg/kg	6170	1850	1		11/08/20 16:08	7440-44-0	
Total Organic Carbon	15200	mg/kg	6220	1860	1		11/08/20 16:13	7440-44-0	
Mean Total Organic Carbon	14900	mg/kg	6200	1860	1		11/08/20 15:57	7440-44-0	
Surrogates									
RSD%	7.9	%			1		11/08/20 15:57		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-137(0.65-0.95) Lab ID: 10537001037 Collected: 10/21/20 16:15 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	28.8	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	16700	mg/kg	5590	1680	1		11/08/20 17:25	7440-44-0	
Total Organic Carbon	16800	mg/kg	5590	1680	1		11/08/20 17:30	7440-44-0	
Total Organic Carbon	18300	mg/kg	5570	1670	1		11/08/20 17:36	7440-44-0	
Total Organic Carbon	16700	mg/kg	5670	1700	1		11/08/20 17:41	7440-44-0	
Mean Total Organic Carbon	17100	mg/kg	5610	1680	1		11/08/20 17:25	7440-44-0	
Surrogates									
RSD%	4.7	%			1		11/08/20 17:25		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-140(0-0.3) **Lab ID: 10537001039** Collected: 10/21/20 14:30 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	54.9	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	49700	mg/kg	8230	2470	1		11/08/20 18:33	7440-44-0	
Total Organic Carbon	49100	mg/kg	8430	2530	1		11/08/20 18:39	7440-44-0	
Total Organic Carbon	50200	mg/kg	8180	2450	1		11/08/20 18:45	7440-44-0	
Total Organic Carbon	44000	mg/kg	8070	2420	1		11/08/20 18:51	7440-44-0	
Mean Total Organic Carbon	48200	mg/kg	8230	2470	1		11/08/20 18:33	7440-44-0	
Surrogates									
RSD%	5.9	%			1		11/08/20 18:33		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-140(0.4-0.65) Lab ID: 10537001040 Collected: 10/21/20 14:35 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	24.8	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	13900	mg/kg	5000	1500	1		11/08/20 18:57	7440-44-0	
Total Organic Carbon	12800	mg/kg	4830	1450	1		11/08/20 19:03	7440-44-0	
Total Organic Carbon	13600	mg/kg	4880	1460	1		11/08/20 19:08	7440-44-0	
Total Organic Carbon	13400	mg/kg	4930	1480	1		11/08/20 19:13	7440-44-0	
Mean Total Organic Carbon	13400	mg/kg	4910	1470	1		11/08/20 18:57	7440-44-0	
Surrogates									
RSD%	3.7	%			1		11/08/20 18:57		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-141(0-0.3) **Lab ID: 10537001043** Collected: 10/22/20 15:50 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	42.3	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	58400	mg/kg	6060	1820	1		11/08/20 19:19	7440-44-0	
Total Organic Carbon	67900	mg/kg	6140	1840	1		11/08/20 19:24	7440-44-0	
Total Organic Carbon	64500	mg/kg	6100	1830	1		11/08/20 19:30	7440-44-0	
Total Organic Carbon	57200	mg/kg	6230	1870	1		11/08/20 19:37	7440-44-0	
Mean Total Organic Carbon	62000	mg/kg	6130	1840	1		11/08/20 19:19	7440-44-0	
Surrogates									
RSD%	8.2	%			1		11/08/20 19:19		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-076(0-0.3) **Lab ID: 10537001045** Collected: 10/22/20 12:10 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	47.9	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	57000	mg/kg	10300	3090	1		11/08/20 19:43	7440-44-0	
Total Organic Carbon	59800	mg/kg	9910	2970	1		11/08/20 19:49	7440-44-0	
Total Organic Carbon	54700	mg/kg	9630	2890	1		11/08/20 19:54	7440-44-0	
Total Organic Carbon	51600	mg/kg	9580	2870	1		11/08/20 20:00	7440-44-0	
Mean Total Organic Carbon	55800	mg/kg	9850	2950	1		11/08/20 19:43	7440-44-0	
Surrogates									
RSD%	6.2	%			1		11/08/20 19:43		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: BW20ML-076(0.5-0.9) **Lab ID: 10537001046** Collected: 10/22/20 12:15 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	49.9	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	89200	mg/kg	11400	3420	1		11/08/20 20:06	7440-44-0	
Total Organic Carbon	68700	mg/kg	11400	3430	1		11/08/20 20:14	7440-44-0	
Total Organic Carbon	62500	mg/kg	10900	3270	1		11/08/20 20:19	7440-44-0	
Total Organic Carbon	77400	mg/kg	11200	3350	1		11/08/20 20:32	7440-44-0	
Mean Total Organic Carbon	74500	mg/kg	11200	3370	1		11/08/20 20:06	7440-44-0	
Surrogates									
RSD%	15.5	%			1		11/08/20 20:06		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-049(0-0.3) **Lab ID: 10537001048** Collected: 10/22/20 14:05 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	36.9	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	24500	mg/kg	5960	1790	1		11/08/20 20:42	7440-44-0	
Total Organic Carbon	23000	mg/kg	5970	1790	1		11/08/20 20:47	7440-44-0	
Total Organic Carbon	30000	mg/kg	6030	1810	1		11/08/20 20:53	7440-44-0	
Total Organic Carbon	23500	mg/kg	5760	1730	1		11/08/20 20:58	7440-44-0	
Mean Total Organic Carbon	25300	mg/kg	5930	1780	1		11/08/20 20:42	7440-44-0	
Surrogates									
RSD%	12.8	%			1		11/08/20 20:42		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing
Pace Project No.: 10537001

Sample: MW20ML-049(0.3-0.6) **Lab ID: 10537001049** Collected: 10/22/20 14:10 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	41.4	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	25300	mg/kg	6690	2010	1		11/08/20 21:15	7440-44-0	
Total Organic Carbon	23300	mg/kg	6620	1990	1		11/08/20 21:21	7440-44-0	
Total Organic Carbon	26000	mg/kg	6790	2040	1		11/08/20 21:26	7440-44-0	
Total Organic Carbon	25400	mg/kg	6840	2050	1		11/08/20 21:32	7440-44-0	
Mean Total Organic Carbon	25000	mg/kg	6740	2020	1		11/08/20 21:15	7440-44-0	
Surrogates									
RSD%	4.7	%			1		11/08/20 21:15		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-049(0.6-0.9) Lab ID: 10537001050 Collected: 10/22/20 14:15 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	25.0	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	4450	mg/kg	2140	642	1		11/08/20 21:37	7440-44-0	
Total Organic Carbon	5990	mg/kg	2110	633	1		11/08/20 21:43	7440-44-0	
Total Organic Carbon	7770	mg/kg	2130	639	1		11/08/20 21:48	7440-44-0	
Total Organic Carbon	7450	mg/kg	2150	645	1		11/08/20 21:55	7440-44-0	
Mean Total Organic Carbon	6410	mg/kg	2130	640	1		11/08/20 21:37	7440-44-0	
Surrogates									
RSD%	23.7	%			1		11/08/20 21:37		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-038(0-0.35) Lab ID: 10537001052 Collected: 10/22/20 14:30 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	36.4	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	22600	mg/kg	6710	2010	1		11/08/20 22:00	7440-44-0	
Total Organic Carbon	24700	mg/kg	6790	2030	1		11/08/20 22:05	7440-44-0	
Total Organic Carbon	23800	mg/kg	6560	1970	1		11/08/20 22:11	7440-44-0	
Total Organic Carbon	26200	mg/kg	6370	1910	1		11/08/20 22:16	7440-44-0	
Mean Total Organic Carbon	24300	mg/kg	6610	1980	1		11/08/20 22:00	7440-44-0	
Surrogates									
RSD%	6.2	%			1		11/08/20 22:00		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-038(0.35-0.65) Lab ID: 10537001053 Collected: 10/22/20 14:35 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	24.8	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	11900	mg/kg	3550	1060	1		11/08/20 22:27	7440-44-0	
Total Organic Carbon	10400	mg/kg	3440	1030	1		11/08/20 22:32	7440-44-0	
Total Organic Carbon	11400	mg/kg	3510	1050	1		11/08/20 22:39	7440-44-0	
Total Organic Carbon	11100	mg/kg	3510	1050	1		11/08/20 22:44	7440-44-0	
Mean Total Organic Carbon	11200	mg/kg	3500	1050	1		11/08/20 22:27	7440-44-0	
Surrogates									
RSD%	5.3	%			1		11/08/20 22:27		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-038(0.65-0.95) Lab ID: 10537001054 Collected: 10/22/20 14:40 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	27.6	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	13300	mg/kg	5080	1520	1		11/08/20 22:50	7440-44-0	
Total Organic Carbon	12400	mg/kg	5140	1540	1		11/08/20 22:55	7440-44-0	
Total Organic Carbon	13700	mg/kg	5060	1520	1		11/08/20 23:00	7440-44-0	
Total Organic Carbon	11000	mg/kg	5190	1560	1		11/08/20 23:06	7440-44-0	
Mean Total Organic Carbon	12600	mg/kg	5120	1530	1		11/08/20 22:50	7440-44-0	
Surrogates									
RSD%	9.6	%			1		11/08/20 22:50		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-121(0-0.35) **Lab ID: 10537001056** Collected: 10/22/20 15:35 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	39.6	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	26800	mg/kg	6360	1910	1		11/08/20 23:12	7440-44-0	
Total Organic Carbon	24900	mg/kg	6410	1920	1		11/08/20 23:17	7440-44-0	
Total Organic Carbon	18400	mg/kg	6320	1900	1		11/08/20 23:22	7440-44-0	
Total Organic Carbon	22800	mg/kg	6500	1950	1		11/08/20 23:29	7440-44-0	
Mean Total Organic Carbon	23200	mg/kg	6400	1920	1		11/08/20 23:12	7440-44-0	
Surrogates									
RSD%	15.6	%			1		11/08/20 23:12		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-121(0.35-0.6) Lab ID: 10537001057 Collected: 10/22/20 15:40 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	60.0	%	0.10	0.10	1		11/02/20 15:03		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	81300	mg/kg	8040	2410	1		11/08/20 23:35	7440-44-0	
Total Organic Carbon	85900	mg/kg	7800	2340	1		11/08/20 23:41	7440-44-0	
Total Organic Carbon	73900	mg/kg	7810	2340	1		11/08/20 23:47	7440-44-0	
Total Organic Carbon	81200	mg/kg	8080	2420	1		11/08/20 23:52	7440-44-0	
Mean Total Organic Carbon	80600	mg/kg	7930	2380	1		11/08/20 23:35	7440-44-0	
Surrogates									
RSD%	6.2	%			1		11/08/20 23:35		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-121(0.6-0.9) Lab ID: 10537001058 Collected: 10/22/20 15:45 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	29.6	%	0.10	0.10	1		11/02/20 15:27		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	22900	mg/kg	5020	1510	1		11/08/20 23:59	7440-44-0	
Total Organic Carbon	23200	mg/kg	4960	1490	1		11/09/20 00:04	7440-44-0	
Total Organic Carbon	18900	mg/kg	5110	1530	1		11/09/20 00:11	7440-44-0	
Total Organic Carbon	20000	mg/kg	4840	1450	1		11/09/20 00:16	7440-44-0	
Mean Total Organic Carbon	21200	mg/kg	4980	1490	1		11/08/20 23:59	7440-44-0	
Surrogates									
RSD%	10.1	%			1		11/08/20 23:59		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-118(1.2-1.35) Lab ID: 10537001060 Collected: 10/22/20 11:30 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	32.3	%	0.10	0.10	1		11/02/20 15:27		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	65500	mg/kg	7370	2210	1		11/09/20 00:22	7440-44-0	
Total Organic Carbon	64000	mg/kg	7380	2210	1		11/09/20 00:28	7440-44-0	
Total Organic Carbon	58400	mg/kg	7560	2270	1		11/09/20 00:34	7440-44-0	
Total Organic Carbon	58200	mg/kg	7720	2310	1		11/09/20 00:40	7440-44-0	
Mean Total Organic Carbon	61500	mg/kg	7510	2250	1		11/09/20 00:22	7440-44-0	
Surrogates									
RSD%	6.1	%			1		11/09/20 00:22		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-115(0-0.3) **Lab ID: 10537001062** Collected: 10/21/20 13:55 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	70.3	%	0.10	0.10	1		11/02/20 15:27		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	51900	mg/kg	12300	3680	1		11/09/20 00:46	7440-44-0	
Total Organic Carbon	46700	mg/kg	12700	3820	1		11/09/20 00:52	7440-44-0	
Total Organic Carbon	50000	mg/kg	12500	3760	1		11/09/20 00:58	7440-44-0	
Total Organic Carbon	47000	mg/kg	12200	3650	1		11/09/20 01:04	7440-44-0	
Mean Total Organic Carbon	48900	mg/kg	12400	3730	1		11/09/20 00:46	7440-44-0	
Surrogates									
RSD%	5.1	%			1		11/09/20 00:46		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-115(0.3-0.6) **Lab ID: 10537001063** Collected: 10/21/20 14:00 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	31.8	%	0.10	0.10	1		11/02/20 15:27		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	22100	mg/kg	5500	1650	1		11/09/20 01:21	7440-44-0	
Total Organic Carbon	21400	mg/kg	5350	1600	1		11/09/20 01:27	7440-44-0	
Total Organic Carbon	21900	mg/kg	5580	1670	1		11/09/20 01:32	7440-44-0	
Total Organic Carbon	21300	mg/kg	5270	1580	1		11/09/20 01:39	7440-44-0	
Mean Total Organic Carbon	21700	mg/kg	5430	1630	1		11/09/20 01:21	7440-44-0	
Surrogates									
RSD%	1.9	%			1		11/09/20 01:21		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-119(0-0.5) **Lab ID: 10537001066** Collected: 10/21/20 11:50 Received: 10/27/20 14:15 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
Percent Moisture									
Analytical Method: ASTM D2974-87									
Pace Analytical Services - Green Bay									
Percent Moisture	83.7	%	0.10	0.10	1		11/02/20 15:27		
Total Organic Carbon Quad									
Analytical Method: EPA 9060									
Pace Analytical Services - Green Bay									
Total Organic Carbon	170000	mg/kg	17100	5130	1		11/09/20 01:44	7440-44-0	
Total Organic Carbon	207000	mg/kg	17300	5180	1		11/09/20 01:50	7440-44-0	
Total Organic Carbon	292000	mg/kg	16900	5060	1		11/09/20 01:55	7440-44-0	
Total Organic Carbon	392000	mg/kg	16800	5040	1		11/09/20 02:01	7440-44-0	
Mean Total Organic Carbon	265000	mg/kg	17000	5100	1		11/09/20 01:44	7440-44-0	
Surrogates									
RSD%	37.3	%			1		11/09/20 01:44		

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ANALYTICAL RESULTS

Project: 200633 Munger Landing

Pace Project No.: 10537001

Sample: MW20ML-119(0.5-0.88) Lab ID: 10537001067 Collected: 10/21/20 11:55 Received: 10/27/20 14:15 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
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	33.3	%	0.10	0.10	1		11/02/20 15:27		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	8660	mg/kg	3270	981	1		11/09/20 15:49	7440-44-0	
Total Organic Carbon	9820	mg/kg	3300	990	1		11/09/20 15:55	7440-44-0	
Total Organic Carbon	8670	mg/kg	3280	982	1		11/09/20 16:01	7440-44-0	
Total Organic Carbon	8820	mg/kg	3270	979	1		11/09/20 16:07	7440-44-0	
Mean Total Organic Carbon	8990	mg/kg	3280	983	1		11/09/20 15:49	7440-44-0	
Surrogates									
RSD%	6.2	%			1		11/09/20 15:49		

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10537001

QC Batch:	370078	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 10537001028, 10537001031, 10537001032, 10537001035, 10537001036, 10537001037, 10537001039, 10537001040, 10537001043, 10537001045, 10537001046, 10537001048, 10537001049, 10537001050, 10537001052, 10537001053, 10537001054, 10537001056, 10537001057

SAMPLE DUPLICATE: 2139362

Parameter	Units	40217553001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.1	7.8	10	10	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10537001

QC Batch: 370079

Analysis Method: ASTM D2974-87

QC Batch Method: ASTM D2974-87

Analysis Description: Dry Weight/Percent Moisture

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 10537001058, 10537001060, 10537001062, 10537001063, 10537001066, 10537001067

SAMPLE DUPLICATE: 2139364

Parameter	Units	40217521004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	19.1	18.4	3	10	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing
Pace Project No.: 10537001

QC Batch:	370167	Analysis Method:	EPA 9060
QC Batch Method:	EPA 9060	Analysis Description:	9060 TOC Average
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 10537001001, 10537001002, 10537001005, 10537001006, 10537001007, 10537001009, 10537001010, 10537001011, 10537001013, 10537001014, 10537001018, 10537001019, 10537001020, 10537001022, 10537001023, 10537001027, 10537001028, 10537001031, 10537001032, 10537001035

METHOD BLANK: 2139844 Matrix: Solid

Associated Lab Samples: 10537001001, 10537001002, 10537001005, 10537001006, 10537001007, 10537001009, 10537001010, 10537001011, 10537001013, 10537001014, 10537001018, 10537001019, 10537001020, 10537001022, 10537001023, 10537001027, 10537001028, 10537001031, 10537001032, 10537001035

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<647	647	194	11/05/20 13:44	

LABORATORY CONTROL SAMPLE: 2139845

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	119000	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2139846 2139847

Parameter	Units	2139846		2139847		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Result	MSD Result						
Mean Total Organic Carbon	mg/kg	31400	58600	57300	100000	89100	118	101	50-150	12	30

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2139848 2139849

Parameter	Units	2139848		2139849		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Result	MS Result	MSD Result						
Mean Total Organic Carbon	mg/kg	23400	48300	48700	68800	76100	94	108	50-150	10	30

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10537001

QC Batch:	370430	Analysis Method:	EPA 9060
QC Batch Method:	EPA 9060	Analysis Description:	9060 TOC Average
		Laboratory:	Pace Analytical Services - Green Bay
Associated Lab Samples:	10537001036, 10537001037, 10537001039, 10537001040, 10537001043, 10537001045, 10537001046, 10537001048, 10537001049, 10537001050, 10537001052, 10537001053, 10537001054, 10537001056, 10537001057, 10537001058, 10537001060, 10537001062, 10537001063, 10537001066		

METHOD BLANK:	2141691	Matrix:	Solid
Associated Lab Samples:	10537001036, 10537001037, 10537001039, 10537001040, 10537001043, 10537001045, 10537001046, 10537001048, 10537001049, 10537001050, 10537001052, 10537001053, 10537001054, 10537001056, 10537001057, 10537001058, 10537001060, 10537001062, 10537001063, 10537001066		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<647	647	194	11/08/20 15:11	

LABORATORY CONTROL SAMPLE:	2141692					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	118000	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2141693			2141694								
Parameter	Units	10537001036 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	14900	57700	57100	83800	81600	120	117	50-150	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2141695			2141696								
Parameter	Units	10537001037 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	17100	51100	51100	75600	74000	114	111	50-150	2	30	

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QUALITY CONTROL DATA

Project: 200633 Munger Landing

Pace Project No.: 10537001

QC Batch: 370575

Analysis Method: EPA 9060

QC Batch Method: EPA 9060

Analysis Description: 9060 TOC Average

Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 10537001067

METHOD BLANK: 2143160

Matrix: Solid

Associated Lab Samples: 10537001067

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<647	647	194	11/09/20 15:04	

LABORATORY CONTROL SAMPLE: 2143161

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	122000	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2143162 2143163

Parameter	Units	2143162		2143163		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10537001067 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mean Total Organic Carbon	mg/kg	8990	30400	30600	41400	44600	106	116	50-150	8	30

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QUALIFIERS

Project: 200633 Munger Landing

Pace Project No.: 10537001

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537001001	BW20ML-114(0-03)	ASTM D2974-87	369936		
10537001002	BW20ML-114(0-3-0.65)	ASTM D2974-87	369936		
10537001005	BW20ML-116(0-0.3)	ASTM D2974-87	369936		
10537001006	BW20ML-116(0.3-0.6)	ASTM D2974-87	369936		
10537001007	BW20ML-116(0.6-0.9)	ASTM D2974-87	369936		
10537001009	BW20ML-133(0-0.3)	ASTM D2974-87	369936		
10537001010	BW20ML-133(0.3-0.6)	ASTM D2974-87	369936		
10537001011	BW20ML-133(0.6-0.83)	ASTM D2974-87	369936		
10537001013	BW20ML-117(0-0.35)	ASTM D2974-87	369936		
10537001014	BW20ML-117(0.35-0.6)	ASTM D2974-87	369936		
10537001018	BW20ML-123(0-0.35)	ASTM D2974-87	369936		
10537001019	BW20ML-123(0.35-0.65)	ASTM D2974-87	369936		
10537001020	BW20ML-123(0.65-0.95)	ASTM D2974-87	369936		
10537001022	BW20ML-127(0-0.35)	ASTM D2974-87	369936		
10537001023	BW20ML-127(0.35-0.7)	ASTM D2974-87	369936		
10537001027	BW20ML-134(0-0.42)	ASTM D2974-87	369936		
10537001028	BW20ML-134(0.42-0.6)	ASTM D2974-87	370078		
10537001031	BW20ML-135(0-0.3)	ASTM D2974-87	370078		
10537001032	BW20ML-135(0.3-0.52)	ASTM D2974-87	370078		
10537001035	BW20ML-137(0-0.3)	ASTM D2974-87	370078		
10537001036	BW20ML-137(0.3-0.65)	ASTM D2974-87	370078		
10537001037	BW20ML-137(0.65-0.95)	ASTM D2974-87	370078		
10537001039	BW20ML-140(0-0.3)	ASTM D2974-87	370078		
10537001040	BW20ML-140(0.4-0.65)	ASTM D2974-87	370078		
10537001043	BW20ML-141(0-0.3)	ASTM D2974-87	370078		
10537001045	BW20ML-076(0-0.3)	ASTM D2974-87	370078		
10537001046	BW20ML-076(0.5-0.9)	ASTM D2974-87	370078		
10537001048	MW20ML-049(0-0.3)	ASTM D2974-87	370078		
10537001049	MW20ML-049(0.3-0.6)	ASTM D2974-87	370078		
10537001050	MW20ML-049(0.6-0.9)	ASTM D2974-87	370078		
10537001052	MW20ML-038(0-0.35)	ASTM D2974-87	370078		
10537001053	MW20ML-038(0.35-0.65)	ASTM D2974-87	370078		
10537001054	MW20ML-038(0.65-0.95)	ASTM D2974-87	370078		
10537001056	MW20ML-121(0-0.35)	ASTM D2974-87	370078		
10537001057	MW20ML-121(0.35-0.6)	ASTM D2974-87	370078		
10537001058	MW20ML-121(0.6-0.9)	ASTM D2974-87	370079		
10537001060	MW20ML-118(1.2-1.35)	ASTM D2974-87	370079		
10537001062	MW20ML-115(0-0.3)	ASTM D2974-87	370079		
10537001063	MW20ML-115(0.3-0.6)	ASTM D2974-87	370079		
10537001066	MW20ML-119(0-0.5)	ASTM D2974-87	370079		
10537001067	MW20ML-119(0.5-0.88)	ASTM D2974-87	370079		
10537001001	BW20ML-114(0-03)	EPA 9060	370167		
10537001001	BW20ML-114(0-03)	EPA 9060	370170		
10537001002	BW20ML-114(0-3-0.65)	EPA 9060	370167		
10537001002	BW20ML-114(0-3-0.65)	EPA 9060	370170		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537001005	BW20ML-116(0-0.3)	EPA 9060	370167		
10537001005	BW20ML-116(0-0.3)	EPA 9060	370170		
10537001006	BW20ML-116(0.3-0.6)	EPA 9060	370167		
10537001006	BW20ML-116(0.3-0.6)	EPA 9060	370170		
10537001007	BW20ML-116(0.6-0.9)	EPA 9060	370167		
10537001007	BW20ML-116(0.6-0.9)	EPA 9060	370170		
10537001009	BW20ML-133(0-0.3)	EPA 9060	370167		
10537001009	BW20ML-133(0-0.3)	EPA 9060	370170		
10537001010	BW20ML-133(0.3-0.6)	EPA 9060	370167		
10537001010	BW20ML-133(0.3-0.6)	EPA 9060	370170		
10537001011	BW20ML-133(0.6-0.83)	EPA 9060	370167		
10537001011	BW20ML-133(0.6-0.83)	EPA 9060	370170		
10537001013	BW20ML-117(0-0.35)	EPA 9060	370167		
10537001013	BW20ML-117(0-0.35)	EPA 9060	370170		
10537001014	BW20ML-117(0.35-0.6)	EPA 9060	370167		
10537001014	BW20ML-117(0.35-0.6)	EPA 9060	370170		
10537001018	BW20ML-123(0-0.35)	EPA 9060	370167		
10537001018	BW20ML-123(0-0.35)	EPA 9060	370170		
10537001019	BW20ML-123(0.35-0.65)	EPA 9060	370167		
10537001019	BW20ML-123(0.35-0.65)	EPA 9060	370170		
10537001020	BW20ML-123(0.65-0.95)	EPA 9060	370167		
10537001020	BW20ML-123(0.65-0.95)	EPA 9060	370170		
10537001022	BW20ML-127(0-0.35)	EPA 9060	370167		
10537001022	BW20ML-127(0-0.35)	EPA 9060	370170		
10537001023	BW20ML-127(0.35-0.7)	EPA 9060	370167		
10537001023	BW20ML-127(0.35-0.7)	EPA 9060	370170		
10537001027	BW20ML-134(0-0.42)	EPA 9060	370167		
10537001027	BW20ML-134(0-0.42)	EPA 9060	370170		
10537001028	BW20ML-134(0.42-0.6)	EPA 9060	370167		
10537001028	BW20ML-134(0.42-0.6)	EPA 9060	370170		
10537001031	BW20ML-135(0-0.3)	EPA 9060	370167		
10537001031	BW20ML-135(0-0.3)	EPA 9060	370170		
10537001032	BW20ML-135(0.3-0.52)	EPA 9060	370167		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing
Pace Project No.: 10537001

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537001032	BW20ML-135(0.3-0.52)	EPA 9060	370170		
10537001035	BW20ML-137(0-0.3)	EPA 9060	370167		
10537001035	BW20ML-137(0-0.3)	EPA 9060	370170		
10537001036	BW20ML-137(0.3-0.65)	EPA 9060	370430		
10537001036	BW20ML-137(0.3-0.65)	EPA 9060	370431		
10537001037	BW20ML-137(0.65-0.95)	EPA 9060	370430		
10537001037	BW20ML-137(0.65-0.95)	EPA 9060	370431		
10537001039	BW20ML-140(0-0.3)	EPA 9060	370430		
10537001039	BW20ML-140(0-0.3)	EPA 9060	370431		
10537001040	BW20ML-140(0.4-0.65)	EPA 9060	370430		
10537001040	BW20ML-140(0.4-0.65)	EPA 9060	370431		
10537001043	BW20ML-141(0-0.3)	EPA 9060	370430		
10537001043	BW20ML-141(0-0.3)	EPA 9060	370431		
10537001045	BW20ML-076(0-0.3)	EPA 9060	370430		
10537001045	BW20ML-076(0-0.3)	EPA 9060	370431		
10537001046	BW20ML-076(0.5-0.9)	EPA 9060	370430		
10537001046	BW20ML-076(0.5-0.9)	EPA 9060	370431		
10537001048	MW20ML-049(0-0.3)	EPA 9060	370430		
10537001048	MW20ML-049(0-0.3)	EPA 9060	370431		
10537001049	MW20ML-049(0.3-0.6)	EPA 9060	370430		
10537001049	MW20ML-049(0.3-0.6)	EPA 9060	370431		
10537001050	MW20ML-049(0.6-0.9)	EPA 9060	370430		
10537001050	MW20ML-049(0.6-0.9)	EPA 9060	370431		
10537001052	MW20ML-038(0-0.35)	EPA 9060	370430		
10537001052	MW20ML-038(0-0.35)	EPA 9060	370431		
10537001053	MW20ML-038(0.35-0.65)	EPA 9060	370430		
10537001053	MW20ML-038(0.35-0.65)	EPA 9060	370431		
10537001054	MW20ML-038(0.65-0.95)	EPA 9060	370430		
10537001054	MW20ML-038(0.65-0.95)	EPA 9060	370431		
10537001056	MW20ML-121(0-0.35)	EPA 9060	370430		
10537001056	MW20ML-121(0-0.35)	EPA 9060	370431		
10537001057	MW20ML-121(0.35-0.6)	EPA 9060	370430		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing

Pace Project No.: 10537001

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537001057	MW20ML-121(0.35-0.6)	EPA 9060	370431		
10537001058	MW20ML-121(0.6-0.9)	EPA 9060	370430		
10537001058	MW20ML-121(0.6-0.9)	EPA 9060	370431		
10537001060	MW20ML-118(1.2-1.35)	EPA 9060	370430		
10537001060	MW20ML-118(1.2-1.35)	EPA 9060	370431		
10537001062	MW20ML-115(0-0.3)	EPA 9060	370430		
10537001062	MW20ML-115(0-0.3)	EPA 9060	370431		
10537001063	MW20ML-115(0.3-0.6)	EPA 9060	370430		
10537001063	MW20ML-115(0.3-0.6)	EPA 9060	370431		
10537001066	MW20ML-119(0-0.5)	EPA 9060	370430		
10537001066	MW20ML-119(0-0.5)	EPA 9060	370431		
10537001067	MW20ML-119(0.5-0.88)	EPA 9060	370575		
10537001067	MW20ML-119(0.5-0.88)	EPA 9060	370576		

REPORT OF LABORATORY ANALYSIS

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OUT-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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	3000025404
Address:	5 Empire Dr. St. Paul, MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm Street Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Collin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com	Copy To:							

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G-COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	TCC EPA 9060 (Quad Bunt)	Preservatives	
															Field Matrix Codes	Sample Type Codes
1	69-1291-00-255	BW20ML-114(0-0.3)			Sample	G	SE	SD	Sed-Usieve	21-Oct	910	1				
2	69-1291-00-255	BW20ML-114(0.3-0.65)			Sample	G	SE	SD	Sed-Usieve	21-Oct	915	1				
3	69-1291-00-255	BW20ML-114(0.65-0.9)			Sample	G	SE	SD	Sed-Usieve	21-Oct	920					
4	69-1291-00-255	BW20ML-114(0.9-1.5)			Sample	G	SE	SD	Sed-Usieve	21-Oct	925					
5	69-1291-00-257	BW20ML-116(0-0.3)			Sample	G	SE	SD	Sed-Usieve	22-Oct	830					
6	69-1291-00-257	BW20ML-116(0.3-0.6)			Sample	G	SE	SD	Sed-Usieve	22-Oct	835					
7	69-1291-00-257	BW20ML-116(0.6-0.9)			Sample	G	SE	SD	Sed-Usieve	22-Oct	840					
8	69-1291-00-257	BW20ML-116(0.9-1.14)			Sample	G	SE	SD	Sed-Usieve	22-Oct	845					
9	69-1291-00-273	BW20ML-133(0-0.3)			Sample	G	SE	SD	Sed-Usieve	22-Oct	1015					
10	69-1291-00-273	BW20ML-133(0.3-0.6)			Sample	G	SE	SD	Sed-Usieve	22-Oct	1020					
11	69-1291-00-273	BW20ML-133(0.6-0.83)			Sample	G	SE	SD	Sed-Usieve	22-Oct	1025					
12	69-1291-00-273	BW20ML-133(0.83-1.2)			Sample	G	SE	SD	Sed-Usieve	22-Oct	1030					

WO#: 10537001

10537001

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Patrick Sweeney/Bay West	10/26/20	1300	<i>Patrick Sweeney</i>	10/27/20	13:40
	<i>Patrick Sweeney</i>	10-27	1405	<i>Patrick Sweeney</i>	10/27/20	1415

SAMPLER NAME AND SIGNATURE	Temp (C)
PRINT Name of SAMPLER: Patrick Sweeney	Received on Ice (Y/N): Y
SIGNATURE of SAMPLER: <i>Patrick Sweeney</i>	Custody Sealed Cooler (Y/N): Y
DATE Signed (MM/DD/YY): 10/26/20	Samples In tact (Y/N): Y



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm Street Minneapolis MN, 55414	Work Order No.:	3000025404
Project Manager:	Paul Reymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	COLin Lynch	Facility Code:	SR1015
Email To:	preymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	SAMPLE CONDITIONS		
														Temp (°C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)
1	69-1291-00-258	BW20ML-117(0.0-35)			Sample	G	SE SD	SD	Sed-Usieve	10/21/2020	950	1				
2	69-1291-00-258	BW20ML-117(0.35-0.6)			Sample	G	SE SD	SD	Sed-Usieve	10/21/2020	955	1				
3	69-1291-00-258	BW20ML-117(0.6-0.9)			Sample	G	SE SD	SD	Sed-Usieve	10/21/2020	1000					
4	69-1291-00-258	BW20ML-117(0.9-1.34)			Sample	G	SE SD	SD	Sed-Usieve	10/21/2020	1005					
5	69-1291-00-258	BW20ML-117(1.34-1.97)			Sample	G	SE SD	SD	Sed-Usieve	10/21/2020	1010					
6																
7																
8																
9																
10																
11																
12																

ADDITIONAL COMMENTS	REQUISITED BY/AFFILIATION	DATE	TIME	ACCEPTED BY/AFFILIATION	DATE	TIME
	Patrick Sweeney/Bay West	10/26/20	13:00	Albert Pace	10-27-20	13:40
	Albert Pace	10-27	14:15	IN Pace	10-27-20	14:15

SAMPLER NAME AND SIGNATURE:	Patrick Sweeney
PRINT Name of SAMPLER:	Patrick Sweeney
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YYYY): 10/26/20

013
014
015
016
017

CHAIN-OF-CUSTODY / Analytical Request Document

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Section A

Required Client Information:

Company: Bay West
 Address: 5 Empire Dr. St. Paul MN, 55103
 Project Manager: Paul Raymaker
 Email To: praymaker@baywest.com
 Phone: 651-291-3411
 Copy To: Eweaver@baywest.com

Section B

Required Project Information:

Project Name: Munger Landing
 Project Number: 200633
 Turnaround Time: Standard
 Site Location (State): MN
 Copy To:

Section C

Invoice Information:

Company Name: Bay West LLC
 Address: 5 Empire Dr. St. Paul, MN 55103
 Purchase Order No.: 206552
 Accounts Payable:

Section D

Laboratory Information

Lab Name: Pace
 Address: 1700 Elm Street Minneapolis MN, 55414
 Lab Project Manager: Colin Lynch
 Lab Phone: 612-656-2286

Section E

MPCA Information

COC ID:
 Work Order No.: 3000025404
 Facility Code: SR1015
 Project Task Code: PRJ07955
 Program Code:

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLER TYPE (G=GRAB C=COMP)	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	TOC EPA 9060 (Quad Burn)	Comments	Requested Analysis			SAMPLE CONDITIONS			
														Temp (°C)	Revised on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)			
1	69-1291-00-264	BW20ML-123(0-0.35)			Sample	G	SE SD	Sed-Usieve	22-Oct	905	1	x								
2	69-1291-00-264	BW20ML-123(0.35-0.65)			Sample	G	SE SD	Sed-Usieve	22-Oct	910	1	x								
3	69-1291-00-264	BW20ML-123(0.65-0.95)			Sample	G	SE SD	Sed-Usieve	22-Oct	915	1	x								
4	69-1291-00-264	BW20ML-123(0.95-1.25)			Sample	G	SE SD	Sed-Usieve	22-Oct	920	1	x								
5	69-1291-00-268	BW20ML-127(0-0.35)			Sample	G	SE SD	Sed-Usieve	21-Oct	1035	1	x								
6	69-1291-00-268	BW20ML-127(0.35-0.7)			Sample	G	SE SD	Sed-Usieve	21-Oct	1040	1	x								
7	69-1291-00-268	BW20ML-127(0.7-1.0)			Sample	G	SE SD	Sed-Usieve	21-Oct	1045	1	x								
8	69-1291-00-268	BW20ML-127(1.0-1.3)			Sample	G	SE SD	Sed-Usieve	21-Oct	1050	1	x								
9	69-1291-00-268	BW20ML-127(1.3-1.9)			Sample	G	SE SD	Sed-Usieve	21-Oct	1055	1	x								
10																				
11																				
12																				

RELINQUISHED BY (AFFILIATION): Patrick Sweeney/BayWest
 DATE: 10/26/20
 TIME: 12:00
 ACCEPTED BY (AFFILIATION): *Patrick Sweeney*
 DATE: 10/27/20
 TIME: 14:15
 ADDITIONAL COMMENTS: *10-27-20 10-27-20 14:15 2.3*

SAMPLER NAME AND SIGNATURE: *Patrick Sweeney*
 PRINT Name of SAMPLER: Patrick Sweeney
 SIGNATURE of SAMPLER: *[Signature]*
 DATE Signed (MM/DD/YYYY): 10/26/20



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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:		Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm Street Minneapolis MN, 55414	Work Order No.:	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-274	BW20ML-134(0-0.42)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1120	1	820
2	69-1291-00-274	BW20ML-134(0.42-0.6)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1125	1	820
3	69-1291-00-274	BW20ML-134(0.6-0.9)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1130		
4	69-1291-00-274	BW20ML-134(0.9-1.19)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1135		
5	69-1291-00-275	BW20ML-135(0-0.3)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1220		
6	69-1291-00-275	BW20ML-135(0.3-0.52)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1225		
7	69-1291-00-275	BW20ML-135(0.52-0.9)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1230		
8	69-1291-00-275	BW20ML-135(0.9-1.13)			Sample	G	SE	SD	Sec-Usieve	10/21/2020	1235		
9	69-1291-00-277	BW20ML-137(0-0.3)			Sample	G	SE	SD	Sec-Usieve	21-Oct	1605		
10	69-1291-00-277	BW20ML-137(0.3-0.65)			Sample	G	SE	SD	Sec-Usieve	21-Oct	1610		
11	69-1291-00-277	BW20ML-137(0.65-0.95)			Sample	G	SE	SD	Sec-Usieve	21-Oct	1615		
12	69-1291-00-277	BW20ML-137(0.95-1.25)			Sample	G	SE	SD	Sec-Usieve	21-Oct	1620		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Patrick Sweeney/Bay West	10/26/20	17:00	Patrick Sweeney / Pace	10-27-20	13:40
			Patrick Sweeney	10/27/20	14:15

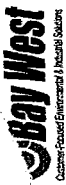
SAMPLER NAME AND SIGNATURE	PRINT NAME OF SAMPLER	SIGNATURE OF SAMPLER	DATE SIGNED (MM/DD/YY)
Patrick Sweeney	Patrick Sweeney	[Signature]	10/26/20

Temp (°C)	Received on Ice (Y/N)	Ceafly Sealed Cooler (Y/N)	Samples Intact (Y/N)
2.3	Y	Y	Y

ADDITIONAL COMMENTS:	
TOC EPA 9060 (Quad)	
Preservatives:	
Requested Analysis:	

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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Accounts Payable:	Bay West LLC	Lab Name:	Pace	Work Order No.:	3000025404
Address:	5 Empire Dr. St. Paul, MN, 55103	Project Number:	200633	Company Name:	5 Empire Dr. St. Paul, MN 55103	Address:	1700 Elm Street Minneapolis, MN, 55414	Facility Code:	SR1015
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	MN	Lab Project Manager:	Colin Lynch	Project Task Code:	PR-J07955
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Program Code:	
Phone:	651-291-3411	Copy To:							
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-280	BW20ML-140(0.0-0.3)			Sample	G	SE SD	Sed-Usieve	21-Oct	1430	1	
2	69-1291-00-280	BW20ML-140(0.4-0.65)			Sample	G	SE SD	Sed-Usieve	21-Oct	1435	1	
3	69-1291-00-280	BW20ML-140(0.65-0.9)			Sample	G	SE SD	Sed-Usieve	21-Oct	1440		
4	69-1291-00-280	BW20ML-140(0.9-1.2)			Sample	G	SE SD	Sed-Usieve	21-Oct	1445		
5	69-1291-00-281	BW20ML-141(0.0-0.3)			Sample	G	SE SD	Sed-Usieve	22-Oct	1550		
6	69-1291-00-281	BW20ML-141(0.4-0.7)			Sample	G	SE SD	Sed-Usieve	22-Oct	1555		
7	69-1291-00-219	BW20ML-076(0.0-0.3)			Sample	G	SE SD	Sed-Usieve	22-Oct	1210		HOLD PENDING ANALYSIS
8	69-1291-00-219	BW20ML-076(0.5-0.9)			Sample	G	SE SD	Sed-Usieve	22-Oct	1215		HOLD PENDING ANALYSIS
9	69-1291-00-219	BW20ML-076(1.2-1.5)			Sample	G	SE SD	Sed-Usieve	22-Oct	1220		HOLD PENDING ANALYSIS
10												
11												
12												

REQUISITIONED BY/AFFILIATION:	DATE:	TIME:	ACCEPTED BY/AFFILIATION:	DATE:	TIME:
Patrick Sweeney/Bay West	10/26/20	12:00	Patrick Sweeney	10-27-20	13:49
				10/27/20	14:15

SAMPLER NAME AND SIGNATURE	DATE SIGNED (MM/DD/YY)
Patrick Sweeney	10/26/20

PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:
Patrick Sweeney	

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:				Section B Required Project Information:				Section C Invoice Information:				Section D Laboratory Information				Section E MPCA Information							
Company: Bay West				Project Name: Munger Landing				Attention: Accounts Payable				Lab Name: Bay West LLC				COC ID: 3000025404							
Address: 5 Empire Dr. St. Paul MN, 55103				Project Number: 200633				Company Name: Standard				Address: 1700 Elm Street Minneapolis MN, 55414				Work Order No. SR1015							
Project Manager: Paul Raymaker				Turnaround Time: MN				Purchase Order No. 206652				Lab Project Manager: COJin Lynch				Facility Code: PRJ07955							
Email To: praymaker@baywest.com				Site Location (State): MN				Copy To: 206652				Lab Phone: 612-656-2286				Project Task Code: Program Code							
Phone: 651-291-3411				Copy To: Erweaver@baywest.com																			
<p>Matrix Codes: SE=Sediment SO=Soil QC=Soil QC WP=Aqueous WG=Groundwater S=Surface</p> <p>Lab Matrix Codes: DW=Drinking Water NW=Non-potable Water SD=Soil/Solid WP=Wipe AR=Air BL=Biological Material S=Surface GTS=Other</p> <p>Field Matrix Codes: WR=Ground-Ground Water WTR=Surf-Surface Water QC=Blank/Artificial Blank Water Leachate=Leachate Sample Soil=Surf- Soil Surface Soil=Sub- Soil Subsurface</p> <p>Sample Type Codes: Sample=Routine Sample S-CWOP=Composite Sample S-IP=Integrated Vertical Profile Sample QC-FB=Field Blank Sample QC-FR=Field Replicate Sample QC-TB=Trip Blank Sample</p>												<p>Matrix Codes: SE=Sediment SO=Soil QC=Soil QC WP=Aqueous WG=Groundwater S=Surface</p> <p>Lab Matrix Codes: DW=Drinking Water NW=Non-potable Water SD=Soil/Solid WP=Wipe AR=Air BL=Biological Material S=Surface GTS=Other</p> <p>Field Matrix Codes: WR=Ground-Ground Water WTR=Surf-Surface Water QC=Blank/Artificial Blank Water Leachate=Leachate Sample Soil=Surf- Soil Surface Soil=Sub- Soil Subsurface</p> <p>Sample Type Codes: Sample=Routine Sample S-CWOP=Composite Sample S-IP=Integrated Vertical Profile Sample QC-FB=Field Blank Sample QC-FR=Field Replicate Sample QC-TB=Trip Blank Sample</p>											
ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G-GRAB C-COHP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	TOC EPA 9060 (Quad Burn)	Comments	Temp (C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Inlet (Y/N)					
1	BW20ML-049(0.0-0.3)	BW20ML-049(0.3-0.6)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1405	1	x	048									
2	BW20ML-049(0.6-0.9)	BW20ML-049(0.9-1.2)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1410	1	x	049									
3	BW20ML-038(0.0-0.35)	BW20ML-038(0.35-0.65)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1415	1	x	050									
4	BW20ML-038(0.65-0.95)	BW20ML-038(0.95-1.25)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1420	1	x	051									
5	BW20ML-121(0.0-0.35)	BW20ML-121(0.35-0.6)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1430	1	x	052									
6	BW20ML-121(0.6-0.9)	BW20ML-121(0.9-1.2)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1435	1	x	053									
7	BW20ML-121(0.0-0.35)	BW20ML-121(0.35-0.6)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1440	1	x	054									
8	BW20ML-121(0.6-0.9)	BW20ML-121(0.9-1.2)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1445	1	x	055									
9	BW20ML-121(0.0-0.35)	BW20ML-121(0.35-0.6)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1535	1	x	056									
10	BW20ML-121(0.6-0.9)	BW20ML-121(0.9-1.2)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1540	1	x	057									
11	BW20ML-121(0.0-0.35)	BW20ML-121(0.35-0.6)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1545	1	x	058									
12	BW20ML-121(0.6-0.9)	BW20ML-121(0.9-1.2)			Sample G SE SD	G SE SD	SE SD	Sed-Useave	Sed-Useave	22-Oct	1550	1	x	059									
REINQUISHED BY / AFFILIATION: Patrick Sweeney/Bay West DATE: 10/27/20 TIME: 1415												ACCEPTED BY / AFFILIATION: Patrick Sweeney DATE: 10-27-20 TIME: 13:40				Temp (C): 2.3							
SAMPLER NAME AND SIGNATURE: Patrick Sweeney PRINT Name of SAMPLER: Patrick Sweeney SIGNATURE of SAMPLER:												DATE SIGNED (MM/DD/YYYY): 10/26/20											

CHAIN-OF-CUSTODY / Analytical Request Document

Section E
MPCA Information

Section D
Laboratory Information

Section C
Invoice Information

Section B
Required Project Information

Section A
Required Client Information

<p>Section A Required Client Information:</p> <p>Company: Bay West Address: 5 Empire Dr. St. Paul, MN, 55103 Project Manager: Paul Raymaker Email To: praymaker@baywest.com Phone: 651-291-3411 Copy To: Eweaver@baywest.com</p>				<p>Section B Required Project Information:</p> <p>Project Name: Munger Landing Project Number: 200693 Turnaround Time: Standard Site Location (State): MN Copy To:</p>				<p>Section C Invoice Information:</p> <p>Attention: Accounts Payable Company Name: Bay West LLC Address: 5 Empire Dr. St. Paul, MN 55103 Purchase Order No: 206552</p>				<p>Section D Laboratory Information:</p> <p>Lab Name: Pace Address: 1700 Elm Street Minneapolis MN, 55414 Lab Project Manager: Colin Lynch Lab Phone: 612-666-2286</p>				<p>Section E MPCA Information:</p> <p>COC ID: 3000025404 Work Order No: SR1015 Facility Code: PRJ07955 Project Task Code: Program Code</p>			
<p>The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.</p>																			
<p>Matrix Codes SE=Sediment SO=Soil QC=Soil OC WQ=Groundwater S=Surface</p> <p>Lab Matrix Codes DW=Drinking Water NW=Non-potable Water SD=Soil/Solid WP=Wipe AR=Air BL=Biological Material S=Surface OT=Other</p> <p>Field Matrix Codes W=Ground=Ground Water WTR=Surf=Surface Water QC=Blank=Artificial Blank Water Leachate=Leachate Sample Soil=Surf= Soil Surface Soil=Sub= Soil Subsurface OT=Other</p> <p>Sample Type Codes Sample=Routine Sample S-CWOP=Composite Sample S-VP=Integrated Vertical Profile Sample QC-FB=Field Blank Sample QC-FR=Field Replicate Sample QC-TB= Trip Blank Sample</p>																			
ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	Sample Type Code (C-COMP)	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments							
1	69-1291-00-259	BW20ML-118(1.2-1.35)			Sample G	SE	SD	Sed-Usave	22-Oct	1130	1	HOLD PENDING ANALYSIS							
2	69-1291-00-259	BW20ML-118(1.35-1.5)			Sample G	SE	SD	Sed-Usave	22-Oct	1135	1	HOLD PENDING ANALYSIS							
3	69-1291-00-256	BW20ML-115(0.0-0.3)			Sample G	SE	SD	Sed-Usave	21-Oct	1355	1	HOLD PENDING ANALYSIS							
4	69-1291-00-256	BW20ML-115(0.3-0.6)			Sample G	SE	SD	Sed-Usave	21-Oct	1400	1	HOLD PENDING ANALYSIS							
5	69-1291-00-256	BW20ML-115(0.6-0.9)			Sample G	SE	SD	Sed-Usave	21-Oct	1405	1	HOLD PENDING ANALYSIS							
6	69-1291-00-257	BW20ML-115(0.9-1.2)			Sample G	SE	SD	Sed-Usave	21-Oct	1410	1	HOLD PENDING ANALYSIS							
7	69-1291-00-260	BW20ML-119(0.0-0.5)			Sample G	SE	SD	Sed-Usave	10/21/2020	1150	1	HOLD PENDING ANALYSIS							
8	69-1291-00-260	BW20ML-119(0.5-0.88)			Sample G	SE	SD	Sed-Usave	10/21/2020	1155	1	HOLD PENDING ANALYSIS							
9	69-1291-00-260	BW20ML-119(0.88-1.3)			Sample G	SE	SD	Sed-Usave	10/21/2020	1200	1	HOLD PENDING ANALYSIS							
10	69-1291-00-260	BW20ML-119(1.3-1.5)			Sample G	SE	SD	Sed-Usave	10/21/2020	1205	1	HOLD PENDING ANALYSIS							
11	<p>RELINQUISHED BY/AFFILIATION: Patrick Sweeney/Bay West</p> <p>DATE: 10/26/20</p> <p>TIME: 13:40</p>																		
12	<p>ADDITIONAL COMMENTS: Patrick Sweeney</p> <p>DATE: 10/27/20</p> <p>TIME: 14:15</p>																		
<p>ACCEPTED BY/AFFILIATION: Patrick Sweeney</p> <p>DATE: 10/27/20</p> <p>TIME: 14:15</p>																			
<p>RECEIVED ON ICE (Y/N):</p> <p>CUSTODY SEALED COOLER (Y/N):</p> <p>SAMPLES INACT (Y/N):</p>																			

Sample Condition Upon Receipt **Client Name:** Bay West **Project #:** _____

Courier: Fed Ex UPS USPS Client
 Pace SpeedDee Commercial

Tracking Number: _____ See Exceptions
ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer: T1(0461) T2(1336) T3(0459)
 T4(0254) T5(0489) **Type of Ice:** Wet Blue None Dry Melted

WO# : 10537001

PM: CL1 Due Date: 11/10/20

CLIENT: BW-BAY WEST

Did Samples Originate in West Virginia? Yes No **Were All Container Temps Taken?** Yes No N/A

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 22 °C **Average Corrected Temp (no temp blank only):** _____ °C

Correction Factor: +0.1 **Cooler Temp Corrected w/temp blank:** 2.3 °C See Exceptions ENV-FRM-MIN4-0142
 1 Container

USDA Regulated Soil: N/A, water sample/Other: _____ **Date/Initials of Person Examining Contents:** 10/27/20 JN

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>All samples accounted for</u>
Matrix: <input type="checkbox"/> Water <input checked="" type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	12. Sample #
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >10 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> See Exception ENV-FRM-MIN4-0142
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	pH Paper Lot# Res. Chlorine 0-6 Roll 0-6 Strip 0-14 Strip
Extra labels present on soil VOA or WIDRO containers? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Pace Trip Blank Lot # (if purchased):
Trip Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** Yes No

Comments/Resolution: _____

Project Manager Review: [Signature] Date: 10/29/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Internal Transfer Chain of Custody

Samples Pre-Logged into eCOC.

Workorder: 10537001 Workorder Name: 200633 Munger Landing

State Of Origin: MN
 Cert. Needed: Yes No
 Owner Received Date: 10/27/2020

Results Requested By: 11/10/2020

40217468



Collin Lynch
 Pace Analytical Minnesota
 1700 Elm Street
 Suite 200
 Minneapolis, MN 55414
 Phone (612)607-1700

Pace Analytical Green Bay
 1241 Bellevue Street
 Suite 9
 Green Bay, WI 54302
 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Unpreserved JGFU	Preserved Containers	Requested Analysis	LAB USE ONLY
1	BW20ML-114(0-03)	PS	10/21/2020 09:10	10537001001	Solid	1		TOC EPA 9060 (Quad Burn) + Dispo	001
2	BW20ML-114(0-3-0.65)	PS	10/21/2020 09:15	10537001002	Solid	1			002
3	BW20ML-116(0-0-3)	PS	10/22/2020 08:30	10537001005	Solid	1			003
4	BW20ML-116(0-3-0.6)	PS	10/22/2020 08:35	10537001006	Solid	1			004
5	BW20ML-116(0-6-0.9)	PS	10/22/2020 08:40	10537001007	Solid	1			005
6	BW20ML-133(0-0-3)	PS	10/22/2020 10:15	10537001009	Solid	1			006
7	BW20ML-133(0-3-0.6)	PS	10/22/2020 10:20	10537001010	Solid	1			007
8	BW20ML-133(0-6-0.83)	PS	10/22/2020 10:25	10537001011	Solid	1			008
9	BW20ML-117(0-0-35)	PS	10/21/2020 09:50	10537001013	Solid	1			009
10	BW20ML-117(0-35-0.6)	PS	10/21/2020 09:55	10537001014	Solid	1			010
11	BW20ML-123(0-0-35)	PS	10/22/2020 09:05	10537001018	Solid	1			011
12	BW20ML-123(0-35-0.65)	PS	10/22/2020 09:10	10537001019	Solid	1			012
13	BW20ML-123(0-65-0.95)	PS	10/22/2020 09:15	10537001020	Solid	1			013
14	BW20ML-127(0-0-35)	PS	10/21/2020 10:35	10537001022	Solid	1			014
15	BW20ML-127(0-35-0.7)	PS	10/21/2020 10:40	10537001023	Solid	1			015
16	BW20ML-134(0-0-42)	PS	10/21/2020 11:20	10537001027	Solid	1			016
17	BW20ML-134(0-42-0.6)	PS	10/21/2020 11:25	10537001028	Solid	1			017
18	BW20ML-135(0-0-3)	PS	10/21/2020 12:20	10537001031	Solid	1			018
19	BW20ML-135(0-3-0.52)	PS	10/21/2020 12:25	10537001032	Solid	1			019

Internal Transfer Chain of Custody

Samples Pre-Logged into eCOC.

Workorder: 10537001 Workorder Name: 200633 Munger Landing

Report To

Subcontract To

Colin Lynch
Pace Analytical Minnesota
1700 Elm Street
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

State Of Origin: MN
Cert. Needed: Yes No
Owner Received Date: 10/27/2020 Results Requested By: 11/10/2020

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		TOC EPA 9060 (Quad Burn) + Dispo	LAB USE ONLY
						Unpreserved JGFU			
20	BW20ML-137(0.0-3)	PS	10/21/2020 16:05	10537001035	Solid	1		X	020
21	BW20ML-137(0.3-0.65)	PS	10/21/2020 16:10	10537001036	Solid	1		X	021
22	BW20ML-137(0.65-0.95)	PS	10/21/2020 16:15	10537001037	Solid	1		X	022
23	BW20ML-140(0.0-3)	PS	10/21/2020 14:30	10537001039	Solid	1		X	023
24	BW20ML-140(0.4-0.65)	PS	10/21/2020 14:35	10537001040	Solid	1		X	024
25	BW20ML-141(0.0-3)	PS	10/22/2020 15:50	10537001043	Solid	1		X	025
26	BW20ML-076(0.0-3)	PS	10/22/2020 12:10	10537001045	Solid	1		X	026
27	BW20ML-076(0.5-0.9)	PS	10/22/2020 12:15	10537001046	Solid	1		X	027
28	MW20ML-049(0.0-3)	PS	10/22/2020 14:05	10537001048	Solid	1		X	028
29	MW20ML-049(0.3-0.6)	PS	10/22/2020 14:10	10537001049	Solid	1		X	029
30	MW20ML-049(0.6-0.9)	PS	10/22/2020 14:15	10537001050	Solid	1		X	030
31	MW20ML-038(0.0-35)	PS	10/22/2020 14:30	10537001052	Solid	1		X	031
32	MW20ML-038(0.35-0.65)	PS	10/22/2020 14:35	10537001053	Solid	1		X	032
33	MW20ML-038(0.65-0.95)	PS	10/22/2020 14:40	10537001054	Solid	1		X	033
34	MW20ML-121(0.0-35)	PS	10/22/2020 15:35	10537001056	Solid	1		X	034
35	MW20ML-121(0.35-0.6)	PS	10/22/2020 15:40	10537001057	Solid	1		X	035
36	MW20ML-121(0.6-0.9)	PS	10/22/2020 15:45	10537001058	Solid	1		X	036
37	MW20ML-118(1.2-1.35)	PS	10/22/2020 11:30	10537001060	Solid	1		X	037
38	MW20ML-115(0.0-3)	PS	10/21/2020 13:55	10537001062	Solid	1		X	038
39	MW20ML-115(0.3-0.6)	PS	10/21/2020 14:00	10537001063	Solid	1		X	039

40217468



Internal Transfer Chain of Custody

40217468

Samples Pre-Logged into eCOC.

Workorder: 10537001 Workorder Name: 200633 Munger Landing

State Of Origin: MN
 Cert. Needed: Yes No
 Owner Received Date: 10/27/2020 Results Requested By: 11/10/2020



Report To:
 Colin Lynch
 Pace Analytical Minnesota
 1700 Elm Street
 Suite 200
 Minneapolis, MN 55414
 Phone (612)607-1700

Subcontract To:
 Pace Analytical Green Bay
 1241 Bellevue Street
 Suite 9
 Green Bay, WI 54302
 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		TOC EPA 9060 (Quad Burn) + Dispo	Requested Analysis		Comments
						Unpreserved	JGFU				
40	MW20ML-19(0-0-5)	PS	10/21/2020 11:50	10537001066	Solid	1		X			LAB USE ONLY 040 041
41	MW20ML-19(0-5-0-88)	PS	10/21/2020 11:55	10537001067	Solid	1		X			
42											
43											
44											

Transfers	Released By	Date/Time	Received By	Date/Time	Cooler Temperature on Receipt °C	Custody Seal	Received on Ice	Samples Intact
1	<i>[Signature]</i>	10/21/2020 15:55	<i>[Signature]</i>					
2	<i>[Signature]</i>	10/30/2020 04:00	<i>[Signature]</i>	10/30/2020 09:00				
3								

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Client Name: Pace MW

Sample Preservation Receipt Form
Project #: 40217468

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 89
Green Bay, WI 54302

Pace Lab #	Glass						Plastic				Vials					Jars			General			pH				Volume (ml.)													
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC		GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted						
021																																							2.5/5/10
022																																							2.5/5/10
023																																							2.5/5/10
024																																							2.5/5/10
025																																							2.5/5/10
026																																							2.5/5/10
027																																							2.5/5/10
028																																							2.5/5/10
029																																							2.5/5/10
030																																							2.5/5/10
031																																							2.5/5/10
032																																							2.5/5/10
033																																							2.5/5/10
034																																							2.5/5/10
035																																							2.5/5/10
036																																							2.5/5/10
037																																							2.5/5/10
038																																							2.5/5/10
039																																							2.5/5/10
040																																							2.5/5/10
041																																							2.5/5/10

MW
10-30-20



1241 Bellevue Street, Green Bay, WI 54302

Document Name:
Sample Condition Upon Receipt (SCUR)

Document Revised: 26Mar2020

Document No.:
ENV-FRM-GBAY-0014-Rev.00

Author:
Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: Pace MN

Project #: _____

Courier: CS Logistics Fed Ex Speedee UPS **Waltco**
 Client Pace Other: _____

WO#: **40217468**



Tracking #: 2633007-1

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR - 99 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 1.0 / Corr: 1.0

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:
Date: 10-30-20 / Initials: MLR
Labeled By Initials: [Signature]

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4. <u>IRNO</u> <u>MLR 10-30-20</u>
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>no depth in original client ID .001, 10-30-20</u> <u>original client ID starts w/ "B": 028-041</u> <u>048-042</u>
-Includes date/time/ID/Analysis Matrix: <u>S</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <u>MLR 10-30-20</u> <u>028 MLR</u>
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<u>10-30-20</u>
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____
Comments/ Resolution: no year MLR 10-30-20

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10537001 Report date (mm/dd/yyyy): 11/10/2020
 Laboratory: Pace Review date (mm/dd/yyyy): 11/12/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Calibration

Question		Yes	No	N/A	Comments
A.	Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question		Yes	No	N/A	Comments
A.	Do any of the analyses contain samples for field or trip blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C.	Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question		Yes	No	N/A	Comments
A.	Are the lab recovery limits for surrogates specified on the report?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
B.	Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv. Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question		Yes	No	N/A	Comments
A.	Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. If no, is there and explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	iv. Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	v. Are there compounds outside the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	vi. If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1. Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2. Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3. Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Was a duplicate sample submitted for the analytical method(s)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek

(This document has been electronically signed.)

Title: Program Chemist

Date (mm/dd/yyyy): 11/12/2020

December 02, 2020

Paul Raymaker
Bay West
5 Empire Drive
Saint Paul, MN 55103

RE: Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Dear Paul Raymaker:

Enclosed are the analytical results for sample(s) received by the laboratory on October 27, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

This report was revised on December 2, 2020, to include results for PCBs by EPA 8082A on samples BW20ML-123(0.95-1.25), BW20ML-140(0.65-0.9), BW20ML-140(0.9-1.2), BW20ML-141(0.4-0.7), and BW20ML-121(0.9-1.2).

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Colin Lynch
colin.lynch@pacelabs.com
(612)607-1700
Project Manager

Enclosures

cc: Ryan Riley, Bay West LLC
Jeff Smith, Pace Analytical Services, Inc
Gerrit Vanderwaal



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Pace Analytical Services - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

A2LA Certification #: 2926.01*

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009*

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014*

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605*

Georgia Certification #: 959

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064*

Maryland Certification #: 322

Massachusetts DWP Certification #: via MN 027-053-137

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137*

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240*

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081*

New Jersey Certification #: MN002

New York Certification #: 11647*

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507*

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001*

Pennsylvania Certification #: 68-00563*

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192*

Utah Certification #: MN00064*

Vermont Certification #: VT-027053137

Virginia Certification #: 460163*

Washington Certification #: C486*

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10537018001	BW20ML-114(0-0.3)	Solid	10/21/20 09:10	10/27/20 14:15
10537018002	BW20ML-114(0.3-0.65)	Solid	10/21/20 09:15	10/27/20 14:15
10537018005	BW20ML-076(0-0.3)	Solid	10/22/20 12:10	10/27/20 14:15
10537018006	BW20ML-076(0.5-0.9)	Solid	10/22/20 12:15	10/27/20 14:15
10537018008	BW20ML-116(0-0.3)	Solid	10/22/20 08:30	10/27/20 14:15
10537018009	BW20ML-116(0.3-0.6)	Solid	10/22/20 08:35	10/27/20 14:15
10537018010	BW20ML-116(0.6-0.9)	Solid	10/22/20 08:40	10/27/20 14:15
10537018012	BW20ML-007(0-0.3)	Solid	10/22/20 08:30	10/27/20 14:15
10537018013	BW20ML-123(0-0.35)	Solid	10/22/20 09:05	10/27/20 14:15
10537018014	BW20ML-123(0.35-0.65)	Solid	10/22/20 09:10	10/27/20 14:15
10537018015	BW20ML-123(0.65-0.95)	Solid	10/22/20 09:15	10/27/20 14:15
10537018016	BW20ML-123(0.95-1.25)	Solid	10/22/20 09:20	10/27/20 14:15
10537018017	BW20ML-127(0-0.35)	Solid	10/21/20 10:35	10/27/20 14:15
10537018018	BW20ML-127(0.35-0.7)	Solid	10/21/20 10:40	10/27/20 14:15
10537018023	BW20ML-049(0-0.3)	Solid	10/22/20 14:05	10/27/20 14:15
10537018024	BW20ML-049(0.3-0.6)	Solid	10/22/20 14:10	10/27/20 14:15
10537018027	BW20ML-038(0-0.35)	Solid	10/22/20 14:30	10/27/20 14:15
10537018028	BW20ML-038(0.35-0.65)	Solid	10/22/20 14:35	10/27/20 14:15
10537018031	BW20ML-121(0.35-0.6)	Solid	10/22/20 15:40	10/27/20 14:15
10537018032	BW20ML-121(0.6-0.9)	Solid	10/22/20 15:45	10/27/20 14:15
10537018033	BW20ML-121(0.9-1.2)	Solid	10/22/20 15:50	10/27/20 14:15
10537018034	BW20ML-118(1.2-1.35)	Solid	10/22/20 11:30	10/27/20 14:15
10537018036	BW20ML-115(0-0.3)	Solid	10/21/20 13:55	10/27/20 14:15
10537018037	BW20ML-115(0.3-0.6)	Solid	10/21/20 14:00	10/27/20 14:15
10537018040	BW20ML-117(0-0.35)	Solid	10/21/20 09:50	10/27/20 14:15
10537018041	BW20ML-117(0.35-0.6)	Solid	10/21/20 09:55	10/27/20 14:15
10537018045	BW20ML-134(0-0.42)	Solid	10/21/20 11:20	10/27/20 14:15
10537018046	BW20ML-134(0.42-0.6)	Solid	10/21/20 11:25	10/27/20 14:15
10537018049	BW20ML-135(0-0.3)	Solid	10/21/20 12:20	10/27/20 14:15
10537018050	BW20ML-135(0.3-0.52)	Solid	10/21/20 12:25	10/27/20 14:15
10537018053	BW20ML-137(0-0.3)	Solid	10/21/20 16:05	10/27/20 14:15
10537018054	BW20ML-137(0.65-0.95)	Solid	10/21/20 16:15	10/27/20 14:15
10537018056	BW20ML-140(0-0.3)	Solid	10/21/20 14:30	10/27/20 14:15
10537018057	BW20ML-140(0.4-0.65)	Solid	10/21/20 14:35	10/27/20 14:15
10537018058	BW20ML-140(0.65-0.9)	Solid	10/21/20 14:40	10/27/20 14:15
10537018059	BW20ML-140(0.9-1.2)	Solid	10/21/20 14:45	10/27/20 14:15
10537018061	BW20ML-005(0-0.3)	Solid	10/21/20 14:30	10/27/20 14:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10537018063	BW20ML-141(0-0.3)	Solid	10/22/20 15:50	10/27/20 14:15
10537018064	BW20ML-141(0.4-0.7)	Solid	10/22/20 15:55	10/27/20 14:15
10537018065	BW20ML-119(0-0.5)	Solid	10/21/20 11:50	10/27/20 14:15
10537018066	BW20ML-119(0.5-0.88)	Solid	10/21/20 11:55	10/27/20 14:15
10537018069	RB-102120	Water	10/21/20 17:00	10/27/20 14:15
10537018070	BW20ML-006(0-0.3)	Solid	10/22/20 10:40	10/27/20 14:15
10537018071	RB-102220	Water	10/22/20 17:00	10/27/20 14:15
10537018072	BW20ML-133(0-0.3)	Solid	10/22/20 10:15	10/27/20 14:15
10537018073	BW20ML-133(0.3-0.6)	Solid	10/22/20 10:20	10/27/20 14:15
10537018074	BW20ML-133(0.6-0.83)	Solid	10/22/20 10:25	10/27/20 14:15
10537018076	BW20ML-121(0-0.35)	Solid	10/22/20 15:35	10/27/20 14:15
10537018077	BW20ML-137(0.3-0.65)	Solid	10/21/20 16:10	10/27/20 14:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10537018001	BW20ML-114(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018002	BW20ML-114(0.3-0.65)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018005	BW20ML-076(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018006	BW20ML-076(0.5-0.9)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018008	BW20ML-116(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018009	BW20ML-116(0.3-0.6)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018010	BW20ML-116(0.6-0.9)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018012	BW20ML-007(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018013	BW20ML-123(0-0.35)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018014	BW20ML-123(0.35-0.65)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018015	BW20ML-123(0.65-0.95)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018016	BW20ML-123(0.95-1.25)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018017	BW20ML-127(0-0.35)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018018	BW20ML-127(0.35-0.7)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018023	BW20ML-049(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018024	BW20ML-049(0.3-0.6)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018027	BW20ML-038(0-0.35)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018028	BW20ML-038(0.35-0.65)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018031	BW20ML-121(0.35-0.6)	EPA 8082A	RAG	12

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		ASTM D2974	JDL	1
10537018032	BW20ML-121(0.6-0.9)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018033	BW20ML-121(0.9-1.2)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018034	BW20ML-118(1.2-1.35)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018036	BW20ML-115(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018037	BW20ML-115(0.3-0.6)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018040	BW20ML-117(0-0.35)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018041	BW20ML-117(0.35-0.6)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018045	BW20ML-134(0-0.42)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018046	BW20ML-134(0.42-0.6)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018049	BW20ML-135(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018050	BW20ML-135(0.3-0.52)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018053	BW20ML-137(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018054	BW20ML-137(0.65-0.95)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018056	BW20ML-140(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018057	BW20ML-140(0.4-0.65)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018058	BW20ML-140(0.65-0.9)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018059	BW20ML-140(0.9-1.2)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018061	BW20ML-005(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1

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SAMPLE ANALYTE COUNT

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10537018063	BW20ML-141(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018064	BW20ML-141(0.4-0.7)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018065	BW20ML-119(0-0.5)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018066	BW20ML-119(0.5-0.88)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018069	RB-102120	EPA 8082A	RAG	12
10537018070	BW20ML-006(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018071	RB-102220	EPA 8082A	RAG	12
10537018072	BW20ML-133(0-0.3)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018073	BW20ML-133(0.3-0.6)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018074	BW20ML-133(0.6-0.83)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018076	BW20ML-121(0-0.35)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1
10537018077	BW20ML-137(0.3-0.65)	EPA 8082A	RAG	12
		ASTM D2974	JDL	1

PASI-M = Pace Analytical Services - Minneapolis

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PROJECT NARRATIVE

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Bay West LLC

Date: December 02, 2020

General Information:

49 samples were analyzed for EPA 8082A by Pace Analytical Services Minneapolis. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA Mod. 3510C with any exceptions noted below.

The samples were prepared in accordance with EPA 3550 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 707485

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10537018072

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 3780364)
 - PCB-1016 (Aroclor 1016)
 - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 3780365)
 - PCB-1016 (Aroclor 1016)
 - PCB-1260 (Aroclor 1260)

R1: RPD value was outside control limits.

- MSD (Lab ID: 3780365)
 - PCB-1260 (Aroclor 1260)

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PROJECT NARRATIVE

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Method: EPA 8082A

Description: 8082A GCS PCB

Client: Bay West LLC

Date: December 02, 2020

QC Batch: 707814

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Additional Comments:

Analyte Comments:

QC Batch: 707485

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 3780364)
 - PCB-1260 (Aroclor 1260)
- MSD (Lab ID: 3780365)
 - PCB-1260 (Aroclor 1260)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-114(0-0.3) **Lab ID: 10537018001** Collected: 10/21/20 09:10 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<62.7	ug/kg	62.7	17.4	1	10/28/20 13:15	10/30/20 09:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<62.7	ug/kg	62.7	22.0	1	10/28/20 13:15	10/30/20 09:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<62.7	ug/kg	62.7	25.1	1	10/28/20 13:15	10/30/20 09:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<62.7	ug/kg	62.7	21.3	1	10/28/20 13:15	10/30/20 09:09	53469-21-9	
PCB-1248 (Aroclor 1248)	<62.7	ug/kg	62.7	18.8	1	10/28/20 13:15	10/30/20 09:09	12672-29-6	
PCB-1254 (Aroclor 1254)	<62.7	ug/kg	62.7	18.4	1	10/28/20 13:15	10/30/20 09:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<62.7	ug/kg	62.7	15.0	1	10/28/20 13:15	10/30/20 09:09	11096-82-5	
PCB-1262 (Aroclor 1262)	<62.7	ug/kg	62.7	21.6	1	10/28/20 13:15	10/30/20 09:09	37324-23-5	
PCB-1268 (Aroclor 1268)	<62.7	ug/kg	62.7	20.3	1	10/28/20 13:15	10/30/20 09:09	11100-14-4	
PCB, Total	<62.7	ug/kg	62.7	15.0	1	10/28/20 13:15	10/30/20 09:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	46-146		1	10/28/20 13:15	10/30/20 09:09	877-09-8	
Decachlorobiphenyl (S)	82	%	48-139		1	10/28/20 13:15	10/30/20 09:09	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	47.6	%	0.10	0.10	1		11/06/20 10:53		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-114(0.3-0.65) Lab ID: 10537018002 Collected: 10/21/20 09:15 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<47.7	ug/kg	47.7	13.3	1	10/28/20 13:15	10/30/20 09:25	12674-11-2	
PCB-1221 (Aroclor 1221)	<47.7	ug/kg	47.7	16.8	1	10/28/20 13:15	10/30/20 09:25	11104-28-2	
PCB-1232 (Aroclor 1232)	<47.7	ug/kg	47.7	19.1	1	10/28/20 13:15	10/30/20 09:25	11141-16-5	
PCB-1242 (Aroclor 1242)	<47.7	ug/kg	47.7	16.2	1	10/28/20 13:15	10/30/20 09:25	53469-21-9	
PCB-1248 (Aroclor 1248)	<47.7	ug/kg	47.7	14.3	1	10/28/20 13:15	10/30/20 09:25	12672-29-6	
PCB-1254 (Aroclor 1254)	<47.7	ug/kg	47.7	14.0	1	10/28/20 13:15	10/30/20 09:25	11097-69-1	
PCB-1260 (Aroclor 1260)	<47.7	ug/kg	47.7	11.4	1	10/28/20 13:15	10/30/20 09:25	11096-82-5	
PCB-1262 (Aroclor 1262)	<47.7	ug/kg	47.7	16.5	1	10/28/20 13:15	10/30/20 09:25	37324-23-5	
PCB-1268 (Aroclor 1268)	<47.7	ug/kg	47.7	15.5	1	10/28/20 13:15	10/30/20 09:25	11100-14-4	
PCB, Total	<47.7	ug/kg	47.7	11.4	1	10/28/20 13:15	10/30/20 09:25	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80	%	46-146		1	10/28/20 13:15	10/30/20 09:25	877-09-8	
Decachlorobiphenyl (S)	90	%	48-139		1	10/28/20 13:15	10/30/20 09:25	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.1	%	0.10	0.10	1		11/06/20 10:53		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-076(0-0.3) **Lab ID: 10537018005** Collected: 10/22/20 12:10 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<93.9	ug/kg	93.9	26.2	1	10/28/20 13:15	10/30/20 10:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<93.9	ug/kg	93.9	33.0	1	10/28/20 13:15	10/30/20 10:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<93.9	ug/kg	93.9	37.6	1	10/28/20 13:15	10/30/20 10:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<93.9	ug/kg	93.9	31.9	1	10/28/20 13:15	10/30/20 10:13	53469-21-9	
PCB-1248 (Aroclor 1248)	<93.9	ug/kg	93.9	28.2	1	10/28/20 13:15	10/30/20 10:13	12672-29-6	
PCB-1254 (Aroclor 1254)	<93.9	ug/kg	93.9	27.6	1	10/28/20 13:15	10/30/20 10:13	11097-69-1	
PCB-1260 (Aroclor 1260)	11900	ug/kg	470	112	5	10/28/20 13:15	11/02/20 09:41	11096-82-5	
PCB-1262 (Aroclor 1262)	<93.9	ug/kg	93.9	32.5	1	10/28/20 13:15	10/30/20 10:13	37324-23-5	
PCB-1268 (Aroclor 1268)	<93.9	ug/kg	93.9	30.5	1	10/28/20 13:15	10/30/20 10:13	11100-14-4	
PCB, Total	11900	ug/kg	470	112	5	10/28/20 13:15	11/02/20 09:41	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	46-146		1	10/28/20 13:15	10/30/20 10:13	877-09-8	
Decachlorobiphenyl (S)	103	%	48-139		1	10/28/20 13:15	10/30/20 10:13	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	65.2	%	0.10	0.10	1		11/06/20 10:53		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-076(0.5-0.9) **Lab ID: 10537018006** Collected: 10/22/20 12:15 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<118	ug/kg	118	32.7	1	10/28/20 13:15	10/30/20 10:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<118	ug/kg	118	41.3	1	10/28/20 13:15	10/30/20 10:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<118	ug/kg	118	47.0	1	10/28/20 13:15	10/30/20 10:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<118	ug/kg	118	39.9	1	10/28/20 13:15	10/30/20 10:28	53469-21-9	
PCB-1248 (Aroclor 1248)	<118	ug/kg	118	35.3	1	10/28/20 13:15	10/30/20 10:28	12672-29-6	
PCB-1254 (Aroclor 1254)	<118	ug/kg	118	34.6	1	10/28/20 13:15	10/30/20 10:28	11097-69-1	
PCB-1260 (Aroclor 1260)	<118	ug/kg	118	28.1	1	10/28/20 13:15	10/30/20 10:28	11096-82-5	
PCB-1262 (Aroclor 1262)	<118	ug/kg	118	40.6	1	10/28/20 13:15	10/30/20 10:28	37324-23-5	
PCB-1268 (Aroclor 1268)	<118	ug/kg	118	38.1	1	10/28/20 13:15	10/30/20 10:28	11100-14-4	
PCB, Total	<118	ug/kg	118	28.1	1	10/28/20 13:15	10/30/20 10:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	46-146		1	10/28/20 13:15	10/30/20 10:28	877-09-8	
Decachlorobiphenyl (S)	82	%	48-139		1	10/28/20 13:15	10/30/20 10:28	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	72.0	%	0.10	0.10	1		11/06/20 10:53		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-116(0-0.3) **Lab ID: 10537018008** Collected: 10/22/20 08:30 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<69.2	ug/kg	69.2	19.3	1	10/30/20 13:18	11/02/20 12:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<69.2	ug/kg	69.2	24.3	1	10/30/20 13:18	11/02/20 12:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<69.2	ug/kg	69.2	27.7	1	10/30/20 13:18	11/02/20 12:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<69.2	ug/kg	69.2	23.5	1	10/30/20 13:18	11/02/20 12:34	53469-21-9	
PCB-1248 (Aroclor 1248)	<69.2	ug/kg	69.2	20.8	1	10/30/20 13:18	11/02/20 12:34	12672-29-6	
PCB-1254 (Aroclor 1254)	<69.2	ug/kg	69.2	20.4	1	10/30/20 13:18	11/02/20 12:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<69.2	ug/kg	69.2	16.5	1	10/30/20 13:18	11/02/20 12:34	11096-82-5	
PCB-1262 (Aroclor 1262)	<69.2	ug/kg	69.2	23.9	1	10/30/20 13:18	11/02/20 12:34	37324-23-5	
PCB-1268 (Aroclor 1268)	<69.2	ug/kg	69.2	22.4	1	10/30/20 13:18	11/02/20 12:34	11100-14-4	
PCB, Total	<69.2	ug/kg	69.2	16.5	1	10/30/20 13:18	11/02/20 12:34	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	46-146		1	10/30/20 13:18	11/02/20 12:34	877-09-8	
Decachlorobiphenyl (S)	87	%	48-139		1	10/30/20 13:18	11/02/20 12:34	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	52.5	%	0.10	0.10	1		11/06/20 10:53		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-116(0.3-0.6) **Lab ID: 10537018009** Collected: 10/22/20 08:35 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<47.9	ug/kg	47.9	13.3	1	10/28/20 13:15	10/30/20 11:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<47.9	ug/kg	47.9	16.8	1	10/28/20 13:15	10/30/20 11:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<47.9	ug/kg	47.9	19.2	1	10/28/20 13:15	10/30/20 11:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<47.9	ug/kg	47.9	16.3	1	10/28/20 13:15	10/30/20 11:00	53469-21-9	
PCB-1248 (Aroclor 1248)	<47.9	ug/kg	47.9	14.4	1	10/28/20 13:15	10/30/20 11:00	12672-29-6	
PCB-1254 (Aroclor 1254)	<47.9	ug/kg	47.9	14.1	1	10/28/20 13:15	10/30/20 11:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<47.9	ug/kg	47.9	11.5	1	10/28/20 13:15	10/30/20 11:00	11096-82-5	
PCB-1262 (Aroclor 1262)	<47.9	ug/kg	47.9	16.6	1	10/28/20 13:15	10/30/20 11:00	37324-23-5	
PCB-1268 (Aroclor 1268)	<47.9	ug/kg	47.9	15.5	1	10/28/20 13:15	10/30/20 11:00	11100-14-4	
PCB, Total	<47.9	ug/kg	47.9	11.5	1	10/28/20 13:15	10/30/20 11:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	46-146		1	10/28/20 13:15	10/30/20 11:00	877-09-8	
Decachlorobiphenyl (S)	91	%	48-139		1	10/28/20 13:15	10/30/20 11:00	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.5	%	0.10	0.10	1		11/06/20 10:54		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-116(0.6-0.9) Lab ID: 10537018010 Collected: 10/22/20 08:40 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<59.0	ug/kg	59.0	16.4	1	10/28/20 13:15	10/30/20 11:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<59.0	ug/kg	59.0	20.8	1	10/28/20 13:15	10/30/20 11:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<59.0	ug/kg	59.0	23.6	1	10/28/20 13:15	10/30/20 11:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<59.0	ug/kg	59.0	20.0	1	10/28/20 13:15	10/30/20 11:16	53469-21-9	
PCB-1248 (Aroclor 1248)	<59.0	ug/kg	59.0	17.7	1	10/28/20 13:15	10/30/20 11:16	12672-29-6	
PCB-1254 (Aroclor 1254)	<59.0	ug/kg	59.0	17.4	1	10/28/20 13:15	10/30/20 11:16	11097-69-1	
PCB-1260 (Aroclor 1260)	<59.0	ug/kg	59.0	14.1	1	10/28/20 13:15	10/30/20 11:16	11096-82-5	
PCB-1262 (Aroclor 1262)	<59.0	ug/kg	59.0	20.4	1	10/28/20 13:15	10/30/20 11:16	37324-23-5	
PCB-1268 (Aroclor 1268)	<59.0	ug/kg	59.0	19.1	1	10/28/20 13:15	10/30/20 11:16	11100-14-4	
PCB, Total	<59.0	ug/kg	59.0	14.1	1	10/28/20 13:15	10/30/20 11:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	46-146		1	10/28/20 13:15	10/30/20 11:16	877-09-8	
Decachlorobiphenyl (S)	88	%	48-139		1	10/28/20 13:15	10/30/20 11:16	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	44.7	%	0.10	0.10	1		11/06/20 10:54		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-007(0-0.3) **Lab ID: 10537018012** Collected: 10/22/20 08:30 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<69.1	ug/kg	69.1	19.2	1	10/28/20 13:15	10/30/20 11:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<69.1	ug/kg	69.1	24.3	1	10/28/20 13:15	10/30/20 11:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<69.1	ug/kg	69.1	27.6	1	10/28/20 13:15	10/30/20 11:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<69.1	ug/kg	69.1	23.4	1	10/28/20 13:15	10/30/20 11:31	53469-21-9	
PCB-1248 (Aroclor 1248)	<69.1	ug/kg	69.1	20.7	1	10/28/20 13:15	10/30/20 11:31	12672-29-6	
PCB-1254 (Aroclor 1254)	<69.1	ug/kg	69.1	20.3	1	10/28/20 13:15	10/30/20 11:31	11097-69-1	
PCB-1260 (Aroclor 1260)	32300	ug/kg	1380	330	20	10/28/20 13:15	11/02/20 09:56	11096-82-5	
PCB-1262 (Aroclor 1262)	<69.1	ug/kg	69.1	23.9	1	10/28/20 13:15	10/30/20 11:31	37324-23-5	
PCB-1268 (Aroclor 1268)	<69.1	ug/kg	69.1	22.4	1	10/28/20 13:15	10/30/20 11:31	11100-14-4	
PCB, Total	32300	ug/kg	1380	330	20	10/28/20 13:15	11/02/20 09:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	46-146		1	10/28/20 13:15	10/30/20 11:31	877-09-8	
Decachlorobiphenyl (S)	93	%	48-139		1	10/28/20 13:15	10/30/20 11:31	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	52.5	%	0.10	0.10	1		11/06/20 10:54		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-123(0-0.35) **Lab ID: 10537018013** Collected: 10/22/20 09:05 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<45.9	ug/kg	45.9	12.8	1	10/28/20 13:15	10/30/20 11:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<45.9	ug/kg	45.9	16.1	1	10/28/20 13:15	10/30/20 11:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<45.9	ug/kg	45.9	18.3	1	10/28/20 13:15	10/30/20 11:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<45.9	ug/kg	45.9	15.6	1	10/28/20 13:15	10/30/20 11:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<45.9	ug/kg	45.9	13.8	1	10/28/20 13:15	10/30/20 11:47	12672-29-6	
PCB-1254 (Aroclor 1254)	<45.9	ug/kg	45.9	13.5	1	10/28/20 13:15	10/30/20 11:47	11097-69-1	
PCB-1260 (Aroclor 1260)	73.8	ug/kg	45.9	11.0	1	10/28/20 13:15	10/30/20 11:47	11096-82-5	
PCB-1262 (Aroclor 1262)	<45.9	ug/kg	45.9	15.8	1	10/28/20 13:15	10/30/20 11:47	37324-23-5	
PCB-1268 (Aroclor 1268)	<45.9	ug/kg	45.9	14.9	1	10/28/20 13:15	10/30/20 11:47	11100-14-4	
PCB, Total	73.8	ug/kg	45.9	11.0	1	10/28/20 13:15	10/30/20 11:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	46-146		1	10/28/20 13:15	10/30/20 11:47	877-09-8	
Decachlorobiphenyl (S)	89	%	48-139		1	10/28/20 13:15	10/30/20 11:47	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	28.8	%	0.10	0.10	1		11/06/20 10:54		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-123(0.35-0.65) Lab ID: 10537018014 Collected: 10/22/20 09:10 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<55.3	ug/kg	55.3	15.4	1	10/28/20 13:15	10/30/20 12:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<55.3	ug/kg	55.3	19.4	1	10/28/20 13:15	10/30/20 12:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<55.3	ug/kg	55.3	22.1	1	10/28/20 13:15	10/30/20 12:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<55.3	ug/kg	55.3	18.8	1	10/28/20 13:15	10/30/20 12:03	53469-21-9	
PCB-1248 (Aroclor 1248)	<55.3	ug/kg	55.3	16.6	1	10/28/20 13:15	10/30/20 12:03	12672-29-6	
PCB-1254 (Aroclor 1254)	<55.3	ug/kg	55.3	16.3	1	10/28/20 13:15	10/30/20 12:03	11097-69-1	
PCB-1260 (Aroclor 1260)	<55.3	ug/kg	55.3	13.2	1	10/28/20 13:15	10/30/20 12:03	11096-82-5	
PCB-1262 (Aroclor 1262)	<55.3	ug/kg	55.3	19.1	1	10/28/20 13:15	10/30/20 12:03	37324-23-5	
PCB-1268 (Aroclor 1268)	<55.3	ug/kg	55.3	17.9	1	10/28/20 13:15	10/30/20 12:03	11100-14-4	
PCB, Total	<55.3	ug/kg	55.3	13.2	1	10/28/20 13:15	10/30/20 12:03	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	46-146		1	10/28/20 13:15	10/30/20 12:03	877-09-8	
Decachlorobiphenyl (S)	88	%	48-139		1	10/28/20 13:15	10/30/20 12:03	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	40.6	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-123(0.65-0.95) Lab ID: 10537018015 Collected: 10/22/20 09:15 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<124	ug/kg	124	34.5	1	10/28/20 13:15	10/30/20 12:19	12674-11-2	
PCB-1221 (Aroclor 1221)	<124	ug/kg	124	43.6	1	10/28/20 13:15	10/30/20 12:19	11104-28-2	
PCB-1232 (Aroclor 1232)	<124	ug/kg	124	49.6	1	10/28/20 13:15	10/30/20 12:19	11141-16-5	
PCB-1242 (Aroclor 1242)	<124	ug/kg	124	42.1	1	10/28/20 13:15	10/30/20 12:19	53469-21-9	
PCB-1248 (Aroclor 1248)	<124	ug/kg	124	37.2	1	10/28/20 13:15	10/30/20 12:19	12672-29-6	
PCB-1254 (Aroclor 1254)	<124	ug/kg	124	36.5	1	10/28/20 13:15	10/30/20 12:19	11097-69-1	
PCB-1260 (Aroclor 1260)	420	ug/kg	124	29.6	1	10/28/20 13:15	10/30/20 12:19	11096-82-5	
PCB-1262 (Aroclor 1262)	<124	ug/kg	124	42.8	1	10/28/20 13:15	10/30/20 12:19	37324-23-5	
PCB-1268 (Aroclor 1268)	<124	ug/kg	124	40.2	1	10/28/20 13:15	10/30/20 12:19	11100-14-4	
PCB, Total	420	ug/kg	124	29.6	1	10/28/20 13:15	10/30/20 12:19	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	46-146		1	10/28/20 13:15	10/30/20 12:19	877-09-8	
Decachlorobiphenyl (S)	70	%	48-139		1	10/28/20 13:15	10/30/20 12:19	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	73.4	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-123(0.95-1.25) Lab ID: 10537018016 Collected: 10/22/20 09:20 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<124	ug/kg	124	34.6	1	11/19/20 16:05	11/20/20 18:00	12674-11-2	
PCB-1221 (Aroclor 1221)	<124	ug/kg	124	43.7	1	11/19/20 16:05	11/20/20 18:00	11104-28-2	
PCB-1232 (Aroclor 1232)	<124	ug/kg	124	49.7	1	11/19/20 16:05	11/20/20 18:00	11141-16-5	
PCB-1242 (Aroclor 1242)	<124	ug/kg	124	42.2	1	11/19/20 16:05	11/20/20 18:00	53469-21-9	
PCB-1248 (Aroclor 1248)	<124	ug/kg	124	37.3	1	11/19/20 16:05	11/20/20 18:00	12672-29-6	
PCB-1254 (Aroclor 1254)	<124	ug/kg	124	36.6	1	11/19/20 16:05	11/20/20 18:00	11097-69-1	
PCB-1260 (Aroclor 1260)	<124	ug/kg	124	29.7	1	11/19/20 16:05	11/20/20 18:00	11096-82-5	
PCB-1262 (Aroclor 1262)	<124	ug/kg	124	43.0	1	11/19/20 16:05	11/20/20 18:00	37324-23-5	
PCB-1268 (Aroclor 1268)	<124	ug/kg	124	40.3	1	11/19/20 16:05	11/20/20 18:00	11100-14-4	
PCB, Total	<124	ug/kg	124	29.7	1	11/19/20 16:05	11/20/20 18:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	73	%	46-146		1	11/19/20 16:05	11/20/20 18:00	877-09-8	
Decachlorobiphenyl (S)	63	%	48-139		1	11/19/20 16:05	11/20/20 18:00	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	73.6	%	0.10	0.10	1		11/19/20 13:21		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-127(0-0.35) **Lab ID: 10537018017** Collected: 10/21/20 10:35 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<56.0	ug/kg	56.0	15.6	1	10/28/20 13:15	10/30/20 13:06	12674-11-2	
PCB-1221 (Aroclor 1221)	<56.0	ug/kg	56.0	19.7	1	10/28/20 13:15	10/30/20 13:06	11104-28-2	
PCB-1232 (Aroclor 1232)	<56.0	ug/kg	56.0	22.4	1	10/28/20 13:15	10/30/20 13:06	11141-16-5	
PCB-1242 (Aroclor 1242)	<56.0	ug/kg	56.0	19.0	1	10/28/20 13:15	10/30/20 13:06	53469-21-9	
PCB-1248 (Aroclor 1248)	<56.0	ug/kg	56.0	16.8	1	10/28/20 13:15	10/30/20 13:06	12672-29-6	
PCB-1254 (Aroclor 1254)	<56.0	ug/kg	56.0	16.5	1	10/28/20 13:15	10/30/20 13:06	11097-69-1	
PCB-1260 (Aroclor 1260)	35.2J	ug/kg	56.0	13.4	1	10/28/20 13:15	10/30/20 13:06	11096-82-5	
PCB-1262 (Aroclor 1262)	<56.0	ug/kg	56.0	19.3	1	10/28/20 13:15	10/30/20 13:06	37324-23-5	
PCB-1268 (Aroclor 1268)	<56.0	ug/kg	56.0	18.1	1	10/28/20 13:15	10/30/20 13:06	11100-14-4	
PCB, Total	35.2J	ug/kg	56.0	13.4	1	10/28/20 13:15	10/30/20 13:06	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	72	%	46-146		1	10/28/20 13:15	10/30/20 13:06	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	10/28/20 13:15	10/30/20 13:06	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	41.4	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-127(0.35-0.7) Lab ID: 10537018018 Collected: 10/21/20 10:40 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<46.0	ug/kg	46.0	12.8	1	10/28/20 13:15	10/30/20 13:22	12674-11-2	
PCB-1221 (Aroclor 1221)	<46.0	ug/kg	46.0	16.2	1	10/28/20 13:15	10/30/20 13:22	11104-28-2	
PCB-1232 (Aroclor 1232)	<46.0	ug/kg	46.0	18.4	1	10/28/20 13:15	10/30/20 13:22	11141-16-5	
PCB-1242 (Aroclor 1242)	<46.0	ug/kg	46.0	15.6	1	10/28/20 13:15	10/30/20 13:22	53469-21-9	
PCB-1248 (Aroclor 1248)	<46.0	ug/kg	46.0	13.8	1	10/28/20 13:15	10/30/20 13:22	12672-29-6	
PCB-1254 (Aroclor 1254)	<46.0	ug/kg	46.0	13.5	1	10/28/20 13:15	10/30/20 13:22	11097-69-1	
PCB-1260 (Aroclor 1260)	<46.0	ug/kg	46.0	11.0	1	10/28/20 13:15	10/30/20 13:22	11096-82-5	
PCB-1262 (Aroclor 1262)	<46.0	ug/kg	46.0	15.9	1	10/28/20 13:15	10/30/20 13:22	37324-23-5	
PCB-1268 (Aroclor 1268)	<46.0	ug/kg	46.0	14.9	1	10/28/20 13:15	10/30/20 13:22	11100-14-4	
PCB, Total	<46.0	ug/kg	46.0	11.0	1	10/28/20 13:15	10/30/20 13:22	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	70	%	46-146		1	10/28/20 13:15	10/30/20 13:22	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	10/28/20 13:15	10/30/20 13:22	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	28.6	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-049(0-0.3) **Lab ID: 10537018023** Collected: 10/22/20 14:05 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<53.8	ug/kg	53.8	15.0	1	10/28/20 13:15	10/30/20 13:38	12674-11-2	
PCB-1221 (Aroclor 1221)	<53.8	ug/kg	53.8	18.9	1	10/28/20 13:15	10/30/20 13:38	11104-28-2	
PCB-1232 (Aroclor 1232)	<53.8	ug/kg	53.8	21.5	1	10/28/20 13:15	10/30/20 13:38	11141-16-5	
PCB-1242 (Aroclor 1242)	<53.8	ug/kg	53.8	18.2	1	10/28/20 13:15	10/30/20 13:38	53469-21-9	
PCB-1248 (Aroclor 1248)	<53.8	ug/kg	53.8	16.1	1	10/28/20 13:15	10/30/20 13:38	12672-29-6	
PCB-1254 (Aroclor 1254)	<53.8	ug/kg	53.8	15.8	1	10/28/20 13:15	10/30/20 13:38	11097-69-1	
PCB-1260 (Aroclor 1260)	36.4J	ug/kg	53.8	12.9	1	10/28/20 13:15	10/30/20 13:38	11096-82-5	
PCB-1262 (Aroclor 1262)	<53.8	ug/kg	53.8	18.6	1	10/28/20 13:15	10/30/20 13:38	37324-23-5	
PCB-1268 (Aroclor 1268)	<53.8	ug/kg	53.8	17.4	1	10/28/20 13:15	10/30/20 13:38	11100-14-4	
PCB, Total	36.4J	ug/kg	53.8	12.9	1	10/28/20 13:15	10/30/20 13:38	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	46-146		1	10/28/20 13:15	10/30/20 13:38	877-09-8	
Decachlorobiphenyl (S)	96	%	48-139		1	10/28/20 13:15	10/30/20 13:38	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	38.8	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-049(0.3-0.6) **Lab ID: 10537018024** Collected: 10/22/20 14:10 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<46.1	ug/kg	46.1	12.8	1	10/28/20 13:15	10/30/20 13:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<46.1	ug/kg	46.1	16.2	1	10/28/20 13:15	10/30/20 13:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<46.1	ug/kg	46.1	18.5	1	10/28/20 13:15	10/30/20 13:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<46.1	ug/kg	46.1	15.7	1	10/28/20 13:15	10/30/20 13:53	53469-21-9	
PCB-1248 (Aroclor 1248)	<46.1	ug/kg	46.1	13.8	1	10/28/20 13:15	10/30/20 13:53	12672-29-6	
PCB-1254 (Aroclor 1254)	<46.1	ug/kg	46.1	13.6	1	10/28/20 13:15	10/30/20 13:53	11097-69-1	
PCB-1260 (Aroclor 1260)	<46.1	ug/kg	46.1	11.0	1	10/28/20 13:15	10/30/20 13:53	11096-82-5	
PCB-1262 (Aroclor 1262)	<46.1	ug/kg	46.1	15.9	1	10/28/20 13:15	10/30/20 13:53	37324-23-5	
PCB-1268 (Aroclor 1268)	<46.1	ug/kg	46.1	15.0	1	10/28/20 13:15	10/30/20 13:53	11100-14-4	
PCB, Total	<46.1	ug/kg	46.1	11.0	1	10/28/20 13:15	10/30/20 13:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80	%	46-146		1	10/28/20 13:15	10/30/20 13:53	877-09-8	
Decachlorobiphenyl (S)	95	%	48-139		1	10/28/20 13:15	10/30/20 13:53	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	29.4	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-038(0-0.35) **Lab ID: 10537018027** Collected: 10/22/20 14:30 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<45.9	ug/kg	45.9	12.8	1	10/28/20 13:15	10/30/20 14:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<45.9	ug/kg	45.9	16.2	1	10/28/20 13:15	10/30/20 14:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<45.9	ug/kg	45.9	18.4	1	10/28/20 13:15	10/30/20 14:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<45.9	ug/kg	45.9	15.6	1	10/28/20 13:15	10/30/20 14:09	53469-21-9	
PCB-1248 (Aroclor 1248)	<45.9	ug/kg	45.9	13.8	1	10/28/20 13:15	10/30/20 14:09	12672-29-6	
PCB-1254 (Aroclor 1254)	<45.9	ug/kg	45.9	13.5	1	10/28/20 13:15	10/30/20 14:09	11097-69-1	
PCB-1260 (Aroclor 1260)	23.9J	ug/kg	45.9	11.0	1	10/28/20 13:15	10/30/20 14:09	11096-82-5	
PCB-1262 (Aroclor 1262)	<45.9	ug/kg	45.9	15.9	1	10/28/20 13:15	10/30/20 14:09	37324-23-5	
PCB-1268 (Aroclor 1268)	<45.9	ug/kg	45.9	14.9	1	10/28/20 13:15	10/30/20 14:09	11100-14-4	
PCB, Total	23.9J	ug/kg	45.9	11.0	1	10/28/20 13:15	10/30/20 14:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	46-146		1	10/28/20 13:15	10/30/20 14:09	877-09-8	
Decachlorobiphenyl (S)	89	%	48-139		1	10/28/20 13:15	10/30/20 14:09	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	28.5	%	0.10	0.10	1		11/06/20 10:55		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-038(0.35-0.65) Lab ID: 10537018028 Collected: 10/22/20 14:35 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<44.9	ug/kg	44.9	12.5	1	10/29/20 13:30	10/31/20 02:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<44.9	ug/kg	44.9	15.8	1	10/29/20 13:30	10/31/20 02:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<44.9	ug/kg	44.9	18.0	1	10/29/20 13:30	10/31/20 02:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<44.9	ug/kg	44.9	15.2	1	10/29/20 13:30	10/31/20 02:31	53469-21-9	
PCB-1248 (Aroclor 1248)	<44.9	ug/kg	44.9	13.5	1	10/29/20 13:30	10/31/20 02:31	12672-29-6	
PCB-1254 (Aroclor 1254)	<44.9	ug/kg	44.9	13.2	1	10/29/20 13:30	10/31/20 02:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<44.9	ug/kg	44.9	10.7	1	10/29/20 13:30	10/31/20 02:31	11096-82-5	
PCB-1262 (Aroclor 1262)	<44.9	ug/kg	44.9	15.5	1	10/29/20 13:30	10/31/20 02:31	37324-23-5	
PCB-1268 (Aroclor 1268)	<44.9	ug/kg	44.9	14.6	1	10/29/20 13:30	10/31/20 02:31	11100-14-4	
PCB, Total	<44.9	ug/kg	44.9	10.7	1	10/29/20 13:30	10/31/20 02:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	72	%	46-146		1	10/29/20 13:30	10/31/20 02:31	877-09-8	
Decachlorobiphenyl (S)	82	%	48-139		1	10/29/20 13:30	10/31/20 02:31	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	27.0	%	0.10	0.10	1		11/06/20 10:56		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-121(0.35-0.6) Lab ID: 10537018031 Collected: 10/22/20 15:40 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<71.0	ug/kg	71.0	19.8	1	10/28/20 13:15	10/30/20 14:41	12674-11-2	
PCB-1221 (Aroclor 1221)	<71.0	ug/kg	71.0	25.0	1	10/28/20 13:15	10/30/20 14:41	11104-28-2	
PCB-1232 (Aroclor 1232)	<71.0	ug/kg	71.0	28.4	1	10/28/20 13:15	10/30/20 14:41	11141-16-5	
PCB-1242 (Aroclor 1242)	<71.0	ug/kg	71.0	24.1	1	10/28/20 13:15	10/30/20 14:41	53469-21-9	
PCB-1248 (Aroclor 1248)	<71.0	ug/kg	71.0	21.3	1	10/28/20 13:15	10/30/20 14:41	12672-29-6	
PCB-1254 (Aroclor 1254)	<71.0	ug/kg	71.0	20.9	1	10/28/20 13:15	10/30/20 14:41	11097-69-1	
PCB-1260 (Aroclor 1260)	7230	ug/kg	355	84.9	5	10/28/20 13:15	11/02/20 10:12	11096-82-5	
PCB-1262 (Aroclor 1262)	<71.0	ug/kg	71.0	24.5	1	10/28/20 13:15	10/30/20 14:41	37324-23-5	
PCB-1268 (Aroclor 1268)	<71.0	ug/kg	71.0	23.0	1	10/28/20 13:15	10/30/20 14:41	11100-14-4	
PCB, Total	7230	ug/kg	355	84.9	5	10/28/20 13:15	11/02/20 10:12	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	46-146		1	10/28/20 13:15	10/30/20 14:41	877-09-8	
Decachlorobiphenyl (S)	90	%	48-139		1	10/28/20 13:15	10/30/20 14:41	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	53.9	%	0.10	0.10	1		11/06/20 10:56		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-121(0.6-0.9) **Lab ID: 10537018032** Collected: 10/22/20 15:45 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<49.3	ug/kg	49.3	13.7	1	10/28/20 13:15	10/30/20 14:56	12674-11-2	
PCB-1221 (Aroclor 1221)	<49.3	ug/kg	49.3	17.3	1	10/28/20 13:15	10/30/20 14:56	11104-28-2	
PCB-1232 (Aroclor 1232)	<49.3	ug/kg	49.3	19.7	1	10/28/20 13:15	10/30/20 14:56	11141-16-5	
PCB-1242 (Aroclor 1242)	<49.3	ug/kg	49.3	16.7	1	10/28/20 13:15	10/30/20 14:56	53469-21-9	
PCB-1248 (Aroclor 1248)	<49.3	ug/kg	49.3	14.8	1	10/28/20 13:15	10/30/20 14:56	12672-29-6	
PCB-1254 (Aroclor 1254)	<49.3	ug/kg	49.3	14.5	1	10/28/20 13:15	10/30/20 14:56	11097-69-1	
PCB-1260 (Aroclor 1260)	330	ug/kg	49.3	11.8	1	10/28/20 13:15	10/30/20 14:56	11096-82-5	
PCB-1262 (Aroclor 1262)	<49.3	ug/kg	49.3	17.0	1	10/28/20 13:15	10/30/20 14:56	37324-23-5	
PCB-1268 (Aroclor 1268)	<49.3	ug/kg	49.3	16.0	1	10/28/20 13:15	10/30/20 14:56	11100-14-4	
PCB, Total	330	ug/kg	49.3	11.8	1	10/28/20 13:15	10/30/20 14:56	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	46-146		1	10/28/20 13:15	10/30/20 14:56	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	10/28/20 13:15	10/30/20 14:56	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	33.8	%	0.10	0.10	1		11/06/20 10:56		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-121(0.9-1.2) **Lab ID: 10537018033** Collected: 10/22/20 15:50 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<48.2	ug/kg	48.2	13.4	1	11/24/20 10:07	11/25/20 15:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<48.2	ug/kg	48.2	16.9	1	11/24/20 10:07	11/25/20 15:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<48.2	ug/kg	48.2	19.3	1	11/24/20 10:07	11/25/20 15:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<48.2	ug/kg	48.2	16.4	1	11/24/20 10:07	11/25/20 15:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<48.2	ug/kg	48.2	14.5	1	11/24/20 10:07	11/25/20 15:47	12672-29-6	
PCB-1254 (Aroclor 1254)	<48.2	ug/kg	48.2	14.2	1	11/24/20 10:07	11/25/20 15:47	11097-69-1	
PCB-1260 (Aroclor 1260)	<48.2	ug/kg	48.2	11.5	1	11/24/20 10:07	11/25/20 15:47	11096-82-5	
PCB-1262 (Aroclor 1262)	<48.2	ug/kg	48.2	16.6	1	11/24/20 10:07	11/25/20 15:47	37324-23-5	
PCB-1268 (Aroclor 1268)	<48.2	ug/kg	48.2	15.6	1	11/24/20 10:07	11/25/20 15:47	11100-14-4	
PCB, Total	<48.2	ug/kg	48.2	11.5	1	11/24/20 10:07	11/25/20 15:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84	%	46-146		1	11/24/20 10:07	11/25/20 15:47	877-09-8	
Decachlorobiphenyl (S)	81	%	48-139		1	11/24/20 10:07	11/25/20 15:47	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.5	%	0.10	0.10	1		12/01/20 12:08		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-118(1.2-1.35) Lab ID: 10537018034 Collected: 10/22/20 11:30 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<107	ug/kg	107	29.7	1	10/29/20 12:06	10/30/20 19:08	12674-11-2	
PCB-1221 (Aroclor 1221)	<107	ug/kg	107	37.4	1	10/29/20 12:06	10/30/20 19:08	11104-28-2	
PCB-1232 (Aroclor 1232)	<107	ug/kg	107	42.6	1	10/29/20 12:06	10/30/20 19:08	11141-16-5	
PCB-1242 (Aroclor 1242)	<107	ug/kg	107	36.1	1	10/29/20 12:06	10/30/20 19:08	53469-21-9	
PCB-1248 (Aroclor 1248)	<107	ug/kg	107	32.0	1	10/29/20 12:06	10/30/20 19:08	12672-29-6	
PCB-1254 (Aroclor 1254)	<107	ug/kg	107	31.3	1	10/29/20 12:06	10/30/20 19:08	11097-69-1	
PCB-1260 (Aroclor 1260)	343	ug/kg	107	25.5	1	10/29/20 12:06	10/30/20 19:08	11096-82-5	
PCB-1262 (Aroclor 1262)	<107	ug/kg	107	36.8	1	10/29/20 12:06	10/30/20 19:08	37324-23-5	
PCB-1268 (Aroclor 1268)	<107	ug/kg	107	34.5	1	10/29/20 12:06	10/30/20 19:08	11100-14-4	
PCB, Total	343	ug/kg	107	25.5	1	10/29/20 12:06	10/30/20 19:08	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	46-146		1	10/29/20 12:06	10/30/20 19:08	877-09-8	
Decachlorobiphenyl (S)	85	%	48-139		1	10/29/20 12:06	10/30/20 19:08	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	69.2	%	0.10	0.10	1		11/06/20 10:56		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-115(0-0.3) **Lab ID: 10537018036** Collected: 10/21/20 13:55 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<49.0	ug/kg	49.0	13.7	1	10/29/20 12:06	10/30/20 19:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<49.0	ug/kg	49.0	17.2	1	10/29/20 12:06	10/30/20 19:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<49.0	ug/kg	49.0	19.6	1	10/29/20 12:06	10/30/20 19:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<49.0	ug/kg	49.0	16.6	1	10/29/20 12:06	10/30/20 19:24	53469-21-9	
PCB-1248 (Aroclor 1248)	<49.0	ug/kg	49.0	14.7	1	10/29/20 12:06	10/30/20 19:24	12672-29-6	
PCB-1254 (Aroclor 1254)	<49.0	ug/kg	49.0	14.4	1	10/29/20 12:06	10/30/20 19:24	11097-69-1	
PCB-1260 (Aroclor 1260)	<49.0	ug/kg	49.0	11.7	1	10/29/20 12:06	10/30/20 19:24	11096-82-5	
PCB-1262 (Aroclor 1262)	<49.0	ug/kg	49.0	16.9	1	10/29/20 12:06	10/30/20 19:24	37324-23-5	
PCB-1268 (Aroclor 1268)	<49.0	ug/kg	49.0	15.9	1	10/29/20 12:06	10/30/20 19:24	11100-14-4	
PCB, Total	<49.0	ug/kg	49.0	11.7	1	10/29/20 12:06	10/30/20 19:24	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	72	%	46-146		1	10/29/20 12:06	10/30/20 19:24	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	10/29/20 12:06	10/30/20 19:24	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	33.3	%	0.10	0.10	1		11/06/20 12:17		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-115(0.3-0.6) **Lab ID: 10537018037** Collected: 10/21/20 14:00 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<48.0	ug/kg	48.0	13.4	1	10/29/20 12:06	10/30/20 19:40	12674-11-2	
PCB-1221 (Aroclor 1221)	<48.0	ug/kg	48.0	16.9	1	10/29/20 12:06	10/30/20 19:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<48.0	ug/kg	48.0	19.2	1	10/29/20 12:06	10/30/20 19:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<48.0	ug/kg	48.0	16.3	1	10/29/20 12:06	10/30/20 19:40	53469-21-9	
PCB-1248 (Aroclor 1248)	<48.0	ug/kg	48.0	14.4	1	10/29/20 12:06	10/30/20 19:40	12672-29-6	
PCB-1254 (Aroclor 1254)	<48.0	ug/kg	48.0	14.1	1	10/29/20 12:06	10/30/20 19:40	11097-69-1	
PCB-1260 (Aroclor 1260)	<48.0	ug/kg	48.0	11.5	1	10/29/20 12:06	10/30/20 19:40	11096-82-5	
PCB-1262 (Aroclor 1262)	<48.0	ug/kg	48.0	16.6	1	10/29/20 12:06	10/30/20 19:40	37324-23-5	
PCB-1268 (Aroclor 1268)	<48.0	ug/kg	48.0	15.6	1	10/29/20 12:06	10/30/20 19:40	11100-14-4	
PCB, Total	<48.0	ug/kg	48.0	11.5	1	10/29/20 12:06	10/30/20 19:40	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	46-146		1	10/29/20 12:06	10/30/20 19:40	877-09-8	
Decachlorobiphenyl (S)	89	%	48-139		1	10/29/20 12:06	10/30/20 19:40	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.3	%	0.10	0.10	1		11/06/20 12:17		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-117(0-0.35) **Lab ID: 10537018040** Collected: 10/21/20 09:50 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<55.1	ug/kg	55.1	15.4	1	10/29/20 13:30	10/31/20 02:47	12674-11-2	
PCB-1221 (Aroclor 1221)	<55.1	ug/kg	55.1	19.4	1	10/29/20 13:30	10/31/20 02:47	11104-28-2	
PCB-1232 (Aroclor 1232)	<55.1	ug/kg	55.1	22.1	1	10/29/20 13:30	10/31/20 02:47	11141-16-5	
PCB-1242 (Aroclor 1242)	<55.1	ug/kg	55.1	18.7	1	10/29/20 13:30	10/31/20 02:47	53469-21-9	
PCB-1248 (Aroclor 1248)	<55.1	ug/kg	55.1	16.5	1	10/29/20 13:30	10/31/20 02:47	12672-29-6	
PCB-1254 (Aroclor 1254)	<55.1	ug/kg	55.1	16.2	1	10/29/20 13:30	10/31/20 02:47	11097-69-1	
PCB-1260 (Aroclor 1260)	480	ug/kg	55.1	13.2	1	10/29/20 13:30	10/31/20 02:47	11096-82-5	
PCB-1262 (Aroclor 1262)	<55.1	ug/kg	55.1	19.0	1	10/29/20 13:30	10/31/20 02:47	37324-23-5	
PCB-1268 (Aroclor 1268)	<55.1	ug/kg	55.1	17.9	1	10/29/20 13:30	10/31/20 02:47	11100-14-4	
PCB, Total	480	ug/kg	55.1	13.2	1	10/29/20 13:30	10/31/20 02:47	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	72	%	46-146		1	10/29/20 13:30	10/31/20 02:47	877-09-8	
Decachlorobiphenyl (S)	82	%	48-139		1	10/29/20 13:30	10/31/20 02:47	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	40.7	%	0.10	0.10	1		11/06/20 14:26		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-117(0.35-0.6) Lab ID: 10537018041 Collected: 10/21/20 09:55 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<47.5	ug/kg	47.5	13.2	1	10/29/20 13:30	10/31/20 03:03	12674-11-2	
PCB-1221 (Aroclor 1221)	<47.5	ug/kg	47.5	16.7	1	10/29/20 13:30	10/31/20 03:03	11104-28-2	
PCB-1232 (Aroclor 1232)	<47.5	ug/kg	47.5	19.0	1	10/29/20 13:30	10/31/20 03:03	11141-16-5	
PCB-1242 (Aroclor 1242)	<47.5	ug/kg	47.5	16.1	1	10/29/20 13:30	10/31/20 03:03	53469-21-9	
PCB-1248 (Aroclor 1248)	<47.5	ug/kg	47.5	14.3	1	10/29/20 13:30	10/31/20 03:03	12672-29-6	
PCB-1254 (Aroclor 1254)	<47.5	ug/kg	47.5	14.0	1	10/29/20 13:30	10/31/20 03:03	11097-69-1	
PCB-1260 (Aroclor 1260)	<47.5	ug/kg	47.5	11.4	1	10/29/20 13:30	10/31/20 03:03	11096-82-5	
PCB-1262 (Aroclor 1262)	<47.5	ug/kg	47.5	16.4	1	10/29/20 13:30	10/31/20 03:03	37324-23-5	
PCB-1268 (Aroclor 1268)	<47.5	ug/kg	47.5	15.4	1	10/29/20 13:30	10/31/20 03:03	11100-14-4	
PCB, Total	<47.5	ug/kg	47.5	11.4	1	10/29/20 13:30	10/31/20 03:03	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	75	%	46-146		1	10/29/20 13:30	10/31/20 03:03	877-09-8	
Decachlorobiphenyl (S)	88	%	48-139		1	10/29/20 13:30	10/31/20 03:03	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.0	%	0.10	0.10	1		11/06/20 14:27		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-134(0-0.42) Lab ID: 10537018045 Collected: 10/21/20 11:20 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<140	ug/kg	140	39.1	1	10/29/20 12:06	10/30/20 20:27	12674-11-2	
PCB-1221 (Aroclor 1221)	<140	ug/kg	140	49.3	1	10/29/20 12:06	10/30/20 20:27	11104-28-2	
PCB-1232 (Aroclor 1232)	<140	ug/kg	140	56.1	1	10/29/20 12:06	10/30/20 20:27	11141-16-5	
PCB-1242 (Aroclor 1242)	<140	ug/kg	140	47.6	1	10/29/20 12:06	10/30/20 20:27	53469-21-9	
PCB-1248 (Aroclor 1248)	<140	ug/kg	140	42.1	1	10/29/20 12:06	10/30/20 20:27	12672-29-6	
PCB-1254 (Aroclor 1254)	<140	ug/kg	140	41.3	1	10/29/20 12:06	10/30/20 20:27	11097-69-1	
PCB-1260 (Aroclor 1260)	151	ug/kg	140	33.6	1	10/29/20 12:06	10/30/20 20:27	11096-82-5	
PCB-1262 (Aroclor 1262)	<140	ug/kg	140	48.5	1	10/29/20 12:06	10/30/20 20:27	37324-23-5	
PCB-1268 (Aroclor 1268)	<140	ug/kg	140	45.5	1	10/29/20 12:06	10/30/20 20:27	11100-14-4	
PCB, Total	151	ug/kg	140	33.6	1	10/29/20 12:06	10/30/20 20:27	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	46-146		1	10/29/20 12:06	10/30/20 20:27	877-09-8	
Decachlorobiphenyl (S)	94	%	48-139		1	10/29/20 12:06	10/30/20 20:27	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	76.6	%	0.10	0.10	1		11/06/20 12:17		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-134(0.42-0.6) Lab ID: 10537018046 Collected: 10/21/20 11:25 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<196	ug/kg	196	54.6	1	10/29/20 12:06	10/30/20 20:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<196	ug/kg	196	68.9	1	10/29/20 12:06	10/30/20 20:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<196	ug/kg	196	78.4	1	10/29/20 12:06	10/30/20 20:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<196	ug/kg	196	66.5	1	10/29/20 12:06	10/30/20 20:43	53469-21-9	
PCB-1248 (Aroclor 1248)	<196	ug/kg	196	58.8	1	10/29/20 12:06	10/30/20 20:43	12672-29-6	
PCB-1254 (Aroclor 1254)	<196	ug/kg	196	57.7	1	10/29/20 12:06	10/30/20 20:43	11097-69-1	
PCB-1260 (Aroclor 1260)	<196	ug/kg	196	46.9	1	10/29/20 12:06	10/30/20 20:43	11096-82-5	
PCB-1262 (Aroclor 1262)	<196	ug/kg	196	67.7	1	10/29/20 12:06	10/30/20 20:43	37324-23-5	
PCB-1268 (Aroclor 1268)	<196	ug/kg	196	63.5	1	10/29/20 12:06	10/30/20 20:43	11100-14-4	
PCB, Total	<196	ug/kg	196	46.9	1	10/29/20 12:06	10/30/20 20:43	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80	%	46-146		1	10/29/20 12:06	10/30/20 20:43	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	10/29/20 12:06	10/30/20 20:43	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	83.2	%	0.10	0.10	1		11/06/20 12:17		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-135(0-0.3) **Lab ID: 10537018049** Collected: 10/21/20 12:20 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<102	ug/kg	102	28.5	1	10/29/20 12:06	10/30/20 20:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<102	ug/kg	102	36.0	1	10/29/20 12:06	10/30/20 20:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<102	ug/kg	102	41.0	1	10/29/20 12:06	10/30/20 20:59	11141-16-5	
PCB-1242 (Aroclor 1242)	<102	ug/kg	102	34.8	1	10/29/20 12:06	10/30/20 20:59	53469-21-9	
PCB-1248 (Aroclor 1248)	<102	ug/kg	102	30.7	1	10/29/20 12:06	10/30/20 20:59	12672-29-6	
PCB-1254 (Aroclor 1254)	<102	ug/kg	102	30.2	1	10/29/20 12:06	10/30/20 20:59	11097-69-1	
PCB-1260 (Aroclor 1260)	1770	ug/kg	102	24.5	1	10/29/20 12:06	10/30/20 20:59	11096-82-5	
PCB-1262 (Aroclor 1262)	<102	ug/kg	102	35.4	1	10/29/20 12:06	10/30/20 20:59	37324-23-5	
PCB-1268 (Aroclor 1268)	<102	ug/kg	102	33.2	1	10/29/20 12:06	10/30/20 20:59	11100-14-4	
PCB, Total	1770	ug/kg	102	24.5	1	10/29/20 12:06	10/30/20 20:59	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	82	%	46-146		1	10/29/20 12:06	10/30/20 20:59	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	10/29/20 12:06	10/30/20 20:59	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	68.0	%	0.10	0.10	1		11/06/20 12:18		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-135(0.3-0.52) Lab ID: 10537018050 Collected: 10/21/20 12:25 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<185	ug/kg	185	51.4	1	10/29/20 12:06	10/30/20 21:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<185	ug/kg	185	64.9	1	10/29/20 12:06	10/30/20 21:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<185	ug/kg	185	73.8	1	10/29/20 12:06	10/30/20 21:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<185	ug/kg	185	62.6	1	10/29/20 12:06	10/30/20 21:15	53469-21-9	
PCB-1248 (Aroclor 1248)	<185	ug/kg	185	55.4	1	10/29/20 12:06	10/30/20 21:15	12672-29-6	
PCB-1254 (Aroclor 1254)	<185	ug/kg	185	54.3	1	10/29/20 12:06	10/30/20 21:15	11097-69-1	
PCB-1260 (Aroclor 1260)	<185	ug/kg	185	44.1	1	10/29/20 12:06	10/30/20 21:15	11096-82-5	
PCB-1262 (Aroclor 1262)	<185	ug/kg	185	63.8	1	10/29/20 12:06	10/30/20 21:15	37324-23-5	
PCB-1268 (Aroclor 1268)	<185	ug/kg	185	59.8	1	10/29/20 12:06	10/30/20 21:15	11100-14-4	
PCB, Total	<185	ug/kg	185	44.1	1	10/29/20 12:06	10/30/20 21:15	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	46-146		1	10/29/20 12:06	10/30/20 21:15	877-09-8	
Decachlorobiphenyl (S)	79	%	48-139		1	10/29/20 12:06	10/30/20 21:15	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	82.2	%	0.10	0.10	1		11/06/20 12:18		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-137(0-0.3) **Lab ID: 10537018053** Collected: 10/21/20 16:05 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<48.1	ug/kg	48.1	13.4	1	10/29/20 12:06	10/30/20 21:31	12674-11-2	
PCB-1221 (Aroclor 1221)	<48.1	ug/kg	48.1	16.9	1	10/29/20 12:06	10/30/20 21:31	11104-28-2	
PCB-1232 (Aroclor 1232)	<48.1	ug/kg	48.1	19.2	1	10/29/20 12:06	10/30/20 21:31	11141-16-5	
PCB-1242 (Aroclor 1242)	<48.1	ug/kg	48.1	16.3	1	10/29/20 12:06	10/30/20 21:31	53469-21-9	
PCB-1248 (Aroclor 1248)	<48.1	ug/kg	48.1	14.4	1	10/29/20 12:06	10/30/20 21:31	12672-29-6	
PCB-1254 (Aroclor 1254)	<48.1	ug/kg	48.1	14.1	1	10/29/20 12:06	10/30/20 21:31	11097-69-1	
PCB-1260 (Aroclor 1260)	<48.1	ug/kg	48.1	11.5	1	10/29/20 12:06	10/30/20 21:31	11096-82-5	
PCB-1262 (Aroclor 1262)	<48.1	ug/kg	48.1	16.6	1	10/29/20 12:06	10/30/20 21:31	37324-23-5	
PCB-1268 (Aroclor 1268)	<48.1	ug/kg	48.1	15.6	1	10/29/20 12:06	10/30/20 21:31	11100-14-4	
PCB, Total	<48.1	ug/kg	48.1	11.5	1	10/29/20 12:06	10/30/20 21:31	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	77	%	46-146		1	10/29/20 12:06	10/30/20 21:31	877-09-8	
Decachlorobiphenyl (S)	90	%	48-139		1	10/29/20 12:06	10/30/20 21:31	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.4	%	0.10	0.10	1		11/06/20 12:18		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-137(0.65-0.95) Lab ID: 10537018054 Collected: 10/21/20 16:15 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<47.5	ug/kg	47.5	13.2	1	10/29/20 12:06	10/30/20 21:46	12674-11-2	
PCB-1221 (Aroclor 1221)	<47.5	ug/kg	47.5	16.7	1	10/29/20 12:06	10/30/20 21:46	11104-28-2	
PCB-1232 (Aroclor 1232)	<47.5	ug/kg	47.5	19.0	1	10/29/20 12:06	10/30/20 21:46	11141-16-5	
PCB-1242 (Aroclor 1242)	<47.5	ug/kg	47.5	16.1	1	10/29/20 12:06	10/30/20 21:46	53469-21-9	
PCB-1248 (Aroclor 1248)	<47.5	ug/kg	47.5	14.3	1	10/29/20 12:06	10/30/20 21:46	12672-29-6	
PCB-1254 (Aroclor 1254)	<47.5	ug/kg	47.5	14.0	1	10/29/20 12:06	10/30/20 21:46	11097-69-1	
PCB-1260 (Aroclor 1260)	<47.5	ug/kg	47.5	11.4	1	10/29/20 12:06	10/30/20 21:46	11096-82-5	
PCB-1262 (Aroclor 1262)	<47.5	ug/kg	47.5	16.4	1	10/29/20 12:06	10/30/20 21:46	37324-23-5	
PCB-1268 (Aroclor 1268)	<47.5	ug/kg	47.5	15.4	1	10/29/20 12:06	10/30/20 21:46	11100-14-4	
PCB, Total	<47.5	ug/kg	47.5	11.4	1	10/29/20 12:06	10/30/20 21:46	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	46-146		1	10/29/20 12:06	10/30/20 21:46	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	10/29/20 12:06	10/30/20 21:46	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	30.6	%	0.10	0.10	1		11/06/20 12:18		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-140(0-0.3) **Lab ID: 10537018056** Collected: 10/21/20 14:30 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<68.0	ug/kg	68.0	18.9	1	10/29/20 12:06	10/30/20 22:02	12674-11-2	
PCB-1221 (Aroclor 1221)	<68.0	ug/kg	68.0	23.9	1	10/29/20 12:06	10/30/20 22:02	11104-28-2	
PCB-1232 (Aroclor 1232)	<68.0	ug/kg	68.0	27.2	1	10/29/20 12:06	10/30/20 22:02	11141-16-5	
PCB-1242 (Aroclor 1242)	<68.0	ug/kg	68.0	23.1	1	10/29/20 12:06	10/30/20 22:02	53469-21-9	
PCB-1248 (Aroclor 1248)	<68.0	ug/kg	68.0	20.4	1	10/29/20 12:06	10/30/20 22:02	12672-29-6	
PCB-1254 (Aroclor 1254)	<68.0	ug/kg	68.0	20.0	1	10/29/20 12:06	10/30/20 22:02	11097-69-1	
PCB-1260 (Aroclor 1260)	<68.0	ug/kg	68.0	16.3	1	10/29/20 12:06	10/30/20 22:02	11096-82-5	
PCB-1262 (Aroclor 1262)	<68.0	ug/kg	68.0	23.5	1	10/29/20 12:06	10/30/20 22:02	37324-23-5	
PCB-1268 (Aroclor 1268)	<68.0	ug/kg	68.0	22.1	1	10/29/20 12:06	10/30/20 22:02	11100-14-4	
PCB, Total	<68.0	ug/kg	68.0	16.3	1	10/29/20 12:06	10/30/20 22:02	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	46-146		1	10/29/20 12:06	10/30/20 22:02	877-09-8	
Decachlorobiphenyl (S)	92	%	48-139		1	10/29/20 12:06	10/30/20 22:02	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	51.6	%	0.10	0.10	1		11/06/20 12:18		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-140(0.4-0.65) Lab ID: 10537018057 Collected: 10/21/20 14:35 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<44.7	ug/kg	44.7	12.4	1	10/29/20 12:06	10/30/20 22:18	12674-11-2	
PCB-1221 (Aroclor 1221)	<44.7	ug/kg	44.7	15.7	1	10/29/20 12:06	10/30/20 22:18	11104-28-2	
PCB-1232 (Aroclor 1232)	<44.7	ug/kg	44.7	17.9	1	10/29/20 12:06	10/30/20 22:18	11141-16-5	
PCB-1242 (Aroclor 1242)	<44.7	ug/kg	44.7	15.2	1	10/29/20 12:06	10/30/20 22:18	53469-21-9	
PCB-1248 (Aroclor 1248)	<44.7	ug/kg	44.7	13.4	1	10/29/20 12:06	10/30/20 22:18	12672-29-6	
PCB-1254 (Aroclor 1254)	<44.7	ug/kg	44.7	13.1	1	10/29/20 12:06	10/30/20 22:18	11097-69-1	
PCB-1260 (Aroclor 1260)	3270	ug/kg	89.4	21.4	2	10/29/20 12:06	11/02/20 08:53	11096-82-5	
PCB-1262 (Aroclor 1262)	<44.7	ug/kg	44.7	15.4	1	10/29/20 12:06	10/30/20 22:18	37324-23-5	
PCB-1268 (Aroclor 1268)	<44.7	ug/kg	44.7	14.5	1	10/29/20 12:06	10/30/20 22:18	11100-14-4	
PCB, Total	3270	ug/kg	89.4	21.4	2	10/29/20 12:06	11/02/20 08:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	76	%	46-146		1	10/29/20 12:06	10/30/20 22:18	877-09-8	
Decachlorobiphenyl (S)	86	%	48-139		1	10/29/20 12:06	10/30/20 22:18	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	26.3	%	0.10	0.10	1		11/06/20 12:18		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-140(0.65-0.9) Lab ID: 10537018058 Collected: 10/21/20 14:40 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<43.3	ug/kg	43.3	12.0	1	11/19/20 16:05	11/20/20 18:16	12674-11-2	
PCB-1221 (Aroclor 1221)	<43.3	ug/kg	43.3	15.2	1	11/19/20 16:05	11/20/20 18:16	11104-28-2	
PCB-1232 (Aroclor 1232)	<43.3	ug/kg	43.3	17.3	1	11/19/20 16:05	11/20/20 18:16	11141-16-5	
PCB-1242 (Aroclor 1242)	<43.3	ug/kg	43.3	14.7	1	11/19/20 16:05	11/20/20 18:16	53469-21-9	
PCB-1248 (Aroclor 1248)	<43.3	ug/kg	43.3	13.0	1	11/19/20 16:05	11/20/20 18:16	12672-29-6	
PCB-1254 (Aroclor 1254)	<43.3	ug/kg	43.3	12.7	1	11/19/20 16:05	11/20/20 18:16	11097-69-1	
PCB-1260 (Aroclor 1260)	<43.3	ug/kg	43.3	10.3	1	11/19/20 16:05	11/20/20 18:16	11096-82-5	
PCB-1262 (Aroclor 1262)	<43.3	ug/kg	43.3	14.9	1	11/19/20 16:05	11/20/20 18:16	37324-23-5	
PCB-1268 (Aroclor 1268)	<43.3	ug/kg	43.3	14.0	1	11/19/20 16:05	11/20/20 18:16	11100-14-4	
PCB, Total	<43.3	ug/kg	43.3	10.3	1	11/19/20 16:05	11/20/20 18:16	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	92	%	46-146		1	11/19/20 16:05	11/20/20 18:16	877-09-8	
Decachlorobiphenyl (S)	87	%	48-139		1	11/19/20 16:05	11/20/20 18:16	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	23.7	%	0.10	0.10	1		11/19/20 13:21		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-140(0.9-1.2) **Lab ID: 10537018059** Collected: 10/21/20 14:45 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<42.1	ug/kg	42.1	11.7	1	11/19/20 16:05	11/20/20 17:13	12674-11-2	
PCB-1221 (Aroclor 1221)	<42.1	ug/kg	42.1	14.8	1	11/19/20 16:05	11/20/20 17:13	11104-28-2	
PCB-1232 (Aroclor 1232)	<42.1	ug/kg	42.1	16.8	1	11/19/20 16:05	11/20/20 17:13	11141-16-5	
PCB-1242 (Aroclor 1242)	<42.1	ug/kg	42.1	14.3	1	11/19/20 16:05	11/20/20 17:13	53469-21-9	
PCB-1248 (Aroclor 1248)	<42.1	ug/kg	42.1	12.6	1	11/19/20 16:05	11/20/20 17:13	12672-29-6	
PCB-1254 (Aroclor 1254)	<42.1	ug/kg	42.1	12.4	1	11/19/20 16:05	11/20/20 17:13	11097-69-1	
PCB-1260 (Aroclor 1260)	<42.1	ug/kg	42.1	10.1	1	11/19/20 16:05	11/20/20 17:13	11096-82-5	
PCB-1262 (Aroclor 1262)	<42.1	ug/kg	42.1	14.5	1	11/19/20 16:05	11/20/20 17:13	37324-23-5	
PCB-1268 (Aroclor 1268)	<42.1	ug/kg	42.1	13.6	1	11/19/20 16:05	11/20/20 17:13	11100-14-4	
PCB, Total	<42.1	ug/kg	42.1	10.1	1	11/19/20 16:05	11/20/20 17:13	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	86	%	46-146		1	11/19/20 16:05	11/20/20 17:13	877-09-8	
Decachlorobiphenyl (S)	82	%	48-139		1	11/19/20 16:05	11/20/20 17:13	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	21.8	%	0.10	0.10	1		11/19/20 13:21		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-005(0-0.3) **Lab ID: 10537018061** Collected: 10/21/20 14:30 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<65.9	ug/kg	65.9	18.4	1	10/29/20 13:30	10/30/20 23:21	12674-11-2	
PCB-1221 (Aroclor 1221)	<65.9	ug/kg	65.9	23.2	1	10/29/20 13:30	10/30/20 23:21	11104-28-2	
PCB-1232 (Aroclor 1232)	<65.9	ug/kg	65.9	26.4	1	10/29/20 13:30	10/30/20 23:21	11141-16-5	
PCB-1242 (Aroclor 1242)	<65.9	ug/kg	65.9	22.4	1	10/29/20 13:30	10/30/20 23:21	53469-21-9	
PCB-1248 (Aroclor 1248)	<65.9	ug/kg	65.9	19.8	1	10/29/20 13:30	10/30/20 23:21	12672-29-6	
PCB-1254 (Aroclor 1254)	<65.9	ug/kg	65.9	19.4	1	10/29/20 13:30	10/30/20 23:21	11097-69-1	
PCB-1260 (Aroclor 1260)	20000	ug/kg	659	158	10	10/29/20 13:30	11/02/20 10:28	11096-82-5	
PCB-1262 (Aroclor 1262)	<65.9	ug/kg	65.9	22.8	1	10/29/20 13:30	10/30/20 23:21	37324-23-5	
PCB-1268 (Aroclor 1268)	<65.9	ug/kg	65.9	21.4	1	10/29/20 13:30	10/30/20 23:21	11100-14-4	
PCB, Total	20000	ug/kg	659	158	10	10/29/20 13:30	11/02/20 10:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	84	%	46-146		1	10/29/20 13:30	10/30/20 23:21	877-09-8	
Decachlorobiphenyl (S)	99	%	48-139		1	10/29/20 13:30	10/30/20 23:21	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	50.1	%	0.10	0.10	1		11/06/20 12:18		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-141(0-0.3) **Lab ID: 10537018063** Collected: 10/22/20 15:50 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<49.5	ug/kg	49.5	13.8	1	10/29/20 13:30	10/30/20 23:37	12674-11-2	
PCB-1221 (Aroclor 1221)	<49.5	ug/kg	49.5	17.4	1	10/29/20 13:30	10/30/20 23:37	11104-28-2	
PCB-1232 (Aroclor 1232)	<49.5	ug/kg	49.5	19.8	1	10/29/20 13:30	10/30/20 23:37	11141-16-5	
PCB-1242 (Aroclor 1242)	<49.5	ug/kg	49.5	16.8	1	10/29/20 13:30	10/30/20 23:37	53469-21-9	
PCB-1248 (Aroclor 1248)	<49.5	ug/kg	49.5	14.9	1	10/29/20 13:30	10/30/20 23:37	12672-29-6	
PCB-1254 (Aroclor 1254)	<49.5	ug/kg	49.5	14.6	1	10/29/20 13:30	10/30/20 23:37	11097-69-1	
PCB-1260 (Aroclor 1260)	2770	ug/kg	99.1	23.7	2	10/29/20 13:30	11/02/20 10:44	11096-82-5	
PCB-1262 (Aroclor 1262)	<49.5	ug/kg	49.5	17.1	1	10/29/20 13:30	10/30/20 23:37	37324-23-5	
PCB-1268 (Aroclor 1268)	<49.5	ug/kg	49.5	16.1	1	10/29/20 13:30	10/30/20 23:37	11100-14-4	
PCB, Total	2770	ug/kg	99.1	23.7	2	10/29/20 13:30	11/02/20 10:44	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	46-146		1	10/29/20 13:30	10/30/20 23:37	877-09-8	
Decachlorobiphenyl (S)	95	%	48-139		1	10/29/20 13:30	10/30/20 23:37	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	33.5	%	0.10	0.10	1		11/06/20 12:19		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-141(0.4-0.7) Lab ID: 10537018064 Collected: 10/22/20 15:55 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<46.1	ug/kg	46.1	12.8	1	11/19/20 16:05	11/20/20 18:32	12674-11-2	
PCB-1221 (Aroclor 1221)	<46.1	ug/kg	46.1	16.2	1	11/19/20 16:05	11/20/20 18:32	11104-28-2	
PCB-1232 (Aroclor 1232)	<46.1	ug/kg	46.1	18.4	1	11/19/20 16:05	11/20/20 18:32	11141-16-5	
PCB-1242 (Aroclor 1242)	<46.1	ug/kg	46.1	15.6	1	11/19/20 16:05	11/20/20 18:32	53469-21-9	
PCB-1248 (Aroclor 1248)	<46.1	ug/kg	46.1	13.8	1	11/19/20 16:05	11/20/20 18:32	12672-29-6	
PCB-1254 (Aroclor 1254)	<46.1	ug/kg	46.1	13.6	1	11/19/20 16:05	11/20/20 18:32	11097-69-1	
PCB-1260 (Aroclor 1260)	<46.1	ug/kg	46.1	11.0	1	11/19/20 16:05	11/20/20 18:32	11096-82-5	
PCB-1262 (Aroclor 1262)	<46.1	ug/kg	46.1	15.9	1	11/19/20 16:05	11/20/20 18:32	37324-23-5	
PCB-1268 (Aroclor 1268)	<46.1	ug/kg	46.1	14.9	1	11/19/20 16:05	11/20/20 18:32	11100-14-4	
PCB, Total	<46.1	ug/kg	46.1	11.0	1	11/19/20 16:05	11/20/20 18:32	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	88	%	46-146		1	11/19/20 16:05	11/20/20 18:32	877-09-8	
Decachlorobiphenyl (S)	84	%	48-139		1	11/19/20 16:05	11/20/20 18:32	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	29.3	%	0.10	0.10	1		11/19/20 13:21		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-119(0-0.5) **Lab ID: 10537018065** Collected: 10/21/20 11:50 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<154	ug/kg	154	42.9	1	10/29/20 13:30	10/30/20 23:53	12674-11-2	
PCB-1221 (Aroclor 1221)	<154	ug/kg	154	54.2	1	10/29/20 13:30	10/30/20 23:53	11104-28-2	
PCB-1232 (Aroclor 1232)	<154	ug/kg	154	61.6	1	10/29/20 13:30	10/30/20 23:53	11141-16-5	
PCB-1242 (Aroclor 1242)	<154	ug/kg	154	52.3	1	10/29/20 13:30	10/30/20 23:53	53469-21-9	
PCB-1248 (Aroclor 1248)	<154	ug/kg	154	46.2	1	10/29/20 13:30	10/30/20 23:53	12672-29-6	
PCB-1254 (Aroclor 1254)	<154	ug/kg	154	45.3	1	10/29/20 13:30	10/30/20 23:53	11097-69-1	
PCB-1260 (Aroclor 1260)	1360	ug/kg	154	36.8	1	10/29/20 13:30	10/30/20 23:53	11096-82-5	
PCB-1262 (Aroclor 1262)	<154	ug/kg	154	53.2	1	10/29/20 13:30	10/30/20 23:53	37324-23-5	
PCB-1268 (Aroclor 1268)	<154	ug/kg	154	50.0	1	10/29/20 13:30	10/30/20 23:53	11100-14-4	
PCB, Total	1360	ug/kg	154	36.8	1	10/29/20 13:30	10/30/20 23:53	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	79	%	46-146		1	10/29/20 13:30	10/30/20 23:53	877-09-8	
Decachlorobiphenyl (S)	88	%	48-139		1	10/29/20 13:30	10/30/20 23:53	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	78.7	%	0.10	0.10	1		11/06/20 12:19		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-119(0.5-0.88) **Lab ID: 10537018066** Collected: 10/21/20 11:55 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<52.0	ug/kg	52.0	14.5	1	10/29/20 13:30	10/31/20 00:09	12674-11-2	
PCB-1221 (Aroclor 1221)	<52.0	ug/kg	52.0	18.3	1	10/29/20 13:30	10/31/20 00:09	11104-28-2	
PCB-1232 (Aroclor 1232)	<52.0	ug/kg	52.0	20.8	1	10/29/20 13:30	10/31/20 00:09	11141-16-5	
PCB-1242 (Aroclor 1242)	<52.0	ug/kg	52.0	17.7	1	10/29/20 13:30	10/31/20 00:09	53469-21-9	
PCB-1248 (Aroclor 1248)	<52.0	ug/kg	52.0	15.6	1	10/29/20 13:30	10/31/20 00:09	12672-29-6	
PCB-1254 (Aroclor 1254)	<52.0	ug/kg	52.0	15.3	1	10/29/20 13:30	10/31/20 00:09	11097-69-1	
PCB-1260 (Aroclor 1260)	<52.0	ug/kg	52.0	12.4	1	10/29/20 13:30	10/31/20 00:09	11096-82-5	
PCB-1262 (Aroclor 1262)	<52.0	ug/kg	52.0	18.0	1	10/29/20 13:30	10/31/20 00:09	37324-23-5	
PCB-1268 (Aroclor 1268)	<52.0	ug/kg	52.0	16.9	1	10/29/20 13:30	10/31/20 00:09	11100-14-4	
PCB, Total	<52.0	ug/kg	52.0	12.4	1	10/29/20 13:30	10/31/20 00:09	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80	%	46-146		1	10/29/20 13:30	10/31/20 00:09	877-09-8	
Decachlorobiphenyl (S)	96	%	48-139		1	10/29/20 13:30	10/31/20 00:09	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	36.8	%	0.10	0.10	1		11/06/20 12:19		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: RB-102120 **Lab ID: 10537018069** Collected: 10/21/20 17:00 Received: 10/27/20 14:15 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<0.095	ug/L	0.095	0.040	1	10/30/20 16:26	11/02/20 17:34	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.095	ug/L	0.095	0.041	1	10/30/20 16:26	11/02/20 17:34	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.095	ug/L	0.095	0.035	1	10/30/20 16:26	11/02/20 17:34	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.095	ug/L	0.095	0.036	1	10/30/20 16:26	11/02/20 17:34	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.095	ug/L	0.095	0.038	1	10/30/20 16:26	11/02/20 17:34	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.095	ug/L	0.095	0.040	1	10/30/20 16:26	11/02/20 17:34	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.095	ug/L	0.095	0.034	1	10/30/20 16:26	11/02/20 17:34	11096-82-5	
PCB-1262 (Aroclor 1262)	<0.095	ug/L	0.095	0.035	1	10/30/20 16:26	11/02/20 17:34	37324-23-5	
PCB-1268 (Aroclor 1268)	<0.095	ug/L	0.095	0.043	1	10/30/20 16:26	11/02/20 17:34	11100-14-4	
PCB, Total	<0.095	ug/L	0.095	0.034	1	10/30/20 16:26	11/02/20 17:34	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	58	%	30-134		1	10/30/20 16:26	11/02/20 17:34	877-09-8	
Decachlorobiphenyl (S)	102	%	30-150		1	10/30/20 16:26	11/02/20 17:34	2051-24-3	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-006(0-0.3) **Lab ID: 10537018070** Collected: 10/22/20 10:40 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<59.2	ug/kg	59.2	16.5	1	10/29/20 13:30	10/31/20 00:24	12674-11-2	
PCB-1221 (Aroclor 1221)	<59.2	ug/kg	59.2	20.8	1	10/29/20 13:30	10/31/20 00:24	11104-28-2	
PCB-1232 (Aroclor 1232)	<59.2	ug/kg	59.2	23.7	1	10/29/20 13:30	10/31/20 00:24	11141-16-5	
PCB-1242 (Aroclor 1242)	<59.2	ug/kg	59.2	20.1	1	10/29/20 13:30	10/31/20 00:24	53469-21-9	
PCB-1248 (Aroclor 1248)	<59.2	ug/kg	59.2	17.8	1	10/29/20 13:30	10/31/20 00:24	12672-29-6	
PCB-1254 (Aroclor 1254)	<59.2	ug/kg	59.2	17.4	1	10/29/20 13:30	10/31/20 00:24	11097-69-1	
PCB-1260 (Aroclor 1260)	10700	ug/kg	592	142	10	10/29/20 13:30	11/02/20 11:00	11096-82-5	
PCB-1262 (Aroclor 1262)	<59.2	ug/kg	59.2	20.5	1	10/29/20 13:30	10/31/20 00:24	37324-23-5	
PCB-1268 (Aroclor 1268)	<59.2	ug/kg	59.2	19.2	1	10/29/20 13:30	10/31/20 00:24	11100-14-4	
PCB, Total	10700	ug/kg	592	142	10	10/29/20 13:30	11/02/20 11:00	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	78	%	46-146		1	10/29/20 13:30	10/31/20 00:24	877-09-8	
Decachlorobiphenyl (S)	91	%	48-139		1	10/29/20 13:30	10/31/20 00:24	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	44.8	%	0.10	0.10	1		11/06/20 12:19		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: RB-102220		Lab ID: 10537018071		Collected: 10/22/20 17:00	Received: 10/27/20 14:15	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA Mod. 3510C									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<0.094	ug/L	0.094	0.040	1	10/30/20 16:26	11/02/20 17:49	12674-11-2	
PCB-1221 (Aroclor 1221)	<0.094	ug/L	0.094	0.041	1	10/30/20 16:26	11/02/20 17:49	11104-28-2	
PCB-1232 (Aroclor 1232)	<0.094	ug/L	0.094	0.034	1	10/30/20 16:26	11/02/20 17:49	11141-16-5	
PCB-1242 (Aroclor 1242)	<0.094	ug/L	0.094	0.035	1	10/30/20 16:26	11/02/20 17:49	53469-21-9	
PCB-1248 (Aroclor 1248)	<0.094	ug/L	0.094	0.038	1	10/30/20 16:26	11/02/20 17:49	12672-29-6	
PCB-1254 (Aroclor 1254)	<0.094	ug/L	0.094	0.040	1	10/30/20 16:26	11/02/20 17:49	11097-69-1	
PCB-1260 (Aroclor 1260)	<0.094	ug/L	0.094	0.033	1	10/30/20 16:26	11/02/20 17:49	11096-82-5	
PCB-1262 (Aroclor 1262)	<0.094	ug/L	0.094	0.034	1	10/30/20 16:26	11/02/20 17:49	37324-23-5	
PCB-1268 (Aroclor 1268)	<0.094	ug/L	0.094	0.043	1	10/30/20 16:26	11/02/20 17:49	11100-14-4	
PCB, Total	<0.094	ug/L	0.094	0.033	1	10/30/20 16:26	11/02/20 17:49	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	58	%	30-134		1	10/30/20 16:26	11/02/20 17:49	877-09-8	
Decachlorobiphenyl (S)	97	%	30-150		1	10/30/20 16:26	11/02/20 17:49	2051-24-3	

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-133(0-0.3) **Lab ID: 10537018072** Collected: 10/22/20 10:15 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<53.7	ug/kg	53.7	15.0	1	10/29/20 13:30	10/31/20 00:40	12674-11-2	M1
PCB-1221 (Aroclor 1221)	<53.7	ug/kg	53.7	18.9	1	10/29/20 13:30	10/31/20 00:40	11104-28-2	
PCB-1232 (Aroclor 1232)	<53.7	ug/kg	53.7	21.5	1	10/29/20 13:30	10/31/20 00:40	11141-16-5	
PCB-1242 (Aroclor 1242)	<53.7	ug/kg	53.7	18.2	1	10/29/20 13:30	10/31/20 00:40	53469-21-9	
PCB-1248 (Aroclor 1248)	<53.7	ug/kg	53.7	16.1	1	10/29/20 13:30	10/31/20 00:40	12672-29-6	
PCB-1254 (Aroclor 1254)	<53.7	ug/kg	53.7	15.8	1	10/29/20 13:30	10/31/20 00:40	11097-69-1	
PCB-1260 (Aroclor 1260)	5250	ug/kg	269	64.2	5	10/29/20 13:30	11/02/20 11:15	11096-82-5	M1, R1
PCB-1262 (Aroclor 1262)	<53.7	ug/kg	53.7	18.6	1	10/29/20 13:30	10/31/20 00:40	37324-23-5	
PCB-1268 (Aroclor 1268)	<53.7	ug/kg	53.7	17.4	1	10/29/20 13:30	10/31/20 00:40	11100-14-4	
PCB, Total	5250	ug/kg	269	64.2	5	10/29/20 13:30	11/02/20 11:15	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	81	%	46-146		1	10/29/20 13:30	10/31/20 00:40	877-09-8	
Decachlorobiphenyl (S)	90	%	48-139		1	10/29/20 13:30	10/31/20 00:40	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	38.8	%	0.10	0.10	1		11/06/20 12:19		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-133(0.3-0.6) **Lab ID: 10537018073** Collected: 10/22/20 10:20 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<49.2	ug/kg	49.2	13.7	1	10/29/20 13:30	10/31/20 01:28	12674-11-2	
PCB-1221 (Aroclor 1221)	<49.2	ug/kg	49.2	17.3	1	10/29/20 13:30	10/31/20 01:28	11104-28-2	
PCB-1232 (Aroclor 1232)	<49.2	ug/kg	49.2	19.7	1	10/29/20 13:30	10/31/20 01:28	11141-16-5	
PCB-1242 (Aroclor 1242)	<49.2	ug/kg	49.2	16.7	1	10/29/20 13:30	10/31/20 01:28	53469-21-9	
PCB-1248 (Aroclor 1248)	<49.2	ug/kg	49.2	14.8	1	10/29/20 13:30	10/31/20 01:28	12672-29-6	
PCB-1254 (Aroclor 1254)	<49.2	ug/kg	49.2	14.5	1	10/29/20 13:30	10/31/20 01:28	11097-69-1	
PCB-1260 (Aroclor 1260)	21.1J	ug/kg	49.2	11.8	1	10/29/20 13:30	10/31/20 01:28	11096-82-5	
PCB-1262 (Aroclor 1262)	<49.2	ug/kg	49.2	17.0	1	10/29/20 13:30	10/31/20 01:28	37324-23-5	
PCB-1268 (Aroclor 1268)	<49.2	ug/kg	49.2	16.0	1	10/29/20 13:30	10/31/20 01:28	11100-14-4	
PCB, Total	21.1J	ug/kg	49.2	11.8	1	10/29/20 13:30	10/31/20 01:28	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83	%	46-146		1	10/29/20 13:30	10/31/20 01:28	877-09-8	
Decachlorobiphenyl (S)	93	%	48-139		1	10/29/20 13:30	10/31/20 01:28	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	32.9	%	0.10	0.10	1		11/06/20 12:20		N2

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-133(0.6-0.83) Lab ID: 10537018074 Collected: 10/22/20 10:25 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<51.9	ug/kg	51.9	14.4	1	10/29/20 13:30	10/31/20 01:43	12674-11-2	
PCB-1221 (Aroclor 1221)	<51.9	ug/kg	51.9	18.2	1	10/29/20 13:30	10/31/20 01:43	11104-28-2	
PCB-1232 (Aroclor 1232)	<51.9	ug/kg	51.9	20.8	1	10/29/20 13:30	10/31/20 01:43	11141-16-5	
PCB-1242 (Aroclor 1242)	<51.9	ug/kg	51.9	17.6	1	10/29/20 13:30	10/31/20 01:43	53469-21-9	
PCB-1248 (Aroclor 1248)	<51.9	ug/kg	51.9	15.6	1	10/29/20 13:30	10/31/20 01:43	12672-29-6	
PCB-1254 (Aroclor 1254)	<51.9	ug/kg	51.9	15.3	1	10/29/20 13:30	10/31/20 01:43	11097-69-1	
PCB-1260 (Aroclor 1260)	95.3	ug/kg	51.9	12.4	1	10/29/20 13:30	10/31/20 01:43	11096-82-5	
PCB-1262 (Aroclor 1262)	<51.9	ug/kg	51.9	17.9	1	10/29/20 13:30	10/31/20 01:43	37324-23-5	
PCB-1268 (Aroclor 1268)	<51.9	ug/kg	51.9	16.8	1	10/29/20 13:30	10/31/20 01:43	11100-14-4	
PCB, Total	95.3	ug/kg	51.9	12.4	1	10/29/20 13:30	10/31/20 01:43	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	80	%	46-146		1	10/29/20 13:30	10/31/20 01:43	877-09-8	
Decachlorobiphenyl (S)	91	%	48-139		1	10/29/20 13:30	10/31/20 01:43	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	36.6	%	0.10	0.10	1		11/06/20 12:20		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Sample: BW20ML-121(0-0.35) **Lab ID: 10537018076** Collected: 10/22/20 15:35 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<46.3	ug/kg	46.3	12.9	1	10/29/20 13:30	10/31/20 01:59	12674-11-2	
PCB-1221 (Aroclor 1221)	<46.3	ug/kg	46.3	16.3	1	10/29/20 13:30	10/31/20 01:59	11104-28-2	
PCB-1232 (Aroclor 1232)	<46.3	ug/kg	46.3	18.5	1	10/29/20 13:30	10/31/20 01:59	11141-16-5	
PCB-1242 (Aroclor 1242)	<46.3	ug/kg	46.3	15.7	1	10/29/20 13:30	10/31/20 01:59	53469-21-9	
PCB-1248 (Aroclor 1248)	<46.3	ug/kg	46.3	13.9	1	10/29/20 13:30	10/31/20 01:59	12672-29-6	
PCB-1254 (Aroclor 1254)	<46.3	ug/kg	46.3	13.6	1	10/29/20 13:30	10/31/20 01:59	11097-69-1	
PCB-1260 (Aroclor 1260)	106	ug/kg	46.3	11.1	1	10/29/20 13:30	10/31/20 01:59	11096-82-5	
PCB-1262 (Aroclor 1262)	<46.3	ug/kg	46.3	16.0	1	10/29/20 13:30	10/31/20 01:59	37324-23-5	
PCB-1268 (Aroclor 1268)	<46.3	ug/kg	46.3	15.0	1	10/29/20 13:30	10/31/20 01:59	11100-14-4	
PCB, Total	106	ug/kg	46.3	11.1	1	10/29/20 13:30	10/31/20 01:59	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	83	%	46-146		1	10/29/20 13:30	10/31/20 01:59	877-09-8	
Decachlorobiphenyl (S)	94	%	48-139		1	10/29/20 13:30	10/31/20 01:59	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	28.7	%	0.10	0.10	1		11/06/20 12:20		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Sample: BW20ML-137(0.3-0.65) Lab ID: 10537018077 Collected: 10/21/20 16:10 Received: 10/27/20 14:15 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
8082A GCS PCB									
Analytical Method: EPA 8082A Preparation Method: EPA 3550									
Pace Analytical Services - Minneapolis									
PCB-1016 (Aroclor 1016)	<48.0	ug/kg	48.0	13.4	1	10/29/20 13:30	10/31/20 02:15	12674-11-2	
PCB-1221 (Aroclor 1221)	<48.0	ug/kg	48.0	16.9	1	10/29/20 13:30	10/31/20 02:15	11104-28-2	
PCB-1232 (Aroclor 1232)	<48.0	ug/kg	48.0	19.2	1	10/29/20 13:30	10/31/20 02:15	11141-16-5	
PCB-1242 (Aroclor 1242)	<48.0	ug/kg	48.0	16.3	1	10/29/20 13:30	10/31/20 02:15	53469-21-9	
PCB-1248 (Aroclor 1248)	<48.0	ug/kg	48.0	14.4	1	10/29/20 13:30	10/31/20 02:15	12672-29-6	
PCB-1254 (Aroclor 1254)	<48.0	ug/kg	48.0	14.1	1	10/29/20 13:30	10/31/20 02:15	11097-69-1	
PCB-1260 (Aroclor 1260)	<48.0	ug/kg	48.0	11.5	1	10/29/20 13:30	10/31/20 02:15	11096-82-5	
PCB-1262 (Aroclor 1262)	<48.0	ug/kg	48.0	16.6	1	10/29/20 13:30	10/31/20 02:15	37324-23-5	
PCB-1268 (Aroclor 1268)	<48.0	ug/kg	48.0	15.6	1	10/29/20 13:30	10/31/20 02:15	11100-14-4	
PCB, Total	<48.0	ug/kg	48.0	11.5	1	10/29/20 13:30	10/31/20 02:15	1336-36-3	
Surrogates									
Tetrachloro-m-xylene (S)	85	%	46-146		1	10/29/20 13:30	10/31/20 02:15	877-09-8	
Decachlorobiphenyl (S)	95	%	48-139		1	10/29/20 13:30	10/31/20 02:15	2051-24-3	
Dry Weight / %M by ASTM D2974									
Analytical Method: ASTM D2974									
Pace Analytical Services - Minneapolis									
Percent Moisture	31.3	%	0.10	0.10	1		11/06/20 12:20		N2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch:	709161	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight / %M by ASTM D2974
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018001, 10537018002, 10537018005, 10537018006, 10537018008, 10537018009, 10537018010, 10537018012, 10537018013, 10537018014, 10537018015, 10537018017, 10537018018, 10537018023, 10537018024, 10537018027, 10537018028, 10537018031, 10537018032, 10537018034

SAMPLE DUPLICATE: 3788409

Parameter	Units	10537018008 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	52.5	53.0	1	30	N2

SAMPLE DUPLICATE: 3788410

Parameter	Units	10537018028 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	27.0	26.5	2	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch:	709164	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight / %M by ASTM D2974
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018036, 10537018037, 10537018045, 10537018046, 10537018049, 10537018050, 10537018053, 10537018054, 10537018056, 10537018057, 10537018061, 10537018063, 10537018065, 10537018066, 10537018070, 10537018072, 10537018073, 10537018074, 10537018076, 10537018077

SAMPLE DUPLICATE: 3788431

Parameter	Units	10537018036 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	33.3	34.2	3	30	N2

SAMPLE DUPLICATE: 3788432

Parameter	Units	10537018072 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	38.8	38.9	0	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch: 709318

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018040, 10537018041

SAMPLE DUPLICATE: 3789200

Parameter	Units	12152793010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.9	17.5	10	30	N2

SAMPLE DUPLICATE: 3789505

Parameter	Units	10537018040 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	40.7	44.0	8	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch: 711915

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018016, 10537018058, 10537018059, 10537018064

SAMPLE DUPLICATE: 3801313

Parameter	Units	10537018064 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	29.3	29.6	1	30	N2

SAMPLE DUPLICATE: 3801877

Parameter	Units	10539413001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	17.6	17.2	2	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch: 713583

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight / %M by ASTM D2974

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018033

SAMPLE DUPLICATE: 3809894

Parameter	Units	10539687009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	25.2	25.8	2	30	N2

SAMPLE DUPLICATE: 3809918

Parameter	Units	10539872009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.6	14.2	3	30	N2

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch: 707217 Analysis Method: EPA 8082A
 QC Batch Method: EPA 3550 Analysis Description: 8082A GCS PCB
 Laboratory: Pace Analytical Services - Minneapolis
 Associated Lab Samples: 10537018001, 10537018002, 10537018005, 10537018006, 10537018009, 10537018010, 10537018012, 10537018013, 10537018014, 10537018015, 10537018017, 10537018018, 10537018023, 10537018024, 10537018027, 10537018031, 10537018032

METHOD BLANK: 3778450 Matrix: Solid
 Associated Lab Samples: 10537018001, 10537018002, 10537018005, 10537018006, 10537018009, 10537018010, 10537018012, 10537018013, 10537018014, 10537018015, 10537018017, 10537018018, 10537018023, 10537018024, 10537018027, 10537018031, 10537018032

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	10/30/20 08:38	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	10/30/20 08:38	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	10/30/20 08:38	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	10/30/20 08:38	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	10/30/20 08:38	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	10/30/20 08:38	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	10/30/20 08:38	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	10/30/20 08:38	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	10/30/20 08:38	
Decachlorobiphenyl (S)	%	96	48-139		10/30/20 08:38	
Tetrachloro-m-xylene (S)	%	80	46-146		10/30/20 08:38	

LABORATORY CONTROL SAMPLE: 3778451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	550	83	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	588	88	69-125	
Decachlorobiphenyl (S)	%			102	48-139	
Tetrachloro-m-xylene (S)	%			85	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3778843 3778844

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10537018002 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
PCB-1016 (Aroclor 1016)	ug/kg	<47.7	959	956	728	735	76	77	49-125	1	30	
PCB-1260 (Aroclor 1260)	ug/kg	<47.7	959	956	758	747	79	78	43-125	1	30	
Decachlorobiphenyl (S)	%						91	90	48-139			
Tetrachloro-m-xylene (S)	%						78	78	46-146			

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

QC Batch: 707484 Analysis Method: EPA 8082A
QC Batch Method: EPA 3550 Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10537018034, 10537018036, 10537018037, 10537018045, 10537018046, 10537018049, 10537018050, 10537018053, 10537018054, 10537018056, 10537018057

METHOD BLANK: 3779930 Matrix: Solid
Associated Lab Samples: 10537018034, 10537018036, 10537018037, 10537018045, 10537018046, 10537018049, 10537018050, 10537018053, 10537018054, 10537018056, 10537018057

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	10/30/20 15:44	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	10/30/20 15:44	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	10/30/20 15:44	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	10/30/20 15:44	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	10/30/20 15:44	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	10/30/20 15:44	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	10/30/20 15:44	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	10/30/20 15:44	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	10/30/20 15:44	
Decachlorobiphenyl (S)	%	103	48-139		10/30/20 15:44	
Tetrachloro-m-xylene (S)	%	87	46-146		10/30/20 15:44	

LABORATORY CONTROL SAMPLE: 3779931

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	571	86	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	606	91	69-125	
Decachlorobiphenyl (S)	%			105	48-139	
Tetrachloro-m-xylene (S)	%			88	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3780372 3780373

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10537190002 Result	Spike Conc.	Spike Conc.	Result							Result
PCB-1016 (Aroclor 1016)	ug/kg	ND	745	747	554	603	74	81	49-125	9	30	
PCB-1260 (Aroclor 1260)	ug/kg	ND	745	747	581	622	78	83	43-125	7	30	
Decachlorobiphenyl (S)	%						83	90	48-139			
Tetrachloro-m-xylene (S)	%						75	79	46-146			

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

QC Batch: 707485 Analysis Method: EPA 8082A
QC Batch Method: EPA 3550 Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10537018028, 10537018040, 10537018041, 10537018061, 10537018063, 10537018065, 10537018066, 10537018070, 10537018072, 10537018073, 10537018074, 10537018076, 10537018077

METHOD BLANK: 3779934 Matrix: Solid
Associated Lab Samples: 10537018028, 10537018040, 10537018041, 10537018061, 10537018063, 10537018065, 10537018066, 10537018070, 10537018072, 10537018073, 10537018074, 10537018076, 10537018077

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	10/30/20 22:49	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	10/30/20 22:49	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	10/30/20 22:49	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	10/30/20 22:49	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	10/30/20 22:49	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	10/30/20 22:49	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	10/30/20 22:49	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	10/30/20 22:49	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	10/30/20 22:49	
Decachlorobiphenyl (S)	%	103	48-139		10/30/20 22:49	
Tetrachloro-m-xylene (S)	%	88	46-146		10/30/20 22:49	

LABORATORY CONTROL SAMPLE: 3779935

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	572	86	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	603	90	69-125	
Decachlorobiphenyl (S)	%			103	48-139	
Tetrachloro-m-xylene (S)	%			88	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3780364 3780365

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10537018072 Result	Spike Conc.	Spike Conc.	Result							Result
PCB-1016 (Aroclor 1016)	ug/kg	<53.7	1090	1090	1880	1830	172	168	49-125	3	30	M1
PCB-1260 (Aroclor 1260)	ug/kg	5250	1090	1090	15500	9360	945	377	43-125	50	30	E,M1, R1
Decachlorobiphenyl (S)	%						95	94	48-139			
Tetrachloro-m-xylene (S)	%						78	79	46-146			

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

QC Batch: 707810	Analysis Method: EPA 8082A
QC Batch Method: EPA 3550	Analysis Description: 8082A GCS PCB
	Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018008

METHOD BLANK: 3781698 Matrix: Solid
Associated Lab Samples: 10537018008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	11/02/20 11:47	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	11/02/20 11:47	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	11/02/20 11:47	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	11/02/20 11:47	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	11/02/20 11:47	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	11/02/20 11:47	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	11/02/20 11:47	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	11/02/20 11:47	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	11/02/20 11:47	
Decachlorobiphenyl (S)	%	104	48-139		11/02/20 11:47	
Tetrachloro-m-xylene (S)	%	87	46-146		11/02/20 11:47	

LABORATORY CONTROL SAMPLE: 3781699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	561	84	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	599	90	69-125	
Decachlorobiphenyl (S)	%			104	48-139	
Tetrachloro-m-xylene (S)	%			86	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3781939 3781940

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10537018008 Result	Spike Conc.	Spike Conc.	Result							Result
PCB-1016 (Aroclor 1016)	ug/kg	<69.2	1380	1400	1020	1110	73	79	49-125	9	30	
PCB-1260 (Aroclor 1260)	ug/kg	<69.2	1380	1400	1070	1150	77	82	43-125	7	30	
Decachlorobiphenyl (S)	%						90	94	48-139			
Tetrachloro-m-xylene (S)	%						77	83	46-146			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch: 711913 Analysis Method: EPA 8082A
QC Batch Method: EPA 3550 Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018016, 10537018058, 10537018059, 10537018064

METHOD BLANK: 3801304 Matrix: Solid
Associated Lab Samples: 10537018016, 10537018058, 10537018059, 10537018064

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	11/20/20 14:35	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	11/20/20 14:35	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	11/20/20 14:35	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	11/20/20 14:35	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	11/20/20 14:35	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	11/20/20 14:35	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	11/20/20 14:35	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	11/20/20 14:35	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	11/20/20 14:35	
Decachlorobiphenyl (S)	%	78	48-139		11/20/20 14:35	
Tetrachloro-m-xylene (S)	%	84	46-146		11/20/20 14:35	

LABORATORY CONTROL SAMPLE: 3801305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	590	88	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	605	91	69-125	
Decachlorobiphenyl (S)	%			92	48-139	
Tetrachloro-m-xylene (S)	%			96	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3801529 3801530

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10537018059 Result	Spike Conc.	Spike Conc.	Result						
PCB-1016 (Aroclor 1016)	ug/kg	<42.1	848	846	696	739	82	87	49-125	6	30
PCB-1260 (Aroclor 1260)	ug/kg	<42.1	848	846	704	745	83	88	43-125	6	30
Decachlorobiphenyl (S)	%						81	87	48-139		
Tetrachloro-m-xylene (S)	%						85	93	46-146		

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

QC Batch: 712737

Analysis Method: EPA 8082A

QC Batch Method: EPA 3550

Analysis Description: 8082A GCS PCB

Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 10537018033

METHOD BLANK: 3805503

Matrix: Solid

Associated Lab Samples: 10537018033

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<33.0	33.0	9.2	11/25/20 11:05	
PCB-1221 (Aroclor 1221)	ug/kg	<33.0	33.0	11.6	11/25/20 11:05	
PCB-1232 (Aroclor 1232)	ug/kg	<33.0	33.0	13.2	11/25/20 11:05	
PCB-1242 (Aroclor 1242)	ug/kg	<33.0	33.0	11.2	11/25/20 11:05	
PCB-1248 (Aroclor 1248)	ug/kg	<33.0	33.0	9.9	11/25/20 11:05	
PCB-1254 (Aroclor 1254)	ug/kg	<33.0	33.0	9.7	11/25/20 11:05	
PCB-1260 (Aroclor 1260)	ug/kg	<33.0	33.0	7.9	11/25/20 11:05	
PCB-1262 (Aroclor 1262)	ug/kg	<33.0	33.0	11.4	11/25/20 11:05	
PCB-1268 (Aroclor 1268)	ug/kg	<33.0	33.0	10.7	11/25/20 11:05	
Decachlorobiphenyl (S)	%	93	48-139		11/25/20 11:05	
Tetrachloro-m-xylene (S)	%	92	46-146		11/25/20 11:05	

LABORATORY CONTROL SAMPLE: 3805504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	587	88	68-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	589	88	69-125	
Decachlorobiphenyl (S)	%			91	48-139	
Tetrachloro-m-xylene (S)	%			91	46-146	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3805505 3805506

Parameter	Units	MS		MSD		% Rec		% Rec	% Rec	% Rec	Max RPD	Qual
		10539960003	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec					
PCB-1016 (Aroclor 1016)	ug/kg	ND	664	663	603	610	91	92	49-125	1	30	
PCB-1260 (Aroclor 1260)	ug/kg	ND	664	663	590	598	89	90	43-125	1	30	
Decachlorobiphenyl (S)	%						84	84	48-139			
Tetrachloro-m-xylene (S)	%						87	90	46-146			

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QUALITY CONTROL DATA

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

QC Batch: 707814 Analysis Method: EPA 8082A
QC Batch Method: EPA Mod. 3510C Analysis Description: 8082A GCS PCB
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10537018069, 10537018071

METHOD BLANK: 3781717 Matrix: Water
Associated Lab Samples: 10537018069, 10537018071

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	<0.10	0.10	0.042	11/02/20 17:02	
PCB-1221 (Aroclor 1221)	ug/L	<0.10	0.10	0.043	11/02/20 17:02	
PCB-1232 (Aroclor 1232)	ug/L	<0.10	0.10	0.036	11/02/20 17:02	
PCB-1242 (Aroclor 1242)	ug/L	<0.10	0.10	0.038	11/02/20 17:02	
PCB-1248 (Aroclor 1248)	ug/L	<0.10	0.10	0.040	11/02/20 17:02	
PCB-1254 (Aroclor 1254)	ug/L	<0.10	0.10	0.042	11/02/20 17:02	
PCB-1260 (Aroclor 1260)	ug/L	<0.10	0.10	0.036	11/02/20 17:02	
PCB-1262 (Aroclor 1262)	ug/L	<0.10	0.10	0.036	11/02/20 17:02	
PCB-1268 (Aroclor 1268)	ug/L	<0.10	0.10	0.046	11/02/20 17:02	
Decachlorobiphenyl (S)	%	90	30-150		11/02/20 17:02	
Tetrachloro-m-xylene (S)	%	66	30-134		11/02/20 17:02	

LABORATORY CONTROL SAMPLE & LCSD: 3781718 3781719

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	2	1.6	1.6	78	79	30-125	0	20	
PCB-1260 (Aroclor 1260)	ug/L	2	1.8	1.7	88	86	35-125	2	20	
Decachlorobiphenyl (S)	%				103	101	30-150			
Tetrachloro-m-xylene (S)	%				71	73	30-134			

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QUALIFIERS

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

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.

BATCH QUALIFIERS

Batch: 708075

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537018001	BW20ML-114(0-0.3)	EPA 3550	707217	EPA 8082A	707672
10537018002	BW20ML-114(0.3-0.65)	EPA 3550	707217	EPA 8082A	707672
10537018005	BW20ML-076(0-0.3)	EPA 3550	707217	EPA 8082A	707672
10537018006	BW20ML-076(0.5-0.9)	EPA 3550	707217	EPA 8082A	707672
10537018008	BW20ML-116(0-0.3)	EPA 3550	707810	EPA 8082A	708074
10537018009	BW20ML-116(0.3-0.6)	EPA 3550	707217	EPA 8082A	707672
10537018010	BW20ML-116(0.6-0.9)	EPA 3550	707217	EPA 8082A	707672
10537018012	BW20ML-007(0-0.3)	EPA 3550	707217	EPA 8082A	707672
10537018013	BW20ML-123(0-0.35)	EPA 3550	707217	EPA 8082A	707672
10537018014	BW20ML-123(0.35-0.65)	EPA 3550	707217	EPA 8082A	707672
10537018015	BW20ML-123(0.65-0.95)	EPA 3550	707217	EPA 8082A	707672
10537018016	BW20ML-123(0.95-1.25)	EPA 3550	711913	EPA 8082A	712326
10537018017	BW20ML-127(0-0.35)	EPA 3550	707217	EPA 8082A	707672
10537018018	BW20ML-127(0.35-0.7)	EPA 3550	707217	EPA 8082A	707672
10537018023	BW20ML-049(0-0.3)	EPA 3550	707217	EPA 8082A	707672
10537018024	BW20ML-049(0.3-0.6)	EPA 3550	707217	EPA 8082A	707672
10537018027	BW20ML-038(0-0.35)	EPA 3550	707217	EPA 8082A	707672
10537018028	BW20ML-038(0.35-0.65)	EPA 3550	707485	EPA 8082A	707903
10537018031	BW20ML-121(0.35-0.6)	EPA 3550	707217	EPA 8082A	707672
10537018032	BW20ML-121(0.6-0.9)	EPA 3550	707217	EPA 8082A	707672
10537018033	BW20ML-121(0.9-1.2)	EPA 3550	712737	EPA 8082A	713024
10537018034	BW20ML-118(1.2-1.35)	EPA 3550	707484	EPA 8082A	707902
10537018036	BW20ML-115(0-0.3)	EPA 3550	707484	EPA 8082A	707902
10537018037	BW20ML-115(0.3-0.6)	EPA 3550	707484	EPA 8082A	707902
10537018040	BW20ML-117(0-0.35)	EPA 3550	707485	EPA 8082A	707903
10537018041	BW20ML-117(0.35-0.6)	EPA 3550	707485	EPA 8082A	707903
10537018045	BW20ML-134(0-0.42)	EPA 3550	707484	EPA 8082A	707902
10537018046	BW20ML-134(0.42-0.6)	EPA 3550	707484	EPA 8082A	707902
10537018049	BW20ML-135(0-0.3)	EPA 3550	707484	EPA 8082A	707902
10537018050	BW20ML-135(0.3-0.52)	EPA 3550	707484	EPA 8082A	707902
10537018053	BW20ML-137(0-0.3)	EPA 3550	707484	EPA 8082A	707902
10537018054	BW20ML-137(0.65-0.95)	EPA 3550	707484	EPA 8082A	707902
10537018056	BW20ML-140(0-0.3)	EPA 3550	707484	EPA 8082A	707902
10537018057	BW20ML-140(0.4-0.65)	EPA 3550	707484	EPA 8082A	707902
10537018058	BW20ML-140(0.65-0.9)	EPA 3550	711913	EPA 8082A	712326
10537018059	BW20ML-140(0.9-1.2)	EPA 3550	711913	EPA 8082A	712326
10537018061	BW20ML-005(0-0.3)	EPA 3550	707485	EPA 8082A	707903
10537018063	BW20ML-141(0-0.3)	EPA 3550	707485	EPA 8082A	707903
10537018064	BW20ML-141(0.4-0.7)	EPA 3550	711913	EPA 8082A	712326
10537018065	BW20ML-119(0-0.5)	EPA 3550	707485	EPA 8082A	707903
10537018066	BW20ML-119(0.5-0.88)	EPA 3550	707485	EPA 8082A	707903
10537018070	BW20ML-006(0-0.3)	EPA 3550	707485	EPA 8082A	707903

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing-Revised Report

Pace Project No.: 10537018

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537018072	BW20ML-133(0-0.3)	EPA 3550	707485	EPA 8082A	707903
10537018073	BW20ML-133(0.3-0.6)	EPA 3550	707485	EPA 8082A	707903
10537018074	BW20ML-133(0.6-0.83)	EPA 3550	707485	EPA 8082A	707903
10537018076	BW20ML-121(0-0.35)	EPA 3550	707485	EPA 8082A	707903
10537018077	BW20ML-137(0.3-0.65)	EPA 3550	707485	EPA 8082A	707903
10537018069	RB-102120	EPA Mod. 3510C	707814	EPA 8082A	708075
10537018071	RB-102220	EPA Mod. 3510C	707814	EPA 8082A	708075
10537018001	BW20ML-114(0-0.3)	ASTM D2974	709161		
10537018002	BW20ML-114(0.3-0.65)	ASTM D2974	709161		
10537018005	BW20ML-076(0-0.3)	ASTM D2974	709161		
10537018006	BW20ML-076(0.5-0.9)	ASTM D2974	709161		
10537018008	BW20ML-116(0-0.3)	ASTM D2974	709161		
10537018009	BW20ML-116(0.3-0.6)	ASTM D2974	709161		
10537018010	BW20ML-116(0.6-0.9)	ASTM D2974	709161		
10537018012	BW20ML-007(0-0.3)	ASTM D2974	709161		
10537018013	BW20ML-123(0-0.35)	ASTM D2974	709161		
10537018014	BW20ML-123(0.35-0.65)	ASTM D2974	709161		
10537018015	BW20ML-123(0.65-0.95)	ASTM D2974	709161		
10537018016	BW20ML-123(0.95-1.25)	ASTM D2974	711915		
10537018017	BW20ML-127(0-0.35)	ASTM D2974	709161		
10537018018	BW20ML-127(0.35-0.7)	ASTM D2974	709161		
10537018023	BW20ML-049(0-0.3)	ASTM D2974	709161		
10537018024	BW20ML-049(0.3-0.6)	ASTM D2974	709161		
10537018027	BW20ML-038(0-0.35)	ASTM D2974	709161		
10537018028	BW20ML-038(0.35-0.65)	ASTM D2974	709161		
10537018031	BW20ML-121(0.35-0.6)	ASTM D2974	709161		
10537018032	BW20ML-121(0.6-0.9)	ASTM D2974	709161		
10537018033	BW20ML-121(0.9-1.2)	ASTM D2974	713583		
10537018034	BW20ML-118(1.2-1.35)	ASTM D2974	709161		
10537018036	BW20ML-115(0-0.3)	ASTM D2974	709164		
10537018037	BW20ML-115(0.3-0.6)	ASTM D2974	709164		
10537018040	BW20ML-117(0-0.35)	ASTM D2974	709318		
10537018041	BW20ML-117(0.35-0.6)	ASTM D2974	709318		
10537018045	BW20ML-134(0-0.42)	ASTM D2974	709164		
10537018046	BW20ML-134(0.42-0.6)	ASTM D2974	709164		
10537018049	BW20ML-135(0-0.3)	ASTM D2974	709164		
10537018050	BW20ML-135(0.3-0.52)	ASTM D2974	709164		
10537018053	BW20ML-137(0-0.3)	ASTM D2974	709164		
10537018054	BW20ML-137(0.65-0.95)	ASTM D2974	709164		
10537018056	BW20ML-140(0-0.3)	ASTM D2974	709164		
10537018057	BW20ML-140(0.4-0.65)	ASTM D2974	709164		
10537018058	BW20ML-140(0.65-0.9)	ASTM D2974	711915		
10537018059	BW20ML-140(0.9-1.2)	ASTM D2974	711915		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 200633 Munger Landing-Revised Report
Pace Project No.: 10537018

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10537018061	BW20ML-005(0-0.3)	ASTM D2974	709164		
10537018063	BW20ML-141(0-0.3)	ASTM D2974	709164		
10537018064	BW20ML-141(0.4-0.7)	ASTM D2974	711915		
10537018065	BW20ML-119(0-0.5)	ASTM D2974	709164		
10537018066	BW20ML-119(0.5-0.88)	ASTM D2974	709164		
10537018070	BW20ML-006(0-0.3)	ASTM D2974	709164		
10537018072	BW20ML-133(0-0.3)	ASTM D2974	709164		
10537018073	BW20ML-133(0.3-0.6)	ASTM D2974	709164		
10537018074	BW20ML-133(0.6-0.83)	ASTM D2974	709164		
10537018076	BW20ML-121(0-0.35)	ASTM D2974	709164		
10537018077	BW20ML-137(0.3-0.65)	ASTM D2974	709164		

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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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information		Section E MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm Street Minneapolis MN, 55414	Work Order No.	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com	Copy To:							

Matrix Code	Lab Matrix Codes	Field Matrix Codes	Sample Type Codes	Preservatives
SE=Sediment	DW=Drinking Water	WTR=Ground Water	Sample-Routine Sample	
SO=Soil	NW=Non-potable Water	WTR-Surf=Surface Water	S-CWOP=Composite Sample	
QC=Soil QC	SP=Soil/Solid	QC-Blank=Artificial Blank Water	S-IVP=Integrated Vertical Profile Sample	
WA=Aqueous	WP=Wipe	QC-FB=Field Blank Sample	QC-FR=Field Replicate Sample	
WG=Groundwater	AR=Air	QC-FR=Field Replicate Sample	QC-TB=Trip Blank Sample	
S=Surface	BL=Biological Material	QC-TB=Trip Blank Sample		
	OT=Other			

WO#: 10537018

10537018

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-255	BW20ML-114(0-0.3)			Sample	G	SE	Sed-Ustieve	21-Oct	910	1	
2	69-1291-00-255	BW20ML-114(0.3-0.65)			Sample	G	SE	Sed-Ustieve	21-Oct	915	1	
3	69-1291-00-255	BW20ML-114(0.65-0.9)			Sample	G	SE	Sed-Ustieve	21-Oct	920		
4	69-1291-00-255	BW20ML-114(0.9-1.5)			Sample	G	SE	Sed-Ustieve	21-Oct	925		
5	69-1291-00-219	BW20ML-076(0-0.3)			Sample	G	SE	Sed-Ustieve	22-Oct	1210		
6	69-1291-00-219	BW20ML-076(0.5-0.9)			Sample	G	SE	Sed-Ustieve	22-Oct	1215		HOLD PENDING ANALYSIS
7	69-1291-00-219	BW20ML-076(1.2-1.5)			Sample	G	SE	Sed-Ustieve	22-Oct	1220		HOLD PENDING ANALYSIS
8	69-1291-00-257	BW20ML-116(0-0.3)			Sample	G	SE	Sed-Ustieve	22-Oct	830		MSMSD
9	69-1291-00-257	BW20ML-116(0.3-0.6)			Sample	G	SE	Sed-Ustieve	22-Oct	835		
10	69-1291-00-257	BW20ML-116(0.6-0.9)			Sample	G	SE	Sed-Ustieve	22-Oct	840		
11	69-1291-00-257	BW20ML-116(0.9-1.14)			Sample	G	SE	Sed-Ustieve	22-Oct	845		
12	69-1291-00-257	BW20ML-007(0-0.3)			QC-FR	G	SE	Sed-Ustieve	22-Oct	830	1	HOLD PENDING ANALYSIS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Patrick Sweeney/Bay West	10/26/20	13:07	Patrick Sweeney/Pace	10-27-20	13:46

SAMPLER NAME AND SIGNATURE		Temp (C)	SAMPLE CONDITIONS
Patrick Sweeney			
PRINT Name of SAMPLER:			
SIGNATURE of SAMPLER:			
DATE signed (MM/DD/YYYY):			
10/26/20			

B212



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C		Section D		Section E	
Required Client Information:		Required Project Information:		Invoice Information:		Laboratory Information:		MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accountants Payable	Lab Name:	1700 Elm Street Minneapolis MN, 55414	Work Order No.	3000025404
Address:	5 Empire Dr. St. Paul MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm Street Minneapolis MN, 55414	Facility Code:	SR1015
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Project Task Code:	PRJ07955
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.	206552	Lab Phone:	612-656-2286	Program Code	
Phone:	651-291-3411	Copy To:							
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code	Field Matrix Codes	Sample Type Codes	Time	Date	# of Cont.	Comments	ACCEPTED BY/AFFILIATION		DATE	TIME	Temp (C)	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)	
															DATE	SIGNATURE							
1		BW20ML-049(0-0.3)			Sample	G	SE SD	SE SD	Sample-Routine Sample	Sed-Useave	1405	22-Oct	1	X									
2		BW20ML-049(0.3-0.6)			Sample	G	SE SD	SE SD	S-WVP-Integrated Vertical Profile Sample	Sed-Useave	1410	22-Oct	1	X									
3		BW20ML-049(0.6-0.9)			Sample	G	SE SD	SE SD	QC-Blank/Artificial Blank Water	Sed-Useave	1415	22-Oct											
4		BW20ML-049(0.9-1.2)			Sample	G	SE SD	SE SD	Leachate-Leachate Sample	Sed-Useave	1420	22-Oct											
5		BW20ML-038(0-0.35)			Sample	G	SE SD	SE SD	Soil-Surf- Soil Surface	Sed-Useave	1430	22-Oct	1	X									
6		BW20ML-038(0.35-0.65)			Sample	G	SE SD	SE SD	Soil-Sub- Soil Subsurface	Sed-Useave	1435	22-Oct	1	X									
7		BW20ML-038(0.65-0.95)			Sample	G	SE SD	SE SD	OT-Chlor	Sed-Useave	1440	22-Oct											
8		BW20ML-038(0.95-1.25)			Sample	G	SE SD	SE SD		Sed-Useave	1445	22-Oct											
9	69-1291-00-262	BW20ML-121(0-0.35)			Sample	G	SE SD	SE SD		Sed-Useave	1535	22-Oct	1	X									
10	69-1291-00-262	BW20ML-121(0.35-0.6)			Sample	G	SE SD	SE SD		Sed-Useave	1540	22-Oct	1	X									
11	69-1291-00-262	BW20ML-121(0.6-0.9)			Sample	G	SE SD	SE SD		Sed-Useave	1545	22-Oct	1	X									
12	69-1291-00-262	BW20ML-121(0.9-1.2)			Sample	G	SE SD	SE SD		Sed-Useave	1550	22-Oct	1	X									

ADDITIONAL COMMENTS	RELINQUISHED BY/AFFILIATION	DATE	TIME	ACCEPTED BY/AFFILIATION	DATE	TIME
	Patrick Sweeney/Bay West	10/26/20	13:00	Patrick Sweeney	10-27-20	13:40
	Patrick Sweeney/Bay West	10-27	14:15	Patrick Sweeney	10-27-20	13:40

SAMPLER NAME AND SIGNATURE	PRINT NAME OF SAMPLER	DATE SIGNED (MM/DD/YYYY)
<i>Patrick Sweeney</i>	Patrick Sweeney	10/26/20



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:		Section B Required Project Information:		Section C Invoice Information:		Section D Laboratory Information:		Section E MPCA Information:	
Company:	Bay West	Project Name:	Munger Landing	Attention:		Lab Name:	Pace	COC ID:	
Address:	5 Empire Dr. St. Paul, MN, 55103	Project Number:	200633	Company Name:	Bay West LLC	Address:	1700 Elm Street Minneapolis, MN, 55411	Work Order No.:	3000025404
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	Colin Lynch	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:	206552	Lab Phone:	612-656-2286	Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:						Program Code	
Copy To:	Eweaver@baywest.com								

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G=GRAB C=COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments	Requested Analysis	
														Preservatives	Requested Analysis
1	69-1291-00-274	BW20ML-134(0-0.42)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1120	x			
2	69-1291-00-274	BW20ML-134(0.42-0.6)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1125	x			
3	69-1291-00-274	BW20ML-134(0.6-0.9)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1130				
4	69-1291-00-274	BW20ML-134(0.9-1.19)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1135				
5	69-1291-00-275	BW20ML-135(0-0.3)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1220	x			
6	69-1291-00-275	BW20ML-135(0.3-0.52)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1225	x			
7	69-1291-00-275	BW20ML-135(0.52-0.9)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1230				
8	69-1291-00-275	BW20ML-135(0.9-1.13)			Sample	G	SE	SD	Sed-Ustave	10/21/2020	1235				
9	69-1291-00-277	BW20ML-137(0-0.3)			Sample	G	SE	SD	Sed-Ustave	21-Oct	1605	x			
10	69-1291-00-277	BW20ML-137(0.3-0.65)			Sample	G	SE	SD	Sed-Ustave	21-Oct	1610	x			
11	69-1291-00-277	BW20ML-137(0.65-0.95)			Sample	G	SE	SD	Sed-Ustave	21-Oct	1615	x			
12	69-1291-00-277	BW20ML-137(0.95-1.25)			Sample	G	SE	SD	Sed-Ustave	21-Oct	1620	x			

Section A Additional Comments:		Section B Relinquished by Affiliation:		Section C Date:		Section D Time:	
Patrick Sweeney/Bay West		Patrick Sweeney/Bay West		10/26/20		13:40	
Nancy Pace		Nancy Pace		10-27		14:15	
Signature of Sampler:		Signature of Sampler:		Date Signed (MM/DD/YYYY):		10/26/20	
Patrick Sweeney		Patrick Sweeney		10/26/20		10/26/20	



CHAIN-OF-CUSTODY / Analytical Request Document

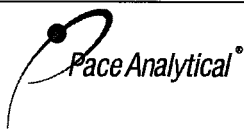
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A		Section B		Section C		Section D		Section E	
Required Client Information:		Required Project Information:		Invoice Information:		Laboratory Information		MPCA Information	
Company:	Bay West	Project Name:	Munger Landing	Attention:	Accounts Payable	Lab Name:	Bay West LLC	Lab Address:	1700 Elm Street Minneapolis MN, 55414
Address:	5 Empire Dr. SL Paul MN, 55103	Project Number:	200633	Company Name:	5 Empire Dr. St. Paul, MN 55103	Address:	5 Empire Dr. St. Paul, MN 55103	Lab Project Manager:	COLin Lynch
Project Manager:	Paul Raymaker	Turnaround Time:	Standard	Address:	206552	Lab Phone:	612-656-2286	Facility Code:	SR1015
Email To:	praymaker@baywest.com	Site Location (State):	MN	Purchase Order No.:		Lab Phone:		Project Task Code:	PRJ07955
Phone:	651-291-3411	Copy To:				Program Code:		COC ID:	3000025404
Copy To:	Eweaver@baywest.com	Copy To:							

ITEM #	Location Unique ID	Sample Common ID	Start Depth ft	End Depth ft	Sample Type Code (MPCA ONLY)	SAMPLE TYPE (G-GRAB C-COMP)	Matrix Code	Lab Matrix Code (MPCA ONLY)	Field Matrix Code (MPCA ONLY)	Date	Time	# of Cont.	Comments
1	69-1291-00-260	BW20ML-119(0-0.5)			Sample	G	SE	SD	Sec-Useve	10/21/2020	1150	1	065 088
2	69-1291-00-260	BW20ML-119(0.5-0.88)			Sample	G	SE	SD	Sec-Useve	10/21/2020	1155	1	088 066 080
3	69-1291-00-260	BW20ML-119(0.88-1.3)			Sample	G	SE	SD	Sec-Useve	10/21/2020	1200		089 007
4	69-1291-00-260	BW20ML-119(1.3-1.5)			Sample	G	SE	SD	Sec-Useve	10/21/2020	1205		071 069
5		13-10310			Sample	G	SE	SD	Sec-Useve	10/21/2020	1700		072 070
6	69-1291-00-273	BW20ML-006(0-0.3)			QC-FR	G	SE	SD	Sec-Useve	22-Oct	1040	1	073 071
7		13-10230			Sample	G	SE	SD	Sec-Useve	22-Oct	1015		074 MSMSD 072
8	69-1291-00-273	BW20ML-133(0-0.3)			Sample	G	SE	SD	Sec-Useve	22-Oct	1020	1	075 073
9	69-1291-00-273	BW20ML-133(0.3-0.6)			Sample	G	SE	SD	Sec-Useve	22-Oct	1025	1	076 074
10	69-1291-00-273	BW20ML-133(0.6-0.83)			Sample	G	SE	SD	Sec-Useve	22-Oct	1025	1	077 HOLD PENDING ANALYSIS
11	69-1291-00-273	BW20ML-133(0.83-1.2)			Sample	G	SE	SD	Sec-Useve	22-Oct	1030	1	078 HOLD PENDING ANALYSIS
12													079

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Patrick Sweeney/Bay West	10/26/20	12:00	Mth R Pace	10-27-20	13:40
	Mth R Pace	10-27	14:15			

SAMPLER NAME AND SIGNATURE	PRINT NAME OF SAMPLER	SIGNATURE OF SAMPLER	DATE SIGNED (MM/DD/YYYY)
<i>Patrick Sweeney</i>	Patrick Sweeney	<i>Patrick Sweeney</i>	10/26/20



Document Name: Sample Condition Upon Receipt (SCUR) - MN

Document Revised: 12Aug2020

Page 1 of 1

Document No.: ENV-FRM-MIN4-0150 Rev.01

Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt

Client Name: Bay West

Project #:

WO#: 10537018

PM: CL1

Due Date: 11/10/20

CLIENT: BW-BAY WEST

Courier: Fed Ex, UPS, USPS, Client, Pace, SpeeDee, Commercial

See Exceptions ENV-FRM-MIN4-0142

Tracking Number:

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap, Bubble Bags, None, Other Temp Blank? Yes No

Thermometer: T1(0461), T2(1336), T3(0459), T4(0254), T5(0489) Type of Ice: Wet, Blue, None, Dry, Melted

Did Samples Originate in West Virginia? Were All Container Temps Taken? Cooler Temp Read w/temp blank: 0.6 Average Corrected Temp (no temp blank only): 0.7

USDA Regulated Soil: N/A, water sample/Other: Date/Initials of Person Examining Contents: JMC 10-27-20

Table with 2 columns: Questions and COMMENTS. Includes rows for Chain of Custody, Short Hold Time Analysis, Rush Turn Around Time, Sufficient Volume, Containers Intact, Field Filtered Volume, Matrix, All containers needing acid/base preservation, Exceptions, Extra labels present, Trip Blank Present.

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: Comments/Resolution:

Field Data Required? Yes No

Date/Time:

Project Manager Review:

Signature of Project Manager

Date: 10/29/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: 10537018 Report date (mm/dd/yyyy): 11/10/2020
 Laboratory: Pace Review date (mm/dd/yyyy): 1/19/2021

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Calibration

Question		Yes	No	N/A	Comments
A.	Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question		Yes	No	N/A	Comments
A.	Do any of the analyses contain samples for field or trip blanks?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C.	Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question		Yes	No	N/A	Comments
A.	Are the lab recovery limits for surrogates specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv. Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question		Yes	No	N/A	Comments
A.	Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. If no, is there and explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	iv. Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	v. Are there compounds outside the lab QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>8082A: Matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10537018072 (BW20ML-133(0-0.3).202010221015) M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery for MS (Lab ID: 3780364) and MSD (Lab ID: 3780365). The amount spiked was insignificant to (>4x rule) for PCB 1260. No impacts.</p> <ul style="list-style-type: none"> • PCB-1016 (Aroclor 1016) and PCB-1260 (Aroclor 1260) <p>R1: RPD value was outside control limits for MSD (Lab ID: 3780365)</p> <ul style="list-style-type: none"> • PCB-1260 (Aroclor 1260)
	vi. If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	1. Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2. Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

	3.	Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.		Was a duplicate sample submitted for the analytical method(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Field duplicates: Duplicate / Parent BW20ML-005(0-0.3) [PCB total = <68 ug/kg] / BW20ML-140(0-0.3) [PCB total = 20000 ug/kg] [RPD=No calculation] BW20ML-007(0-0.3) [PCB total = 32300 ug/kg / BW20ML-116(0-0.3) [PCB total = <69.2 ug/kg] [RPD=No calculation] BW20ML-006(0-0.3) [PCB total = 10700 ug/kg / BW20ML-133(0-0.3) [PCB= 5250 ug/kg] [RPD=68.3%]
	i.	Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The Field Dup samples were collected with a separate sampling device to get additional volume necessary to fill the jars. Unfortunately the material from the second sampler was not homogenized with the parent material from the first sampler; instead it was homogenized on its own and placed into duplicate sample containers. While collected within 5 feet of the parent samples, they were collected using a different sample collection device and not combined/homogenized with the parent material. Therefore, we cannot treat these samples as duplicates, instead they should be unique samples. No qualifiers were applied.

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
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A.	Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8082A: E: Analyte concentration exceeded the calibration range for the MS (Lab ID: 3780364) and MSD (Lab ID: 3780365) for PCB-1260 (Aroclor 1260). No impacts to parent sample.
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10. Additional comments about the lab report

Any detected samples <RL and >DL were qualified as estimated.

The lab has revised the EDD to include additional PCB results including: BW20ML-123(0.95-1.25), BW20ML-140(0.65-0.9), BW20ML-140(0.9-1.2), BW20ML-141(0.4-0.7), and BW20ML-121(0.9-1.2). No further changes to QA Checklist..

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek Title: Program Chemist
(This document has been electronically signed.) Date (mm/dd/yyyy): 01/19/21



1435 Norjohn Court, Unit 1, Burlington, ON, Canada L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact: Breanne Dusureault
ALS Project ID: BWL100
ALS WO#: L2523152
Date of Report: 8-Dec-20
Date of Sample Receipt: 28-Oct-20

Client Name: Bay West LLC
Client Address: 5 Empire Drive
St. Paul, MN 55103
United States
Client Contact: Paul Raymaker
Client Project ID: J200633 MUNGER LANDING

COMMENTS: PCDD/F by EPA 8290A

All results have been reported on a dry weight basis.

For some samples, as well as the method blank, the recovery of the labelled standard 13C12-OCDD is below the method control limit. The reported OCDD data are not expected to be biased as a result.

Certified by:

A handwritten signature in black ink, appearing to read "Steve Kennedy", is written over a horizontal line.

Steve Kennedy
Technical Supervisor

Results in this certificate relate only to the samples as submitted to the laboratory.

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Sample Analysis Summary Report

Sample Name	69-1291-00-255 [BW20ML-114(0-0.3)]	Duplicate	69-1291-00-257 [BW20ML-116(0-0.3)]	69-1291-00-258 [BW20ML-117(0-0.35)]	69-1291-00-260 [BW20ML-119(0-0.5)]	69-1291-00-264 [BW20ML-123(0-0.35)]
ALS Sample ID	L2523152-1	WG3436826-4	L2523152-5	L2523152-9	L2523152-14	L2523152-18
Sample Size	12.80	13.06	13.85	10.93	3.69	12.08
Sample size units	g	g	g	g	g	g
Percent Moisture	36.9%	35.8%	31.0%	46.3%	81.8%	40.9%
Sample Matrix	Sediment	QC	Sediment	Sediment	Sediment	Sediment
Sampling Date	21-Oct-20	n/a	22-Oct-20	21-Oct-20	21-Oct-20	22-Oct-20
Extraction Date	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20
Target Analytes	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
2,3,7,8-TCDD	2.30	2.10	0.0390	1.34	2.67	<0.070
1,2,3,7,8-PeCDD	12.3	10.7	<0.069	3.87	6.33	<0.19
1,2,3,4,7,8-HxCDD	9.03	7.96	0.0563	3.22	7.31	<0.18
1,2,3,6,7,8-HxCDD	74.7	79.2	0.118	21.2	33.8	<0.71
1,2,3,7,8,9-HxCDD	51.3	44.5	<0.11	12.0	21.5	<0.57
1,2,3,4,6,7,8-HpCDD	868	774	1.12	379	618	10.5
OCDD	6220	5970	10.9	3620	6140	113
2,3,7,8-TCDF	1.04	1.11	<0.042	3.02	10.9	<0.091
1,2,3,7,8-PeCDF	2.21	2.91	<0.035	1.47	4.56	<0.17
2,3,4,7,8-PeCDF	8.28	11.3	<0.025	3.84	14.4	0.387
1,2,3,4,7,8-HxCDF	19.0	28.3	<0.021	9.19	14.3	<1.5
1,2,3,6,7,8-HxCDF	45.2	62.0	<0.069	18.5	33.7	<0.93
2,3,4,6,7,8-HxCDF	20.0	26.0	<0.031	7.75	16.7	0.550
1,2,3,7,8,9-HxCDF	5.99	7.50	<0.059	2.30	3.92	0.191
1,2,3,4,6,7,8-HpCDF	3680	4260	<2.7	853	776	30.0
1,2,3,4,7,8,9-HpCDF	13.8	18.6	<0.19	11.0	<13	<2.2
OCDF	1170	1280	2.34	354	513	45.8
Extraction Standards	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec
13C12-2,3,7,8-TCDD	72	77	76	76	75	75
13C12-1,2,3,7,8-PeCDD	56	58	62	53	52	57
13C12-1,2,3,4,7,8-HxCDD	74	91	81	82	81	84
13C12-1,2,3,6,7,8-HxCDD	76	80	86	78	81	74
13C12-1,2,3,4,6,7,8-HpCDD	46	52	57	44	47	48
13C12-OCDD	23	26	32	20	12	15
13C12-2,3,7,8-TCDF	76	83	83	76	75	75
13C12-1,2,3,7,8-PeCDF	63	66	64	61	58	56
13C12-2,3,4,7,8-PeCDF	57	60	57	52	53	50
13C12-1,2,3,4,7,8-HxCDF	81	95	86	87	88	85
13C12-1,2,3,6,7,8-HxCDF	84	97	86	87	85	89
13C12-2,3,4,6,7,8-HxCDF	74	88	83	77	80	88
13C12-1,2,3,7,8,9-HxCDF	76	90	74	88	92	73
13C12-1,2,3,4,6,7,8-HpCDF	44	54	57	43	50	44
13C12-1,2,3,4,7,8,9-HpCDF	37	44	53	38	38	47
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	64	68	64	71	73	69
Homologue Group Totals	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
Total-TCDD	38.9	34.4	6.18	16.3	27.0	4.64
Total-PeCDD	96.2	122	4.74	50.1	69.3	7.30
Total-HxCDD	808	775	3.38	251	372	10.9
Total-HpCDD	2210	1900	2.28	996	1450	25.9
Total-TCDF	42.1	54.7	<0.042	39.3	106	2.24
Total-PeCDF	149	195	<0.026	68.6	252	4.26
Total-HxCDF	1940	2180	0.520	484	564	17.8
Total-HpCDF	6490	7370	2.39	1540	1350	57.7
Toxic Equivalency - (WHO 2005)						
Lower Bound PCDD/F TEQ (WHO 2005)	87.6	94.6	0.0716	27.7	43.6	0.643
Mid Point PCDD/F TEQ (WHO 2005)	87.6	94.6	0.169	27.7	43.7	1.32
Upper Bound PCDD/F TEQ (WHO 2005)	87.6	94.6	0.211	27.7	43.7	1.33

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Sample Analysis Summary Report

Sample Name	69-1291-00-268 [BW20ML-127(0-0.35)]	69-1291-00-274 [BW20ML-134(0-0.42)]	69-1291-00-275 [BW20ML-135(0-0.3)]	69-1291-00-273 [BW20ML-133(0-0.3)]	69-1291-00-280 [BW20ML-140(0-0.3)]	69-1291-00-281 [BW20ML-141(0-0.3)]
ALS Sample ID	L2523152-22	L2523152-27	L2523152-31	L2523152-35	L2523152-39	L2523152-43
Sample Size	12.30	4.02	6.67	11.21	9.57	10.34
Sample size units	g	g	g	g	g	g
Percent Moisture	39.5%	80.3%	67.4%	44.1%	53.2%	49.1%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	21-Oct-20	21-Oct-20	21-Oct-20	22-Oct-20	21-Oct-20	22-Oct-20
Extraction Date	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20
Target Analytes	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
2,3,7,8-TCDD	4.25	<0.20	1.25	<0.28	8.74	<0.073
1,2,3,7,8-PeCDD	9.33	0.532	2.59	<0.61	25.6	<0.062
1,2,3,4,7,8-HxCDD	6.34	<0.29	2.46	<0.27	26.0	<0.12
1,2,3,6,7,8-HxCDD	49.7	<1.2	12.0	3.02	174	<0.21
1,2,3,7,8,9-HxCDD	28.7	<0.65	<6.1	1.57	109	<0.23
1,2,3,4,6,7,8-HpCDD	768	17.9	243	50.1	2320	2.41
OCDD	6310	218	2150	520	17800	22.4
2,3,7,8-TCDF	4.79	<0.24	5.80	1.02	13.1	<0.075
1,2,3,7,8-PeCDF	1.58	<0.30	1.83	0.573	10.0	<0.075
2,3,4,7,8-PeCDF	3.85	0.490	6.82	1.61	25.3	0.818
1,2,3,4,7,8-HxCDF	12.5	0.681	<6.9	11.9	66.4	<4.4
1,2,3,6,7,8-HxCDF	30.1	0.935	11.1	3.14	311	<0.73
2,3,4,6,7,8-HxCDF	12.2	<0.58	6.41	2.03	19.9	<0.42
1,2,3,7,8,9-HxCDF	3.74	<0.36	2.03	1.57	17.6	0.549
1,2,3,4,6,7,8-HpCDF	1600	25.7	312	96.2	8850	13.6
1,2,3,4,7,8,9-HpCDF	10.4	<0.52	8.43	21.3	55.1	<11
OCDF	611	20.9	234	216	3500	152
Extraction Standards	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec
13C12-2,3,7,8-TCDD	71	70	71	83	67	72
13C12-1,2,3,7,8-PeCDD	57	61	49	44	46	55
13C12-1,2,3,4,7,8-HxCDD	84	82	75	84	76	82
13C12-1,2,3,6,7,8-HxCDD	77	75	76	75	69	82
13C12-1,2,3,4,6,7,8-HpCDD	53	52	44	38	44	56
13C12-OCDD	29	23	12	12	18	16
13C12-2,3,7,8-TCDF	82	79	69	75	71	75
13C12-1,2,3,7,8-PeCDF	66	65	54	58	58	59
13C12-2,3,4,7,8-PeCDF	60	59	45	42	50	53
13C12-1,2,3,4,7,8-HxCDF	100	85	81	84	90	93
13C12-1,2,3,6,7,8-HxCDF	99	81	80	84	89	88
13C12-2,3,4,6,7,8-HxCDF	89	78	73	71	79	81
13C12-1,2,3,7,8,9-HxCDF	85	78	85	96	62	77
13C12-1,2,3,4,6,7,8-HpCDF	60	48	43	39	44	49
13C12-1,2,3,4,7,8,9-HpCDF	38	46	40	39	38	53
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	71	65	73	95	74	70
Homologue Group Totals	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
Total-TCDD	37.2	6.95	10.8	7.08	87.8	6.17
Total-PeCDD	90.7	8.44	27.5	7.26	215	5.22
Total-HxCDD	571	7.93	129	32.6	1940	4.05
Total-HpCDD	2040	45.0	529	117	5720	2.41
Total-TCDF	28.4	6.28	111	21.7	165	4.77
Total-PeCDF	66.1	5.26	106	35.0	408	7.62
Total-HxCDF	866	16.6	226	86.9	4730	16.0
Total-HpCDF	2830	48.6	554	219	15900	33.8
Toxic Equivalency - (WHO 2005)						
Lower Bound PCDD/F TEQ (WHO 2005)	55.4	1.35	16.3	4.82	235	0.513
Mid Point PCDD/F TEQ (WHO 2005)	55.4	1.87	17.6	5.73	235	1.33
Upper Bound PCDD/F TEQ (WHO 2005)	55.4	1.89	17.6	5.74	235	1.38

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Sample Analysis Summary Report

Sample Name	69-1291-00-277 [BW20ML-137(0-0.3)]	69-1291-00-280 [BW20ML-005(0-0.3)]	69-1291-00-297 [BW20ML-049(0-0.3)]	69-1291-00-296 [BW20ML-038(0-0.35)]	69-1291-00-262 [BW20ML-121(0-0.35)]	69-1291-00-259 [BW20ML-118(1.2-1.35)]
ALS Sample ID	L2523152-45	L2523152-49	L2523152-50	L2523152-54	L2523152-58	L2523152-62
Sample Size	12.52	9.08	11.49	13.79	12.10	9.74
Sample size units	g	g	g	g	g	g
Percent Moisture	38.0%	54.7%	43.2%	31.1%	40.9%	52.3%
Sample Matrix	Sediment	Sediment	Sediment	Sediment	Sediment	Sediment
Sampling Date	21-Oct-20	21-Oct-20	22-Oct-20	22-Oct-20	22-Oct-20	22-Oct-20
Extraction Date	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20	17-Nov-20
Target Analytes	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
2,3,7,8-TCDD	<0.032	1.67	0.387	<0.065	<0.090	0.592
1,2,3,7,8-PeCDD	0.0679	2.83	<0.68	0.124	<0.12	1.40
1,2,3,4,7,8-HxCDD	<0.078	2.57	0.881	<0.079	<0.093	<1.4
1,2,3,6,7,8-HxCDD	0.161	18.9	5.53	0.449	<0.38	<5.8
1,2,3,7,8,9-HxCDD	<0.14	10.4	3.22	0.278	<0.22	5.16
1,2,3,4,6,7,8-HpCDD	1.57	418	82.0	5.58	6.03	111
OCDD	18.6	4640	946	51.4	60.2	1030
2,3,7,8-TCDF	<0.056	5.09	0.976	0.106	<0.098	2.96
1,2,3,7,8-PeCDF	<0.022	1.57	0.583	0.0602	0.153	2.78
2,3,4,7,8-PeCDF	<0.020	3.85	1.18	<0.082	1.71	6.31
1,2,3,4,7,8-HxCDF	0.176	8.80	2.25	0.168	4.69	41.1
1,2,3,6,7,8-HxCDF	<0.20	14.2	6.47	0.265	0.608	13.4
2,3,4,6,7,8-HxCDF	0.131	4.00	2.37	<0.21	<0.62	6.96
1,2,3,7,8,9-HxCDF	<0.098	2.18	0.629	<0.066	0.485	4.21
1,2,3,4,6,7,8-HpCDF	3.63	516	184	9.36	<19	278
1,2,3,4,7,8,9-HpCDF	<0.22	9.39	2.84	<0.24	11.7	54.1
OCDF	4.27	595	99.0	7.07	212	707
Extraction Standards	% Rec	% Rec	% Rec	% Rec	% Rec	% Rec
13C12-2,3,7,8-TCDD	76	78	71	70	75	78
13C12-1,2,3,7,8-PeCDD	68	61	55	62	54	52
13C12-1,2,3,4,7,8-HxCDD	79	88	85	85	85	86
13C12-1,2,3,6,7,8-HxCDD	76	81	72	74	75	82
13C12-1,2,3,4,6,7,8-HpCDD	61	54	49	54	47	45
13C12-OCDD	21	19	16	19	14	13
13C12-2,3,7,8-TCDF	78	81	70	69	76	78
13C12-1,2,3,7,8-PeCDF	69	69	60	63	60	60
13C12-2,3,4,7,8-PeCDF	64	63	55	60	56	54
13C12-1,2,3,4,7,8-HxCDF	82	98	86	80	85	92
13C12-1,2,3,6,7,8-HxCDF	81	94	85	82	87	95
13C12-2,3,4,6,7,8-HxCDF	73	90	80	76	79	83
13C12-1,2,3,7,8,9-HxCDF	71	85	77	74	75	86
13C12-1,2,3,4,6,7,8-HpCDF	57	55	51	52	47	45
13C12-1,2,3,4,7,8,9-HpCDF	63	48	47	51	44	41
Cleanup Standard						
37Cl4-2,3,7,8-TCDD (Cleanup)	65	76	62	57	66	73
Homologue Group Totals	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
Total-TCDD	3.50	16.9	4.57	3.49	0.918	7.29
Total-PeCDD	3.49	43.1	15.4	4.22	1.51	16.8
Total-HxCDD	3.63	211	59.4	5.63	2.62	73.5
Total-HpCDD	1.57	1050	221	12.9	13.2	260
Total-TCDF	0.284	43.2	10.8	0.331	13.5	103
Total-PeCDF	<0.022	57.0	17.5	1.07	33.3	126
Total-HxCDF	1.46	297	107	4.60	52.8	255
Total-HpCDF	3.63	1030	324	17.2	42.2	589
Toxic Equivalency - (WHO 2005)						
Lower Bound PCDD/F TEQ (WHO 2005)	0.174	23.3	5.99	0.419	1.35	16.3
Mid Point PCDD/F TEQ (WHO 2005)	0.246	23.3	6.67	0.513	1.85	17.0
Upper Bound PCDD/F TEQ (WHO 2005)	0.272	23.3	6.67	0.547	1.90	17.0

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Sample Analysis Summary Report

Sample Name	69-1291-00-219 [BW20ML-076(0-0.3)]	69-1291-00-256 [BW20ML-115(0-0.3)]	DIOXINS IN SOIL PES PC00201
ALS Sample ID	L2523152-64	L2523152-67	L2523152-71
Sample Size	10.55	13.93	9.92
Sample size units	g	g	g
Percent Moisture	47.9%	31.6%	0.80%
Sample Matrix	Sediment	Sediment	Sediment
Sampling Date	22-Oct-20	21-Oct-20	n/a
Extraction Date	17-Nov-20	17-Nov-20	17-Nov-20
Target Analytes	pg/g	pg/g	pg/g
2,3,7,8-TCDD	0.971	<0.055	4.64
1,2,3,7,8-PeCDD	1.72	<0.078	6.77
1,2,3,4,7,8-HxCDD	<1.7	<0.052	3.26
1,2,3,6,7,8-HxCDD	9.17	0.338	5.52
1,2,3,7,8,9-HxCDD	7.03	0.190	1.07
1,2,3,4,6,7,8-HpCDD	187	3.38	40.7
OCDD	1690	30.0	184
2,3,7,8-TCDF	3.98	<0.064	2.17
1,2,3,7,8-PeCDF	4.22	<0.048	50.3
2,3,4,7,8-PeCDF	33.2	<0.046	11.8
1,2,3,4,7,8-HxCDF	133	<0.099	11.5
1,2,3,6,7,8-HxCDF	33.7	0.277	0.778
2,3,4,6,7,8-HxCDF	17.4	<0.15	30.2
1,2,3,7,8,9-HxCDF	13.3	<0.071	32.5
1,2,3,4,6,7,8-HpCDF	750	10.2	2.61
1,2,3,4,7,8,9-HpCDF	300	<0.28	29.7
OCDF	4030	8.12	17.0
Extraction Standards	% Rec	% Rec	% Rec
13C12-2,3,7,8-TCDD	74	71	79
13C12-1,2,3,7,8-PeCDD	49	59	60
13C12-1,2,3,4,7,8-HxCDD	84	82	85
13C12-1,2,3,6,7,8-HxCDD	75	71	85
13C12-1,2,3,4,6,7,8-HpCDD	44	45	58
13C12-OCDD	13	14	18
13C12-2,3,7,8-TCDF	75	71	74
13C12-1,2,3,7,8-PeCDF	57	60	64
13C12-2,3,4,7,8-PeCDF	51	55	57
13C12-1,2,3,4,7,8-HxCDF	90	74	79
13C12-1,2,3,6,7,8-HxCDF	87	75	78
13C12-2,3,4,6,7,8-HxCDF	79	70	76
13C12-1,2,3,7,8,9-HxCDF	80	64	73
13C12-1,2,3,4,6,7,8-HpCDF	45	40	53
13C12-1,2,3,4,7,8,9-HpCDF	40	41	58
Cleanup Standard			
37Cl4-2,3,7,8-TCDD (Cleanup)	69	55	59
Homologue Group Totals	pg/g	pg/g	pg/g
Total-TCDD	9.59	5.79	9.73
Total-PeCDD	33.4	0.780	6.77
Total-HxCDD	128	5.95	11.5
Total-HpCDD	446	3.38	52.7
Total-TCDF	333	0.263	133
Total-PeCDF	621	0.596	62.9
Total-HxCDF	906	5.35	77.5
Total-HpCDF	1880	18.8	32.3
Toxic Equivalency - (WHO 2005)			
Lower Bound PCDD/F TEQ (WHO 2005)	48.6	0.228	25.9
Mid Point PCDD/F TEQ (WHO 2005)	48.8	0.338	25.9
Upper Bound PCDD/F TEQ (WHO 2005)	48.8	0.422	25.9

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Quality Control Summary Report

Sample Name	Method Blank	Laboratory Control Sample
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ALS Sample ID	WG3436826-1	WG3436826-2
Sample Size	10.00	1
Sample size units	g	n/a
Percent Moisture	n/a	n/a
Sample Matrix	QC	QC
Sampling Date	n/a	n/a
Extraction Date	17-Nov-20	17-Nov-20

Target Analytes	pg/g	% Rec
2,3,7,8-TCDD	<0.037	88
1,2,3,7,8-PeCDD	<0.053	101
1,2,3,4,7,8-HxCDD	<0.082	88
1,2,3,6,7,8-HxCDD	<0.078	92
1,2,3,7,8,9-HxCDD	0.125	95
1,2,3,4,6,7,8-HpCDD	<0.18	88
OCDD	1.97	88
2,3,7,8-TCDF	<0.040	83
1,2,3,7,8-PeCDF	0.0610	89
2,3,4,7,8-PeCDF	<0.027	92
1,2,3,4,7,8-HxCDF	<0.033	91
1,2,3,6,7,8-HxCDF	0.0340	91
2,3,4,6,7,8-HxCDF	<0.058	90
1,2,3,7,8,9-HxCDF	<0.095	94
1,2,3,4,6,7,8-HpCDF	<0.32	89
1,2,3,4,7,8,9-HpCDF	<0.14	94
OCDF	<0.92	124

Extraction Standards	% Rec	% Rec
13C12-2,3,7,8-TCDD	62	65
13C12-1,2,3,7,8-PeCDD	52	56
13C12-1,2,3,4,7,8-HxCDD	69	80
13C12-1,2,3,6,7,8-HxCDD	65	70
13C12-1,2,3,4,6,7,8-HpCDD	55	68
13C12-OCDD	19	26
13C12-2,3,7,8-TCDF	65	69
13C12-1,2,3,7,8-PeCDF	56	55
13C12-2,3,4,7,8-PeCDF	50	55
13C12-1,2,3,4,7,8-HxCDF	67	74
13C12-1,2,3,6,7,8-HxCDF	65	73
13C12-2,3,4,6,7,8-HxCDF	63	69
13C12-1,2,3,7,8,9-HxCDF	65	69
13C12-1,2,3,4,6,7,8-HpCDF	8	58
13C12-1,2,3,4,7,8,9-HpCDF	47	65

Cleanup Standard	% Rec	% Rec
37Cl4-2,3,7,8-TCDD (Cleanup)	59	62

Homologue Group Totals	pg/g
Total-TCDD	<0.037
Total-PeCDD	0.0980
Total-HxCDD	0.125
Total-HpCDD	<0.090
Total-TCDF	<0.040
Total-PeCDF	0.0610
Total-HxCDF	0.0960
Total-HpCDF	<0.32

Toxic Equivalency - (WHO 2005)

Lower Bound PCDD/F TEQ (WHO 2005)	0.0183
Mid Point PCDD/F TEQ (WHO 2005)	0.128
Upper Bound PCDD/F TEQ (WHO 2005)	0.162

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Sample Analysis Report

Sample Name 69-1291-00-255 [BW20ML-114(0-0.3)]
ALS Sample ID L2523152-1
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 21-Oct-20
Extraction Date 17-Nov-20
Sample Size 12.80 g
Percent Moisture 36.9%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A06
Run Date 07-Dec-20 00:05
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.01	2.30	0.048			0.78
1,2,3,7,8-PeCDD	1	31.60	12.3	0.074			3.9
1,2,3,4,7,8-HxCDD	0.1	33.73	9.03	0.36			3.9
1,2,3,6,7,8-HxCDD	0.1	33.79	74.7	0.34			3.9
1,2,3,7,8,9-HxCDD	0.1	33.92	51.3	0.34			3.9
1,2,3,4,6,7,8-HpCDD	0.01	35.35	868	1.4			3.9
OCDD	0.0003	36.80	6220	1.9			7.8
2,3,7,8-TCDF	0.1	26.10	1.04	0.11	M		0.78
1,2,3,7,8-PeCDF	0.03	30.60	2.21	0.11	J		3.9
2,3,4,7,8-PeCDF	0.3	31.36	8.28	0.099			3.9
1,2,3,4,7,8-HxCDF	0.1	33.22	19.0	0.21			3.9
1,2,3,6,7,8-HxCDF	0.1	33.29	45.2	0.22			3.9
2,3,4,6,7,8-HxCDF	0.1	33.62	20.0	0.25			3.9
1,2,3,7,8,9-HxCDF	0.1	34.07	5.99	0.28			3.9
1,2,3,4,6,7,8-HpCDF	0.01	34.80	3680	1.0			3.9
1,2,3,4,7,8,9-HpCDF	0.01	35.59	13.8	2.1			3.9
OCDF	0.0003	36.88	1170	1.1			7.8

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.98	72 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.59	56 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.73	74 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.78	76 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.35	46 25-130
13C12-OCDD	4000	36.79	23 25-130
13C12-2,3,7,8-TCDF	2000	26.08	76 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.59	63 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.36	57 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.21	81 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.28	84 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.62	74 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.04	76 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.80	44 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	37 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.01	64 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	15	38.9	0.048
Total-PeCDD	8	96.2	0.074
Total-HxCDD	6	808	0.36
Total-HpCDD	2	2210	1.4
Total-TCDF	13	42.1	0.11
Total-PeCDF	10	149	0.11
Total-HxCDF	8	1940	0.28
Total-HpCDF	3	6490	2.1

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	87.6
Mid Point PCDD/F TEQ (WHO 2005)	87.6
Upper Bound PCDD/F TEQ (WHO 2005)	87.6

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

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Sample Analysis Report

Sample Name	Duplicate	Sampling Date	n/a	
ALS Sample ID	WG3436826-4	Extraction Date	17-Nov-20	
Analysis Method	EPA 8290A	Sample Size	13.06	g
Analysis Type	Sample	Percent Moisture	35.8%	
Sample Matrix	QC	Split Ratio	1	

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information		Run 1	
Filename	10-201206A07		
Run Date	07-Dec-20 00:47		
Final Volume	20	uL	
Dilution Factor	1		
Analysis Units	pg/g		
Instrument - Column	HRMS-10 DB5MSUSO287833H		

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.00	2.10	0.047	M		0.77
1,2,3,7,8-PeCDD	1	31.59	10.7	0.063	M		3.8
1,2,3,4,7,8-HxCDD	0.1	33.72	7.96	0.62			3.8
1,2,3,6,7,8-HxCDD	0.1	33.77	79.2	0.66			3.8
1,2,3,7,8,9-HxCDD	0.1	33.90	44.5	0.63			3.8
1,2,3,4,6,7,8-HpCDD	0.01	35.35	774	2.0			3.8
OCDD	0.0003	36.79	5970	2.1			7.7
2,3,7,8-TCDF	0.1	26.10	1.11	0.085	M		0.77
1,2,3,7,8-PeCDF	0.03	30.59	2.91	0.12	J		3.8
2,3,4,7,8-PeCDF	0.3	31.36	11.3	0.11			3.8
1,2,3,4,7,8-HxCDF	0.1	33.21	28.3	0.38			3.8
1,2,3,6,7,8-HxCDF	0.1	33.28	62.0	0.39			3.8
2,3,4,6,7,8-HxCDF	0.1	33.61	26.0	0.42			3.8
1,2,3,7,8,9-HxCDF	0.1	34.06	7.50	0.50			3.8
1,2,3,4,6,7,8-HpCDF	0.01	34.80	4260	2.0			3.8
1,2,3,4,7,8,9-HpCDF	0.01	35.58	18.6	4.2			3.8
OCDF	0.0003	36.88	1280	0.97			7.7
Extraction Standards	pg	% Rec	Limits				
13C12-2,3,7,8-TCDD	2000	26.98	77	40-130			
13C12-1,2,3,7,8-PeCDD	2000	31.58	58	40-130			
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	91	40-130			
13C12-1,2,3,6,7,8-HxCDD	2000	33.77	80	40-130			
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	52	25-130			
13C12-OCDD	4000	36.78	26	25-130			
13C12-2,3,7,8-TCDF	2000	26.07	83	40-130			
13C12-1,2,3,7,8-PeCDF	2000	30.58	66	40-130			
13C12-2,3,4,7,8-PeCDF	2000	31.35	60	40-130			
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	95	40-130			
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	97	40-130			
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	88	40-130			
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	90	40-130			
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	54	25-130	R		
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	44	25-130			
Cleanup Standard	pg						
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.00	68	40-130			
Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g				
Total-TCDD	14	34.4	0.047				0.77
Total-PeCDD	9	122	0.063				3.8
Total-HxCDD	6	775	0.66				3.8
Total-HpCDD	2	1900	2.0				3.8
Total-TCDF	12	54.7	0.085				0.77
Total-PeCDF	8	195	0.12				3.8
Total-HxCDF	9	2180	0.50				3.8
Total-HpCDF	3	7370	4.2				3.8

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	94.6
Mid Point PCDD/F TEQ (WHO 2005)	94.6
Upper Bound PCDD/F TEQ (WHO 2005)	94.6

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
M	Indicates that a peak has been manually integrated.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-257 [BW20ML-116(0-0.3)]
ALS Sample ID L2523152-5
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 13.85 g
Percent Moisture 31.0%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A08
Run Date 07-Dec-20 01:29
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	26.98	0.0390	0.030	M,J	0.72	
1,2,3,7,8-PeCDD	1	NotFnd	<0.069	0.069	U		3.6
1,2,3,4,7,8-HxCDD	0.1	33.70	0.0563	0.044	M,J		3.6
1,2,3,6,7,8-HxCDD	0.1	33.76	0.118	0.043	M,J		3.6
1,2,3,7,8,9-HxCDD	0.1	33.90	<0.11	0.042	M,J,R	0.11	3.6
1,2,3,4,6,7,8-HpCDD	0.01	35.34	1.12	0.12	M,J		3.6
OCDD	0.0003	36.78	10.9	0.22	B		7.2
2,3,7,8-TCDF	0.1	NotFnd	<0.042	0.042	U		0.72
1,2,3,7,8-PeCDF	0.03	30.57	<0.035	0.026	M,J,R	0.035	3.6
2,3,4,7,8-PeCDF	0.3	NotFnd	<0.025	0.025	U		3.6
1,2,3,4,7,8-HxCDF	0.1	NotFnd	<0.021	0.021	U		3.6
1,2,3,6,7,8-HxCDF	0.1	33.26	<0.069	0.022	M,J,R	0.069	3.6
2,3,4,6,7,8-HxCDF	0.1	33.60	<0.031	0.023	M,J,R	0.031	3.6
1,2,3,7,8,9-HxCDF	0.1	34.04	<0.059	0.031	M,J,R	0.059	3.6
1,2,3,4,6,7,8-HpCDF	0.01	34.79	<2.7	0.11	J,R	2.7	3.6
1,2,3,4,7,8,9-HpCDF	0.01	NotFnd	<0.19	0.19	U		3.6
OCDF	0.0003	36.86	2.34	0.23	J		7.2

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.96	76 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	62 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.70	81 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.75	86 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	57 25-130
13C12-OCDD	4000	36.78	32 25-130
13C12-2,3,7,8-TCDF	2000	26.04	83 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	64 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.33	57 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	86 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	86 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	83 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.01	74 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	57 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	53 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	64 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	9	6.18	0.030
Total-PeCDD	4	4.74	0.069
Total-HxCDD	4	3.38	0.044
Total-HpCDD	2	2.28	0.12
Total-TCDF	0	<0.042	0.042
Total-PeCDF	0	<0.026	0.026
Total-HxCDF	2	0.520	0.031
Total-HpCDF	1	2.39	0.19

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	0.0716
Mid Point PCDD/F TEQ (WHO 2005)	0.169
Upper Bound PCDD/F TEQ (WHO 2005)	0.211

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-258 [BW20ML-117(0-0.35)]
ALS Sample ID L2523152-9
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 21-Oct-20
Extraction Date 17-Nov-20
Sample Size 10.93 g
Percent Moisture 46.3%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A09
Run Date 07-Dec-20 02:11
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.01	1.34	0.066	M		0.92
1,2,3,7,8-PeCDD	1	31.59	3.87	0.14	J		4.6
1,2,3,4,7,8-HxCDD	0.1	33.72	3.22	0.35	J		4.6
1,2,3,6,7,8-HxCDD	0.1	33.78	21.2	0.33			4.6
1,2,3,7,8,9-HxCDD	0.1	33.91	12.0	0.33	M		4.6
1,2,3,4,6,7,8-HpCDD	0.01	35.34	379	1.4			4.6
OCDD	0.0003	36.79	3620	2.1			9.1
2,3,7,8-TCDF	0.1	26.08	3.02	0.19			0.92
1,2,3,7,8-PeCDF	0.03	30.58	1.47	0.093	J		4.6
2,3,4,7,8-PeCDF	0.3	31.35	3.84	0.095	J		4.6
1,2,3,4,7,8-HxCDF	0.1	33.21	9.19	0.32			4.6
1,2,3,6,7,8-HxCDF	0.1	33.27	18.5	0.32			4.6
2,3,4,6,7,8-HxCDF	0.1	33.60	7.75	0.35			4.6
1,2,3,7,8,9-HxCDF	0.1	34.05	2.30	0.33	J		4.6
1,2,3,4,6,7,8-HpCDF	0.01	34.79	853	1.5			4.6
1,2,3,4,7,8,9-HpCDF	0.01	35.58	11.0	2.6			4.6
OCDF	0.0003	36.87	354	0.79			9.1

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.98	76 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	53 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.72	82 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.77	78 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	44 25-130
13C12-OCDD	4000	36.78	20 25-130
13C12-2,3,7,8-TCDF	2000	26.07	76 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	61 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	52 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	87 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	87 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	77 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	88 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	43 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	38 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.00	71 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g	LQL
Total-TCDD	12	16.3	0.066	0.92
Total-PeCDD	11	50.1	0.14	4.6
Total-HxCDD	6	251	0.35	4.6
Total-HpCDD	2	996	1.4	4.6
Total-TCDF	15	39.3	0.19	0.92
Total-PeCDF	7	68.6	0.095	4.6
Total-HxCDF	9	484	0.35	4.6
Total-HpCDF	3	1540	2.6	4.6

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	27.7
Mid Point PCDD/F TEQ (WHO 2005)	27.7
Upper Bound PCDD/F TEQ (WHO 2005)	27.7

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.

 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-260 [BW20ML-119(0-0.5)]
 ALS Sample ID L2523152-14
 Analysis Method EPA 8290A
 Analysis Type Sample
 Sample Matrix Sediment

Sampling Date 21-Oct-20
 Extraction Date 17-Nov-20
 Sample Size 3.69 g
 Percent Moisture 81.8%
 Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
 Filename 10-201206A10
 Run Date 07-Dec-20 02:54
 Final Volume 20 uL
 Dilution Factor 1
 Analysis Units pg/g
 Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	26.98	2.67	0.18		J	2.7
1,2,3,7,8-PeCDD	1	31.59	6.33	0.33		M,J	14
1,2,3,4,7,8-HxCDD	0.1	33.72	7.31	1.7		J	14
1,2,3,6,7,8-HxCDD	0.1	33.78	33.8	1.5			14
1,2,3,7,8,9-HxCDD	0.1	33.90	21.5	1.6			14
1,2,3,4,6,7,8-HpCDD	0.01	35.35	618	3.1			14
OCDD	0.0003	36.80	6140	7.5			27
2,3,7,8-TCDF	0.1	26.08	10.9	0.25		M	2.7
1,2,3,7,8-PeCDF	0.03	30.59	4.56	0.41		J	14
2,3,4,7,8-PeCDF	0.3	31.36	14.4	0.35			14
1,2,3,4,7,8-HxCDF	0.1	33.21	14.3	1.0			14
1,2,3,6,7,8-HxCDF	0.1	33.28	33.7	1.0			14
2,3,4,6,7,8-HxCDF	0.1	33.61	16.7	1.1		M	14
1,2,3,7,8,9-HxCDF	0.1	34.06	3.92	1.1		J	14
1,2,3,4,6,7,8-HpCDF	0.01	34.80	776	1.5			14
1,2,3,4,7,8,9-HpCDF	0.01	35.59	<13	3.4		M,J,R	13 14
OCDF	0.0003	36.88	513	2.5			27

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.98	75 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	52 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.72	81 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.77	81 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	47 25-130
13C12-OCDD	4000	36.79	12 25-130
13C12-2,3,7,8-TCDF	2000	26.05	75 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.58	58 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	53 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	88 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	85 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	80 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.04	92 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	50 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	38 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.00	73 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g	LQL
Total-TCDD	12	27.0	0.18	2.7
Total-PeCDD	8	69.3	0.33	14
Total-HxCDD	6	372	1.7	14
Total-HpCDD	2	1450	3.1	14
Total-TCDF	8	106	0.25	2.7
Total-PeCDF	11	252	0.41	14
Total-HxCDF	8	564	1.1	14
Total-HpCDF	2	1350	3.4	14

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	43.6
Mid Point PCDD/F TEQ (WHO 2005)	43.7
Upper Bound PCDD/F TEQ (WHO 2005)	43.7

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-264 [BW20ML-123(0-0.35)]
ALS Sample ID L2523152-18
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 12.08 g
Percent Moisture 40.9%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A11
Run Date 07-Dec-20 03:36
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	26.97	<0.070	0.043	M,J,R	0.070	0.83
1,2,3,7,8-PeCDD	1	31.59	<0.19	0.061	M,J,R	0.19	4.1
1,2,3,4,7,8-HxCDD	0.1	33.72	<0.18	0.18	M,U	0.14	4.1
1,2,3,6,7,8-HxCDD	0.1	33.77	<0.71	0.18	M,J,R	0.71	4.1
1,2,3,7,8,9-HxCDD	0.1	33.90	<0.57	0.17	J,R	0.57	4.1
1,2,3,4,6,7,8-HpCDD	0.01	35.35	10.5	0.27			4.1
OCDD	0.0003	36.80	113	0.91			8.3
2,3,7,8-TCDF	0.1	26.04	<0.091	0.080	M,J,R	0.091	0.83
1,2,3,7,8-PeCDF	0.03	30.58	<0.17	0.083	M,J,R	0.17	4.1
2,3,4,7,8-PeCDF	0.3	31.36	0.387	0.077	J		4.1
1,2,3,4,7,8-HxCDF	0.1	33.21	<1.5	0.063	J,R	1.5	4.1
1,2,3,6,7,8-HxCDF	0.1	33.28	<0.93	0.062	J,R	0.93	4.1
2,3,4,6,7,8-HxCDF	0.1	33.61	0.550	0.060	M,J		4.1
1,2,3,7,8,9-HxCDF	0.1	34.04	0.191	0.093	M,J		4.1
1,2,3,4,6,7,8-HpCDF	0.01	34.80	30.0	0.37			4.1
1,2,3,4,7,8,9-HpCDF	0.01	35.59	<2.2	0.55	M,J,R	2.2	4.1
OCDF	0.0003	36.88	45.8	0.29	M		8.3

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.96	75 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	57 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	84 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	74 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	48 25-130
13C12-OCDD	4000	36.79	15 25-130
13C12-2,3,7,8-TCDF	2000	26.05	75 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	56 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	50 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	85 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	89 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	88 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	73 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	44 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	47 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	69 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	4	4.64	0.043
Total-PeCDD	7	7.30	0.061
Total-HxCDD	2	10.9	0.18
Total-HpCDD	2	25.9	0.27
Total-TCDF	2	2.24	0.080
Total-PeCDF	7	4.26	0.083
Total-HxCDF	5	17.8	0.093
Total-HpCDF	2	57.7	0.55

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	0.643
Mid Point PCDD/F TEQ (WHO 2005)	1.32
Upper Bound PCDD/F TEQ (WHO 2005)	1.33

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-268 [BW20ML-127(0-0.35)]
 ALS Sample ID L2523152-22
 Analysis Method EPA 8290A
 Analysis Type Sample
 Sample Matrix Sediment

Sampling Date 21-Oct-20
 Extraction Date 17-Nov-20
 Sample Size 12.30 g
 Percent Moisture 39.5%
 Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
 Filename 10-201206A12
 Run Date 07-Dec-20 04:18
 Final Volume 20 uL
 Dilution Factor 1
 Analysis Units pg/g
 Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.04	4.25	0.060			0.81
1,2,3,7,8-PeCDD	1	31.60	9.33	0.15			4.1
1,2,3,4,7,8-HxCDD	0.1	33.74	6.34	0.77	M		4.1
1,2,3,6,7,8-HxCDD	0.1	33.79	49.7	0.68	M		4.1
1,2,3,7,8,9-HxCDD	0.1	33.92	28.7	0.71	M		4.1
1,2,3,4,6,7,8-HpCDD	0.01	35.35	768	2.2			4.1
OCDD	0.0003	36.79	6310	1.6			8.1
2,3,7,8-TCDF	0.1	26.11	4.79	0.14			0.81
1,2,3,7,8-PeCDF	0.03	30.60	1.58	0.12	J		4.1
2,3,4,7,8-PeCDF	0.3	31.38	3.85	0.11	J		4.1
1,2,3,4,7,8-HxCDF	0.1	33.22	12.5	0.17			4.1
1,2,3,6,7,8-HxCDF	0.1	33.29	30.1	0.18			4.1
2,3,4,6,7,8-HxCDF	0.1	33.62	12.2	0.20			4.1
1,2,3,7,8,9-HxCDF	0.1	34.07	3.74	0.22	J		4.1
1,2,3,4,6,7,8-HpCDF	0.01	34.80	1600	1.9			4.1
1,2,3,4,7,8,9-HpCDF	0.01	35.59	10.4	5.4			4.1
OCDF	0.0003	36.88	611	1.1			8.1

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	27.01	71 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.59	57 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.73	84 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.78	77 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	53 25-130
13C12-OCDD	4000	36.78	29 25-130
13C12-2,3,7,8-TCDF	2000	26.10	82 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.59	66 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.36	60 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.21	100 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.28	99 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.62	89 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.04	85 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	60 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	38 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.04	71 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	14	37.2	0.060
Total-PeCDD	7	90.7	0.15
Total-HxCDD	7	571	0.77
Total-HpCDD	2	2040	2.2
Total-TCDF	10	28.4	0.14
Total-PeCDF	7	66.1	0.12
Total-HxCDF	8	866	0.22
Total-HpCDF	3	2830	5.4

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	55.4
Mid Point PCDD/F TEQ (WHO 2005)	55.4
Upper Bound PCDD/F TEQ (WHO 2005)	55.4

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-274 [BW20ML-134(0-0.42)]
ALS Sample ID L2523152-27
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 21-Oct-20
Extraction Date 17-Nov-20
Sample Size 4.02 g
Percent Moisture 80.3%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A13
Run Date 07-Dec-20 05:00
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	26.96	<0.20	0.13	M,J,R	0.20	2.5
1,2,3,7,8-PeCDD	1	31.57	0.532	0.16	M,J		12
1,2,3,4,7,8-HxCDD	0.1	33.71	<0.29	0.29	M,U	0.28	12
1,2,3,6,7,8-HxCDD	0.1	33.76	<1.2	0.28	M,J,R	1.2	12
1,2,3,7,8,9-HxCDD	0.1	33.90	<0.65	0.28	M,J,R	0.65	12
1,2,3,4,6,7,8-HpCDD	0.01	35.34	17.9	1.2			12
OCDD	0.0003	36.79	218	0.87			25
2,3,7,8-TCDF	0.1	NotFnd	<0.24	0.24	U		2.5
1,2,3,7,8-PeCDF	0.03	30.58	<0.30	0.15	M,J,R	0.30	12
2,3,4,7,8-PeCDF	0.3	31.35	0.490	0.14	M,J		12
1,2,3,4,7,8-HxCDF	0.1	33.20	0.681	0.15	M,J		12
1,2,3,6,7,8-HxCDF	0.1	33.27	0.935	0.14	M,J		12
2,3,4,6,7,8-HxCDF	0.1	33.60	<0.58	0.15	M,J,R	0.58	12
1,2,3,7,8,9-HxCDF	0.1	34.04	<0.36	0.18	M,J,R	0.36	12
1,2,3,4,6,7,8-HpCDF	0.01	34.79	25.7	0.31			12
1,2,3,4,7,8,9-HpCDF	0.01	35.58	<0.52	0.52	M,U	0.48	12
OCDF	0.0003	36.88	20.9	1.9	J		25

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.96	70 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	61 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	82 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	75 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	52 25-130
13C12-OCDD	4000	36.78	23 25-130
13C12-2,3,7,8-TCDF	2000	26.04	79 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	65 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	59 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	85 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	81 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	78 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	78 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	48 25-130 R
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	46 25-130 R

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	65 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g	LQL
Total-TCDD	5	6.95	0.13	2.5
Total-PeCDD	3	8.44	0.16	12
Total-HxCDD	1	7.93	0.29	12
Total-HpCDD	2	45.0	1.2	12
Total-TCDF	6	6.28	0.24	2.5
Total-PeCDF	3	5.26	0.15	12
Total-HxCDF	5	16.6	0.18	12
Total-HpCDF	2	48.6	0.52	12

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	1.35
Mid Point PCDD/F TEQ (WHO 2005)	1.87
Upper Bound PCDD/F TEQ (WHO 2005)	1.89

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-275 [BW20ML-135(0-0.3)]
 ALS Sample ID L2523152-31
 Analysis Method EPA 8290A
 Analysis Type Sample
 Sample Matrix Sediment

Sampling Date 21-Oct-20
 Extraction Date 17-Nov-20
 Sample Size 6.67 g
 Percent Moisture 67.4%
 Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
 Filename 10-201206A14
 Run Date 07-Dec-20 05:43
 Final Volume 20 uL
 Dilution Factor 1
 Analysis Units pg/g
 Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.01	1.25	0.086	J		1.5
1,2,3,7,8-PeCDD	1	31.58	2.59	0.19	J		7.5
1,2,3,4,7,8-HxCDD	0.1	33.71	2.46	0.81	M,J		7.5
1,2,3,6,7,8-HxCDD	0.1	33.77	12.0	0.79			7.5
1,2,3,7,8,9-HxCDD	0.1	33.89	<6.1	0.78	M,J,R	6.1	7.5
1,2,3,4,6,7,8-HpCDD	0.01	35.34	243	1.5			7.5
OCDD	0.0003	36.79	2150	3.9			15
2,3,7,8-TCDF	0.1	26.07	5.80	0.19			1.5
1,2,3,7,8-PeCDF	0.03	30.58	1.83	0.22	M,J		7.5
2,3,4,7,8-PeCDF	0.3	31.35	6.82	0.21	J		7.5
1,2,3,4,7,8-HxCDF	0.1	33.20	<6.9	0.62	M,J,R	6.9	7.5
1,2,3,6,7,8-HxCDF	0.1	33.27	11.1	0.60			7.5
2,3,4,6,7,8-HxCDF	0.1	33.61	6.41	0.67	J		7.5
1,2,3,7,8,9-HxCDF	0.1	34.05	2.03	0.65	J		7.5
1,2,3,4,6,7,8-HpCDF	0.01	34.79	312	1.5			7.5
1,2,3,4,7,8,9-HpCDF	0.01	35.58	8.43	2.2	M		7.5
OCDF	0.0003	36.87	234	1.2			15

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.97	71 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	49 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	75 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	76 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	44 25-130
13C12-OCDD	4000	36.78	12 25-130
13C12-2,3,7,8-TCDF	2000	26.05	69 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	54 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	45 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	81 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	80 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	73 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	85 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	43 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	40 25-130

Cleanup Standard	pg	Conc.	EDL
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.00	73 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	10	10.8	0.086
Total-PeCDD	5	27.5	0.19
Total-HxCDD	6	129	0.81
Total-HpCDD	2	529	1.5
Total-TCDF	12	111	0.19
Total-PeCDF	9	106	0.22
Total-HxCDF	7	226	0.67
Total-HpCDF	3	554	2.2

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	16.3
Mid Point PCDD/F TEQ (WHO 2005)	17.6
Upper Bound PCDD/F TEQ (WHO 2005)	17.6

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.

 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-273 [BW20ML-133(0-0.3)]
 ALS Sample ID L2523152-35
 Analysis Method EPA 8290A
 Analysis Type Sample
 Sample Matrix Sediment

Sampling Date 22-Oct-20
 Extraction Date 17-Nov-20
 Sample Size 11.21 g
 Percent Moisture 44.1%
 Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
 Filename 10-201206A15
 Run Date 07-Dec-20 06:25
 Final Volume 20 uL
 Dilution Factor 1
 Analysis Units pg/g
 Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.03	<0.28	0.087	M,J,R	0.28	0.89
1,2,3,7,8-PeCDD	1	31.59	<0.61	0.36	M,J,R	0.61	4.5
1,2,3,4,7,8-HxCDD	0.1	33.74	<0.27	0.27	M,U		4.5
1,2,3,6,7,8-HxCDD	0.1	33.79	3.02	0.27	M,J		4.5
1,2,3,7,8,9-HxCDD	0.1	33.92	1.57	0.27	M,J		4.5
1,2,3,4,6,7,8-HpCDD	0.01	35.34	50.1	0.76			4.5
OCDD	0.0003	36.79	520	2.1			8.9
2,3,7,8-TCDF	0.1	26.08	1.02	0.48	M		0.89
1,2,3,7,8-PeCDF	0.03	30.59	0.573	0.21	J,B		4.5
2,3,4,7,8-PeCDF	0.3	31.36	1.61	0.23	J		4.5
1,2,3,4,7,8-HxCDF	0.1	33.21	11.9	0.18			4.5
1,2,3,6,7,8-HxCDF	0.1	33.28	3.14	0.18	J		4.5
2,3,4,6,7,8-HxCDF	0.1	33.60	2.03	0.23	J		4.5
1,2,3,7,8,9-HxCDF	0.1	34.05	1.57	0.16	M,J		4.5
1,2,3,4,6,7,8-HpCDF	0.01	34.79	96.2	0.96			4.5
1,2,3,4,7,8,9-HpCDF	0.01	35.58	21.3	1.5	M		4.5
OCDF	0.0003	36.88	216	1.7			8.9

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	27.00	83 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	44 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.73	84 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.78	75 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	38 25-130
13C12-OCDD	4000	36.78	12 25-130
13C12-2,3,7,8-TCDF	2000	26.07	75 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.58	58 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	42 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	84 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	84 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.62	71 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.04	96 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	39 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	39 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.01	95 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	10	7.08	0.087
Total-PeCDD	4	7.26	0.36
Total-HxCDD	5	32.6	0.27
Total-HpCDD	2	117	0.76
Total-TCDF	10	21.7	0.48
Total-PeCDF	9	35.0	0.23
Total-HxCDF	7	86.9	0.23
Total-HpCDF	3	219	1.5

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	4.82
Mid Point PCDD/F TEQ (WHO 2005)	5.73
Upper Bound PCDD/F TEQ (WHO 2005)	5.74

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-280 [BW20ML-140(0-0.3)]
ALS Sample ID L2523152-39
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 21-Oct-20
Extraction Date 17-Nov-20
Sample Size 9.57 g
Percent Moisture 53.2%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A16
Run Date 07-Dec-20 07:07
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.12	8.74	0.32	M	1.0	
1,2,3,7,8-PeCDD	1	31.65	25.6	0.29		5.2	
1,2,3,4,7,8-HxCDD	0.1	33.81	26.0	1.4		5.2	
1,2,3,6,7,8-HxCDD	0.1	33.87	174	1.4		5.2	
1,2,3,7,8,9-HxCDD	0.1	33.99	109	1.4		5.2	
1,2,3,4,6,7,8-HpCDD	0.01	35.36	2320	5.0		5.2	
OCDD	0.0003	36.80	17800	6.2		10	
2,3,7,8-TCDF	0.1	26.18	13.1	0.38	M	1.0	
1,2,3,7,8-PeCDF	0.03	30.64	10.0	0.40		5.2	
2,3,4,7,8-PeCDF	0.3	31.41	25.3	0.39		5.2	
1,2,3,4,7,8-HxCDF	0.1	33.27	66.4	1.2		5.2	
1,2,3,6,7,8-HxCDF	0.1	33.35	311	1.2		5.2	
2,3,4,6,7,8-HxCDF	0.1	33.70	19.9	1.3	M	5.2	
1,2,3,7,8,9-HxCDF	0.1	34.10	17.6	1.5		5.2	
1,2,3,4,6,7,8-HpCDF	0.01	34.83	8850	4.4		5.2	
1,2,3,4,7,8,9-HpCDF	0.01	35.60	55.1	7.7		5.2	
OCDF	0.0003	36.89	3500	3.0		10	

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	27.09	67 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.63	46 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.80	76 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.87	69 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.35	44 25-130
13C12-OCDD	4000	36.80	18 25-130
13C12-2,3,7,8-TCDF	2000	26.16	71 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.63	58 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.40	50 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.26	90 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.34	89 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.70	79 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.09	62 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.82	44 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.59	38 25-130

Cleanup Standard	pg	% Rec	Limits
37C14-2,3,7,8-TCDD (Cleanup)	40	27.10	74 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g	LQL
Total-TCDD	13	87.8	0.32	1.0
Total-PeCDD	7	215	0.29	5.2
Total-HxCDD	6	1940	1.4	5.2
Total-HpCDD	2	5720	5.0	5.2
Total-TCDF	14	165	0.38	1.0
Total-PeCDF	10	408	0.40	5.2
Total-HxCDF	9	4730	1.5	5.2
Total-HpCDF	3	15900	7.7	5.2

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	235
Mid Point PCDD/F TEQ (WHO 2005)	235
Upper Bound PCDD/F TEQ (WHO 2005)	235

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.

LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-281 [BW20ML-141(0-0.3)]
ALS Sample ID L2523152-43
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 10.34 g
Percent Moisture 49.1%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A20
Run Date 07-Dec-20 10:03
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	NotFnd	<0.073	0.073		U	0.97
1,2,3,7,8-PeCDD	1	31.59	<0.062	0.053	M,J,R	0.062	4.8
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<0.12	0.12		U	4.8
1,2,3,6,7,8-HxCDD	0.1	33.77	<0.21	0.11	M,J,R	0.21	4.8
1,2,3,7,8,9-HxCDD	0.1	33.89	<0.23	0.11	M,J,R	0.23	4.8
1,2,3,4,6,7,8-HpCDD	0.01	35.35	2.41	0.14	J		4.8
OCDD	0.0003	36.80	22.4	0.42			9.7
2,3,7,8-TCDF	0.1	NotFnd	<0.075	0.075		U	0.97
1,2,3,7,8-PeCDF	0.03	NotFnd	<0.075	0.075		U	4.8
2,3,4,7,8-PeCDF	0.3	31.35	0.818	0.064	J		4.8
1,2,3,4,7,8-HxCDF	0.1	33.20	<4.4	0.12	M,J,R	4.4	4.8
1,2,3,6,7,8-HxCDF	0.1	33.28	<0.73	0.13	M,J,R	0.73	4.8
2,3,4,6,7,8-HxCDF	0.1	33.60	<0.42	0.14	M,J,R	0.42	4.8
1,2,3,7,8,9-HxCDF	0.1	34.06	0.549	0.17	M,J		4.8
1,2,3,4,6,7,8-HpCDF	0.01	34.79	13.6	0.53			4.8
1,2,3,4,7,8,9-HpCDF	0.01	35.58	<11	0.73	R	11	4.8
OCDF	0.0003	36.88	152	0.92			9.7

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.94	72 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	55 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	82 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	82 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	56 25-130
13C12-OCDD	4000	36.79	16 25-130
13C12-2,3,7,8-TCDF	2000	26.04	75 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	59 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	53 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	93 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	88 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	81 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	77 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	49 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	53 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	70 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	6	6.17	0.073
Total-PeCDD	3	5.22	0.053
Total-HxCDD	1	4.05	0.12
Total-HpCDD	1	2.41	0.14
Total-TCDF	5	4.77	0.075
Total-PeCDF	4	7.62	0.075
Total-HxCDF	5	16.0	0.17
Total-HpCDF	2	33.8	0.73

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	0.513
Mid Point PCDD/F TEQ (WHO 2005)	1.33
Upper Bound PCDD/F TEQ (WHO 2005)	1.38

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-277 [BW20ML-137(0-0.3)]
 ALS Sample ID L2523152-45
 Analysis Method EPA 8290A
 Analysis Type Sample
 Sample Matrix Sediment

Sampling Date 21-Oct-20
 Extraction Date 17-Nov-20
 Sample Size 12.52 g
 Percent Moisture 38.0%
 Split Ratio 1

Approved:
 T.Patterson
 --e-signature--
 08-Dec-2020

Run Information

Run 1

Filename 10-201206A21
 Run Date 07-Dec-20 10:45
 Final Volume 20 uL
 Dilution Factor 1
 Analysis Units pg/g
 Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	NotFnd	<0.032	0.032	U		0.80
1,2,3,7,8-PeCDD	1	31.58	0.0679	0.028	M,J		4.0
1,2,3,4,7,8-HxCDD	0.1	33.71	<0.078	0.078	M,U	0.070	4.0
1,2,3,6,7,8-HxCDD	0.1	33.77	0.161	0.073	M,J		4.0
1,2,3,7,8,9-HxCDD	0.1	33.89	<0.14	0.073	M,J,R	0.14	4.0
1,2,3,4,6,7,8-HpCDD	0.01	35.35	1.57	0.049	J		4.0
OCDD	0.0003	36.79	18.6	0.24	B		8.0
2,3,7,8-TCDF	0.1	NotFnd	<0.056	0.056	U		0.80
1,2,3,7,8-PeCDF	0.03	NotFnd	<0.022	0.022	U		4.0
2,3,4,7,8-PeCDF	0.3	NotFnd	<0.020	0.020	U		4.0
1,2,3,4,7,8-HxCDF	0.1	33.20	0.176	0.054	M,J		4.0
1,2,3,6,7,8-HxCDF	0.1	33.27	<0.20	0.052	M,J,R	0.20	4.0
2,3,4,6,7,8-HxCDF	0.1	33.61	0.131	0.058	M,J		4.0
1,2,3,7,8,9-HxCDF	0.1	34.05	<0.098	0.075	M,J,R	0.098	4.0
1,2,3,4,6,7,8-HpCDF	0.01	34.79	3.63	0.14	J		4.0
1,2,3,4,7,8,9-HpCDF	0.01	35.58	<0.22	0.20	M,J,R	0.22	4.0
OCDF	0.0003	36.88	4.27	0.13	M,J		8.0

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.94	76 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	68 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.70	79 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.75	76 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	61 25-130
13C12-OCDD	4000	36.78	21 25-130
13C12-2,3,7,8-TCDF	2000	26.04	78 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	69 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	64 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	82 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	81 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	73 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	71 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	57 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	63 25-130

Cleanup Standard	pg	Conc.	EDL
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	65 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g		
Total-TCDD	7	3.50	0.032	0.80	
Total-PeCDD	4	3.49	0.028	4.0	
Total-HxCDD	3	3.63	0.078	4.0	
Total-HpCDD	1	1.57	0.049	4.0	
Total-TCDF	2	0.284	0.056	0.80	
Total-PeCDF	0	<0.022	0.022	U	4.0
Total-HxCDF	4	1.46	0.075	4.0	
Total-HpCDF	1	3.63	0.20	4.0	

Toxic Equivalency - (WHO 2005)
Lower Bound PCDD/F TEQ (WHO 2005) 0.174
Mid Point PCDD/F TEQ (WHO 2005) 0.246
Upper Bound PCDD/F TEQ (WHO 2005) 0.272

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration – elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-280 [BW20ML-005(0-0.3)]
ALS Sample ID L2523152-49
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 21-Oct-20
Extraction Date 17-Nov-20
Sample Size 9.08 g
Percent Moisture 54.7%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A22
Run Date 07-Dec-20 11:28
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.00	1.67	0.14	M		1.1
1,2,3,7,8-PeCDD	1	31.59	2.83	0.16	J		5.5
1,2,3,4,7,8-HxCDD	0.1	33.72	2.57	1.4	M,J		5.5
1,2,3,6,7,8-HxCDD	0.1	33.77	18.9	1.4			5.5
1,2,3,7,8,9-HxCDD	0.1	33.90	10.4	1.4			5.5
1,2,3,4,6,7,8-HpCDD	0.01	35.35	418	1.5			5.5
OCDD	0.0003	36.80	4640	2.6			11
2,3,7,8-TCDF	0.1	26.08	5.09	0.21	M		1.1
1,2,3,7,8-PeCDF	0.03	30.59	1.57	0.16	J		5.5
2,3,4,7,8-PeCDF	0.3	31.36	3.85	0.14	J		5.5
1,2,3,4,7,8-HxCDF	0.1	33.21	8.80	0.22			5.5
1,2,3,6,7,8-HxCDF	0.1	33.28	14.2	0.22			5.5
2,3,4,6,7,8-HxCDF	0.1	33.61	4.00	0.22	M,J		5.5
1,2,3,7,8,9-HxCDF	0.1	34.06	2.18	0.30	J		5.5
1,2,3,4,6,7,8-HpCDF	0.01	34.80	516	0.97			5.5
1,2,3,4,7,8,9-HpCDF	0.01	35.59	9.39	1.8	M		5.5
OCDF	0.0003	36.88	595	1.3			11

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.97	78 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	61 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	88 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.77	81 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.35	54 25-130
13C12-OCDD	4000	36.79	19 25-130
13C12-2,3,7,8-TCDF	2000	26.07	81 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.58	69 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	63 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	98 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	94 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	90 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.04	85 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	55 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	48 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.00	76 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	11	16.9	0.14
Total-PeCDD	8	43.1	0.16
Total-HxCDD	6	211	1.4
Total-HpCDD	2	1050	1.5
Total-TCDF	12	43.2	0.21
Total-PeCDF	10	57.0	0.16
Total-HxCDF	7	297	0.30
Total-HpCDF	3	1030	1.8

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	23.3
Mid Point PCDD/F TEQ (WHO 2005)	23.3
Upper Bound PCDD/F TEQ (WHO 2005)	23.3

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-297 [BW20ML-049(0-0.3)]
ALS Sample ID L2523152-50
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 11.49 g
Percent Moisture 43.2%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A23
Run Date 07-Dec-20 12:10
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	26.98	0.387	0.090	M,J		0.87
1,2,3,7,8-PeCDD	1	31.58	<0.68	0.088	M,J,R	0.68	4.4
1,2,3,4,7,8-HxCDD	0.1	33.71	0.881	0.17	M,J		4.4
1,2,3,6,7,8-HxCDD	0.1	33.76	5.53	0.17	M		4.4
1,2,3,7,8,9-HxCDD	0.1	33.89	3.22	0.17	M,J		4.4
1,2,3,4,6,7,8-HpCDD	0.01	35.34	82.0	0.63			4.4
OCDD	0.0003	36.78	946	2.0			8.7
2,3,7,8-TCDF	0.1	26.07	0.976	0.10	M		0.87
1,2,3,7,8-PeCDF	0.03	30.57	0.583	0.12	M,J,B		4.4
2,3,4,7,8-PeCDF	0.3	31.34	1.18	0.11	J		4.4
1,2,3,4,7,8-HxCDF	0.1	33.20	2.25	0.21	J		4.4
1,2,3,6,7,8-HxCDF	0.1	33.27	6.47	0.22			4.4
2,3,4,6,7,8-HxCDF	0.1	33.59	2.37	0.24	J		4.4
1,2,3,7,8,9-HxCDF	0.1	34.06	0.629	0.29	M,J		4.4
1,2,3,4,6,7,8-HpCDF	0.01	34.79	184	0.88			4.4
1,2,3,4,7,8,9-HpCDF	0.01	35.58	2.84	1.5	J		4.4
OCDF	0.0003	36.87	99.0	0.91			8.7

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.96	71 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	55 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.70	85 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.75	72 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	49 25-130
13C12-OCDD	4000	36.78	16 25-130
13C12-2,3,7,8-TCDF	2000	26.04	70 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	60 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.33	55 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	86 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	85 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	80 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.01	77 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	51 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	47 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	62 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	7	4.57	0.090
Total-PeCDD	7	15.4	0.088
Total-HxCDD	5	59.4	0.17
Total-HpCDD	2	221	0.63
Total-TCDF	11	10.8	0.10
Total-PeCDF	7	17.5	0.12
Total-HxCDF	7	107	0.29
Total-HpCDF	3	324	1.5

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	5.99
Mid Point PCDD/F TEQ (WHO 2005)	6.67
Upper Bound PCDD/F TEQ (WHO 2005)	6.67

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-296 [BW20ML-038(0-0.35)]
ALS Sample ID L2523152-54
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 13.79 g
Percent Moisture 31.1%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A24
Run Date 07-Dec-20 12:52
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	NotFnd	<0.065	0.065	U		0.73
1,2,3,7,8-PeCDD	1	31.58	0.124	0.045	M,J		3.6
1,2,3,4,7,8-HxCDD	0.1	33.70	<0.079	0.054	M,J,R	0.079	3.6
1,2,3,6,7,8-HxCDD	0.1	33.76	0.449	0.055	M,J		3.6
1,2,3,7,8,9-HxCDD	0.1	33.89	0.278	0.053	M,J,B		3.6
1,2,3,4,6,7,8-HpCDD	0.01	35.34	5.58	0.15			3.6
OCDD	0.0003	36.79	51.4	0.30			7.3
2,3,7,8-TCDF	0.1	26.07	0.106	0.066	M,J		0.73
1,2,3,7,8-PeCDF	0.03	30.58	0.0602	0.059	M,J,B		3.6
2,3,4,7,8-PeCDF	0.3	31.34	<0.082	0.054	M,J,R	0.082	3.6
1,2,3,4,7,8-HxCDF	0.1	33.20	0.168	0.033	J		3.6
1,2,3,6,7,8-HxCDF	0.1	33.27	0.265	0.034	J,B		3.6
2,3,4,6,7,8-HxCDF	0.1	33.59	<0.21	0.036	M,J,R	0.21	3.6
1,2,3,7,8,9-HxCDF	0.1	34.03	<0.066	0.047	M,J,R	0.066	3.6
1,2,3,4,6,7,8-HpCDF	0.01	34.79	9.36	0.15			3.6
1,2,3,4,7,8,9-HpCDF	0.01	NotFnd	<0.24	0.24	U		3.6
OCDF	0.0003	36.87	7.07	0.26	J		7.3

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.94	70 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	62 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.70	85 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.75	74 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	54 25-130
13C12-OCDD	4000	36.78	19 25-130
13C12-2,3,7,8-TCDF	2000	26.04	69 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	63 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	60 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	80 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	82 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	76 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.01	74 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	52 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	51 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	57 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	6	3.49	0.065
Total-PeCDD	6	4.22	0.045
Total-HxCDD	4	5.63	0.055
Total-HpCDD	2	12.9	0.15
Total-TCDF	3	0.331	0.066
Total-PeCDF	3	1.07	0.059
Total-HxCDF	4	4.60	0.047
Total-HpCDF	2	17.2	0.24

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	0.419
Mid Point PCDD/F TEQ (WHO 2005)	0.513
Upper Bound PCDD/F TEQ (WHO 2005)	0.547

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
B	Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-262 [BW20ML-121(0-0.35)]
ALS Sample ID L2523152-58
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 12.10 g
Percent Moisture 40.9%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A25
Run Date 07-Dec-20 13:35
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	NotFnd	<0.090	0.090		U	0.83
1,2,3,7,8-PeCDD	1	31.59	<0.12	0.086	M,J,R	0.12	4.1
1,2,3,4,7,8-HxCDD	0.1	33.72	<0.093	0.076	M,J,R	0.093	4.1
1,2,3,6,7,8-HxCDD	0.1	33.77	<0.38	0.080	M,J,R	0.38	4.1
1,2,3,7,8,9-HxCDD	0.1	33.90	<0.22	0.076	M,J,R	0.22	4.1
1,2,3,4,6,7,8-HpCDD	0.01	35.35	6.03	0.24			4.1
OCDD	0.0003	36.80	60.2	0.91			8.3
2,3,7,8-TCDF	0.1	NotFnd	<0.098	0.098		U	0.83
1,2,3,7,8-PeCDF	0.03	30.59	0.153	0.065	M,J,B		4.1
2,3,4,7,8-PeCDF	0.3	31.35	1.71	0.059	J		4.1
1,2,3,4,7,8-HxCDF	0.1	33.21	4.69	0.081			4.1
1,2,3,6,7,8-HxCDF	0.1	33.27	0.608	0.083	J		4.1
2,3,4,6,7,8-HxCDF	0.1	33.60	<0.62	0.088	M,J,R	0.62	4.1
1,2,3,7,8,9-HxCDF	0.1	34.05	0.485	0.11	J		4.1
1,2,3,4,6,7,8-HpCDF	0.01	34.80	<19	0.45	M,R	19	4.1
1,2,3,4,7,8,9-HpCDF	0.01	35.58	11.7	0.76			4.1
OCDF	0.0003	36.88	212	0.97			8.3

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.97	75 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	54 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	85 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	75 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	47 25-130
13C12-OCDD	4000	36.79	14 25-130
13C12-2,3,7,8-TCDF	2000	26.05	76 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	60 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	56 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	85 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	87 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	79 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	75 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	47 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	44 25-130

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.00	66 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	3	0.918	0.090
Total-PeCDD	1	1.51	0.086
Total-HxCDD	1	2.62	0.080
Total-HpCDD	2	13.2	0.24
Total-TCDF	7	13.5	0.098
Total-PeCDF	8	33.3	0.065
Total-HxCDF	8	52.8	0.11
Total-HpCDF	2	42.2	0.76

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	1.35
Mid Point PCDD/F TEQ (WHO 2005)	1.85
Upper Bound PCDD/F TEQ (WHO 2005)	1.90

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-259 [BW20ML-118(1.2-1.35)]
ALS Sample ID L2523152-62
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 9.74 g
Percent Moisture 52.3%
Split Ratio 1

Approved:
 T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A26
Run Date 07-Dec-20 14:17
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.00	0.592	0.11		J	1.0
1,2,3,7,8-PeCDD	1	31.58	1.40	0.16		M,J	5.1
1,2,3,4,7,8-HxCDD	0.1	33.74	<1.4	0.78		M,J,R 1.4	5.1
1,2,3,6,7,8-HxCDD	0.1	33.79	<5.8	0.76		R 5.8	5.1
1,2,3,7,8,9-HxCDD	0.1	33.92	5.16	0.75			5.1
1,2,3,4,6,7,8-HpCDD	0.01	35.34	111	0.82			5.1
OCDD	0.0003	36.79	1030	2.0			10
2,3,7,8-TCDF	0.1	26.08	2.96	0.15		M	1.0
1,2,3,7,8-PeCDF	0.03	30.59	2.78	0.13		J	5.1
2,3,4,7,8-PeCDF	0.3	31.35	6.31	0.13			5.1
1,2,3,4,7,8-HxCDF	0.1	33.21	41.1	0.21			5.1
1,2,3,6,7,8-HxCDF	0.1	33.28	13.4	0.22			5.1
2,3,4,6,7,8-HxCDF	0.1	33.61	6.96	0.27			5.1
1,2,3,7,8,9-HxCDF	0.1	34.06	4.21	0.25		M,J	5.1
1,2,3,4,6,7,8-HpCDF	0.01	34.79	278	1.0			5.1
1,2,3,4,7,8,9-HpCDF	0.01	35.58	54.1	1.7			5.1
OCDF	0.0003	36.87	707	1.9			10

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.98	78 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	52 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.73	86 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.78	82 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	45 25-130
13C12-OCDD	4000	36.78	13 25-130
13C12-2,3,7,8-TCDF	2000	26.07	78 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	60 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	54 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	92 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	95 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.62	83 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.04	86 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	45 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	41 25-130

Cleanup Standard	pg	% Rec	Limits
37C14-2,3,7,8-TCDD (Cleanup)	40	27.01	73 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g	LQL
Total-TCDD	8	7.29	0.11	1.0
Total-PeCDD	5	16.8	0.16	5.1
Total-HxCDD	4	73.5	0.78	5.1
Total-HpCDD	2	260	0.82	5.1
Total-TCDF	16	103	0.15	1.0
Total-PeCDF	11	126	0.13	5.1
Total-HxCDF	12	255	0.27	5.1
Total-HpCDF	3	589	1.7	5.1

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	16.3
Mid Point PCDD/F TEQ (WHO 2005)	17.0
Upper Bound PCDD/F TEQ (WHO 2005)	17.0

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-219 [BW20ML-076(0-0.3)]
ALS Sample ID L2523152-64
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 22-Oct-20
Extraction Date 17-Nov-20
Sample Size 10.55 g
Percent Moisture 47.9%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A27
Run Date 07-Dec-20 14:59
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	27.03	0.971	0.11		M	0.95
1,2,3,7,8-PeCDD	1	31.59	1.72	0.16		M,J	4.7
1,2,3,4,7,8-HxCDD	0.1	33.76	<1.7	1.0		J,R 1.7	4.7
1,2,3,6,7,8-HxCDD	0.1	33.81	9.17	1.1			4.7
1,2,3,7,8,9-HxCDD	0.1	33.94	7.03	1.0			4.7
1,2,3,4,6,7,8-HpCDD	0.01	35.34	187	1.6			4.7
OCDD	0.0003	36.78	1690	130			9.5
2,3,7,8-TCDF	0.1	26.10	3.98	0.18			0.95
1,2,3,7,8-PeCDF	0.03	30.59	4.22	0.24		J	4.7
2,3,4,7,8-PeCDF	0.3	31.35	33.2	0.23			4.7
1,2,3,4,7,8-HxCDF	0.1	33.22	133	0.35			4.7
1,2,3,6,7,8-HxCDF	0.1	33.29	33.7	0.35			4.7
2,3,4,6,7,8-HxCDF	0.1	33.62	17.4	0.40			4.7
1,2,3,7,8,9-HxCDF	0.1	34.06	13.3	0.37			4.7
1,2,3,4,6,7,8-HpCDF	0.01	34.79	750	1.9			4.7
1,2,3,4,7,8,9-HpCDF	0.01	35.58	300	3.3			4.7
OCDF	0.0003	36.87	4030	3.6			9.5

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	27.01	74 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	49 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.75	84 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.81	75 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	44 25-130
13C12-OCDD	4000	36.78	13 25-130
13C12-2,3,7,8-TCDF	2000	26.08	75 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.58	57 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	51 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.21	90 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.28	87 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.64	79 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.05	80 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	45 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	40 25-130

Cleanup Standard	pg	Conc. pg/g	EDL pg/g
37Cl4-2,3,7,8-TCDD (Cleanup)	40	27.03	69 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	6	9.59	0.11
Total-PeCDD	7	33.4	0.16
Total-HxCDD	5	128	1.1
Total-HpCDD	2	446	1.6
Total-TCDF	16	333	0.18
Total-PeCDF	10	621	0.24
Total-HxCDF	14	906	0.40
Total-HpCDF	3	1880	3.3

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	48.6
Mid Point PCDD/F TEQ (WHO 2005)	48.8
Upper Bound PCDD/F TEQ (WHO 2005)	48.8

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name 69-1291-00-256 [BW20ML-115(0-0.3)]
ALS Sample ID L2523152-67
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date 21-Oct-20
Extraction Date 17-Nov-20
Sample Size 13.93 g
Percent Moisture 31.6%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A28
Run Date 07-Dec-20 15:44
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	NotFnd	<0.055	0.055	U		0.72
1,2,3,7,8-PeCDD	1	31.58	<0.078	0.078	M,U	0.059	3.6
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<0.052	0.052	U		3.6
1,2,3,6,7,8-HxCDD	0.1	33.77	0.338	0.053	J		3.6
1,2,3,7,8,9-HxCDD	0.1	33.90	0.190	0.051	M,J,B		3.6
1,2,3,4,6,7,8-HpCDD	0.01	35.35	3.38	0.19	J		3.6
OCDD	0.0003	36.80	30.0	0.78			7.2
2,3,7,8-TCDF	0.1	NotFnd	<0.064	0.064	U		0.72
1,2,3,7,8-PeCDF	0.03	NotFnd	<0.048	0.048	U		3.6
2,3,4,7,8-PeCDF	0.3	NotFnd	<0.046	0.046	U		3.6
1,2,3,4,7,8-HxCDF	0.1	33.21	<0.099	0.047	M,J,R	0.099	3.6
1,2,3,6,7,8-HxCDF	0.1	33.27	0.277	0.048	M,J,B		3.6
2,3,4,6,7,8-HxCDF	0.1	33.62	<0.15	0.051	M,J,R	0.15	3.6
1,2,3,7,8,9-HxCDF	0.1	34.06	<0.071	0.071	M,U	0.063	3.6
1,2,3,4,6,7,8-HpCDF	0.01	34.80	10.2	0.20			3.6
1,2,3,4,7,8,9-HpCDF	0.01	35.59	<0.28	0.28	M,U	0.28	3.6
OCDF	0.0003	36.88	8.12	0.30	M		7.2

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.96	71 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	59 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	82 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	71 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	45 25-130
13C12-OCDD	4000	36.79	14 25-130
13C12-2,3,7,8-TCDF	2000	26.05	71 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	60 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.35	55 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	74 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	75 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	70 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	64 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	40 25-130 R
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	41 25-130 R

Cleanup Standard	pg	% Rec	Limits
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.97	55 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g	LQL
Total-TCDD	7	5.79	0.055	0.72
Total-PeCDD	3	0.780	0.078	3.6
Total-HxCDD	4	5.95	0.053	3.6
Total-HpCDD	1	3.38	0.19	3.6
Total-TCDF	1	0.263	0.064	0.72
Total-PeCDF	1	0.596	0.048	3.6
Total-HxCDF	4	5.35	0.071	3.6
Total-HpCDF	2	18.8	0.28	3.6

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	0.228
Mid Point PCDD/F TEQ (WHO 2005)	0.338
Upper Bound PCDD/F TEQ (WHO 2005)	0.422

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor TEQ Indicates the Toxic Equivalency
 M Indicates that a peak has been manually integrated.
 U Indicates that this compound was not detected above the EDL.

 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Sample Analysis Report

Sample Name DIOXINS IN SOIL PES PC00201
ALS Sample ID L2523152-71
Analysis Method EPA 8290A
Analysis Type Sample
Sample Matrix Sediment

Sampling Date n/a
Extraction Date 17-Nov-20
Sample Size 9.92 g
Percent Moisture 0.80%
Split Ratio 1

Approved:
T. Patterson
 --e-signature--
 08-Dec-2020

Run Information **Run 1**
Filename 10-201206A29
Run Date 07-Dec-20 16:24
Final Volume 20 uL
Dilution Factor 1
Analysis Units pg/g
Instrument - Column HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	26.98	4.64	0.035			1.0
1,2,3,7,8-PeCDD	1	31.59	6.77	0.039			5.0
1,2,3,4,7,8-HxCDD	0.1	33.72	3.26	0.035	J		5.0
1,2,3,6,7,8-HxCDD	0.1	33.77	5.52	0.036			5.0
1,2,3,7,8,9-HxCDD	0.1	33.90	1.07	0.035	J,B		5.0
1,2,3,4,6,7,8-HpCDD	0.01	35.35	40.7	0.23			5.0
OCDD	0.0003	36.80	184	0.97			10
2,3,7,8-TCDF	0.1	26.08	2.17	0.063			1.0
1,2,3,7,8-PeCDF	0.03	30.58	50.3	0.073			5.0
2,3,4,7,8-PeCDF	0.3	31.35	11.8	0.071			5.0
1,2,3,4,7,8-HxCDF	0.1	33.21	11.5	0.061			5.0
1,2,3,6,7,8-HxCDF	0.1	33.27	0.778	0.066	J		5.0
2,3,4,6,7,8-HxCDF	0.1	33.62	30.2	0.066			5.0
1,2,3,7,8,9-HxCDF	0.1	34.04	32.5	0.082			5.0
1,2,3,4,6,7,8-HpCDF	0.01	34.80	2.61	0.23	J		5.0
1,2,3,4,7,8,9-HpCDF	0.01	35.59	29.7	0.33			5.0
OCDF	0.0003	36.88	17.0	0.35	M		10

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.97	79 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.58	60 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	85 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	85 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	58 25-130
13C12-OCDD	4000	36.79	18 25-130
13C12-2,3,7,8-TCDF	2000	26.05	74 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.57	64 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	57 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.20	79 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.27	78 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.61	76 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	73 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.79	53 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	58 25-130

Cleanup Standard	pg	Conc.	EDL
37Cl4-2,3,7,8-TCDD (Cleanup)	40	26.98	59 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g
Total-TCDD	3	9.73	0.035
Total-PeCDD	1	6.77	0.039
Total-HxCDD	4	11.5	0.036
Total-HpCDD	2	52.7	0.23
Total-TCDF	4	133	0.063
Total-PeCDF	3	62.9	0.073
Total-HxCDF	7	77.5	0.082
Total-HpCDF	2	32.3	0.33

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	25.9
Mid Point PCDD/F TEQ (WHO 2005)	25.9
Upper Bound PCDD/F TEQ (WHO 2005)	25.9

EDL Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
 TEF Indicates the Toxic Equivalency Factor
 M Indicates that a peak has been manually integrated.
 J Indicates that a target analyte was detected below the calibrated range.
 R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
 B Indicates that this target was detected in the blank at greater than 10% of the sample concentration.
 LQL Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
 EMPC Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	Method Blank	Sampling Date	n/a		
ALS Sample ID	WG3436826-1	Extraction Date	17-Nov-20		Approved: <i>T.Patterson</i> --e-signature-- 08-Dec-2020
Analysis Method	EPA 8290A	Sample Size	10.00	g	
Analysis Type	Blank	Percent Moisture	n/a		
Sample Matrix	QC	Split Ratio	1		

Run Information	Run 1
Filename	10-201206A05
Run Date	06-Dec-20 23:22
Final Volume	20 uL
Dilution Factor	1
Analysis Units	pg/g
Instrument - Column	HRMS-10 DB5MSUSO287833H

Target Analytes	TEF (WHO 2005)	Ret. Time	Conc. pg/g	EDL pg/g	Flags	EMPC pg/g	LQL
2,3,7,8-TCDD	1	NotFnd	<0.037	0.037	U		1.0
1,2,3,7,8-PeCDD	1	31.59	<0.053	0.028	M,J,R	0.053	5.0
1,2,3,4,7,8-HxCDD	0.1	NotFnd	<0.082	0.082	U		5.0
1,2,3,6,7,8-HxCDD	0.1	NotFnd	<0.078	0.078	U		5.0
1,2,3,7,8,9-HxCDD	0.1	33.89	0.125	0.078	M,J		5.0
1,2,3,4,6,7,8-HpCDD	0.01	35.34	<0.18	0.090	M,J,R	0.18	5.0
OCDD	0.0003	36.79	1.97	0.11	M,J		10
2,3,7,8-TCDF	0.1	NotFnd	<0.040	0.040	U		1.0
1,2,3,7,8-PeCDF	0.03	30.57	0.0610	0.031	M,J		5.0
2,3,4,7,8-PeCDF	0.3	NotFnd	<0.027	0.027	U		5.0
1,2,3,4,7,8-HxCDF	0.1	33.20	<0.033	0.031	M,J,R	0.033	5.0
1,2,3,6,7,8-HxCDF	0.1	33.28	0.0340	0.029	M,J		5.0
2,3,4,6,7,8-HxCDF	0.1	33.61	<0.058	0.030	M,J,R	0.058	5.0
1,2,3,7,8,9-HxCDF	0.1	34.04	<0.095	0.037	M,J,R	0.095	5.0
1,2,3,4,6,7,8-HpCDF	0.01	34.80	<0.32	0.32	M,U	0.13	5.0
1,2,3,4,7,8,9-HpCDF	0.01	35.58	<0.14	0.085	M,J,R	0.14	5.0
OCDF	0.0003	36.87	<0.92	0.18	M,J,R	0.92	10

Extraction Standards	pg	% Rec	Limits
13C12-2,3,7,8-TCDD	2000	26.96	62 40-130
13C12-1,2,3,7,8-PeCDD	2000	31.57	52 40-130
13C12-1,2,3,4,7,8-HxCDD	2000	33.71	69 40-130
13C12-1,2,3,6,7,8-HxCDD	2000	33.76	65 40-130
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.34	55 25-130
13C12-OCDD	4000	36.79	19 25-130
13C12-2,3,7,8-TCDF	2000	26.05	65 40-130
13C12-1,2,3,7,8-PeCDF	2000	30.55	56 40-130
13C12-2,3,4,7,8-PeCDF	2000	31.34	50 40-130
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	67 40-130
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	65 40-130
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	63 40-130
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	65 40-130
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.80	8 25-130
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.58	47 25-130

Cleanup Standard	pg	% Rec	Limits
37C14-2,3,7,8-TCDD (Cleanup)	40	26.98	59 40-130

Homologue Group Totals	# peaks	Conc. pg/g	EDL pg/g		
Total-TCDD	0	<0.037	0.037	U	1.0
Total-PeCDD	1	0.0980	0.028		5.0
Total-HxCDD	1	0.125	0.082		5.0
Total-HpCDD	0	<0.090	0.090	U	5.0
Total-TCDF	0	<0.040	0.040	U	1.0
Total-PeCDF	1	0.0610	0.031		5.0
Total-HxCDF	2	0.0960	0.037		5.0
Total-HpCDF	0	<0.32	0.32	U	5.0

Toxic Equivalency - (WHO 2005)	pg/g
Lower Bound PCDD/F TEQ (WHO 2005)	0.0183
Mid Point PCDD/F TEQ (WHO 2005)	0.128
Upper Bound PCDD/F TEQ (WHO 2005)	0.162

EDL	Indicates the Estimated Detection Limit, based on the measured background noise for this target in this sample.
TEF	Indicates the Toxic Equivalency Factor
M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the EDL.
J	Indicates that a target analyte was detected below the calibrated range.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
LQL	Lower Quantification Limit, based on the lowest calibration level corrected for sample size, splits and dilutions.
EMPC	Estimated Maximum Possible Concentration - elevated detection limit due to interference or positive id criterion failure

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	Laboratory Control Sample	Sampling Date	n/a		
ALS Sample ID	WG3436826-2	Extraction Date	17-Nov-20		Approved: <i>T.Patterson</i> --e-signature-- 08-Dec-2020
Analysis Method	EPA 8290A	Sample Size	1	n/a	
Analysis Type	LCS	Percent Moisture	n/a		
Sample Matrix	QC	Split Ratio	1		

Run Information		Run 1	
Filename	10-201206A02	Run Date	06-Dec-20 21:16
Final Volume	20 uL	Dilution Factor	1
Analysis Units	%	Instrument - Column	HRMS-10 DB5MSUSO287833H

Target Analytes	pg	Ret. Time	% Rec	Limits	Flags
2,3,7,8-TCDD	200	26.97	88	67-158	
1,2,3,7,8-PeCDD	1000	31.58	101	70-142	
1,2,3,4,7,8-HxCDD	1000	33.71	88	70-164	
1,2,3,6,7,8-HxCDD	1000	33.76	92	76-134	
1,2,3,7,8,9-HxCDD	1000	33.89	95	64-162	
1,2,3,4,6,7,8-HpCDD	1000	35.34	88	70-140	
OCDD	2000	36.79	88	78-144	
2,3,7,8-TCDF	200	26.07	83	75-158	
1,2,3,7,8-PeCDF	1000	30.57	89	80-134	
2,3,4,7,8-PeCDF	1000	31.35	92	68-160	
1,2,3,4,7,8-HxCDF	1000	33.20	91	72-134	
1,2,3,6,7,8-HxCDF	1000	33.27	91	84-130	
2,3,4,6,7,8-HxCDF	1000	33.61	90	70-156	
1,2,3,7,8,9-HxCDF	1000	34.03	94	78-130	
1,2,3,4,6,7,8-HpCDF	1000	34.79	89	82-122	
1,2,3,4,7,8,9-HpCDF	1000	35.58	94	78-138	
OCDF	2000	36.87	124	63-170	
Extraction Standards	pg		% Rec	Limits	
13C12-2,3,7,8-TCDD	2000	26.96	65	40-130	
13C12-1,2,3,7,8-PeCDD	2000	31.57	56	40-130	
13C12-1,2,3,4,7,8-HxCDD	2000	33.70	80	40-130	
13C12-1,2,3,6,7,8-HxCDD	2000	33.75	70	40-130	
13C12-1,2,3,4,6,7,8-HpCDD	2000	35.33	68	25-130	
13C12-OCDD	4000	36.78	26	25-130	
13C12-2,3,7,8-TCDF	2000	26.04	69	40-130	
13C12-1,2,3,7,8-PeCDF	2000	30.55	55	40-130	
13C12-2,3,4,7,8-PeCDF	2000	31.34	55	40-130	
13C12-1,2,3,4,7,8-HxCDF	2000	33.19	74	40-130	
13C12-1,2,3,6,7,8-HxCDF	2000	33.26	73	40-130	
13C12-2,3,4,6,7,8-HxCDF	2000	33.60	69	40-130	
13C12-1,2,3,7,8,9-HxCDF	2000	34.03	69	40-130	
13C12-1,2,3,4,6,7,8-HpCDF	2000	34.78	58	25-130	
13C12-1,2,3,4,7,8,9-HpCDF	2000	35.57	65	25-130	R
Cleanup Standard	pg				
37C14-2,3,7,8-TCDD (Cleanup)	40	26.97	62	40-130	

R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

Instructions: The following is the informal checklist that should be used to review data for the Minnesota Department of Agriculture, Minnesota Pollution Control Agency, and Minnesota Department of Health. The information follows the general format of the National Functional Guidelines, which is the primary data review tool used in the U.S. Environmental Protection Agency's Contract Laboratory Program for Superfund analytical work. Refer to the appropriate guidance document for each agency for instructions.

Project information

Project name: Munger Landing
 Work order number/Lab report ID: L2523152 Report date (mm/dd/yyyy): 12/8/2020
 Laboratory: ALS Review date (mm/dd/yyyy): 12/28/2020

1. Chain of custody, preservation, and holding times

Questions		Yes	No	N/A	Comments
A.	Is there a chain of custody (COC) with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is there a sample condition form with the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Were there samples preserved according to program requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Were samples received in the correct containers?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Was there enough sample volume/weight to complete all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. Was there enough sample collected to complete required batch QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Were samples received within holding time for sample prep for all requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Are there notes about sample condition or holding time issues on the COC? Explain the data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
G.	Are there narration or data qualifiers with the report about sample condition or holding time issues? Explain the data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
H.	Are lab IDs cross-referenced correctly with the field IDs.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

2. Calibration

Question		Yes	No	N/A	Comments
A.	Do the report narrative or data qualifiers indicate calibration problems for any analyses? If yes, explain the data impact.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

3. Blanks

Question		Yes	No	N/A	Comments
A.	Do any of the analyses contain samples for field or trip blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	i. If yes, are there target analytes present above the reporting limit in the blanks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. If yes, are the same compounds also present in the samples? Explain possible data impact.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
B.	Do method blanks for any analyses contain target analytes above the reporting limit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the same compounds present in the samples?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	OCDD (1.97 pg/g - AL = 19.7 pg/g) and 1,2,3,7,8,9-HxCDD (0.125 pg/g; AL = 0.625 pg/g) were detected in the associated MB. All associated samples within AL were qualified "U" based on these outliers. In addition, 1,2,3,6,7,8-HxCDF, 1,2,3,7,8,9-HxCDD, and 1,2,3,7,8-PeCDF isomers were detected in the blank as EMPC; however, these EMPC hits have no impacts and were not included as U flagging.
	ii. Is the amount of target analyte in the method blank more than 1/10 th of that in the sample(s)? Explain the possible impact on sample results.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
C.	Do instrument blanks contain analytes above the reporting limit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

4. Surrogates or organic analysis

Question		Yes	No	N/A	Comments
A.	Are the lab recovery limits for surrogates specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are the surrogates outside lab QC limits? (These should have a data qualifier.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are the surrogates above the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	ii. Below the lab QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	For some samples, as well as the method blank, the recovery of the labelled standard 13C12-OCDD is below the method control limit. The reported OCDD data are not expected to be biased as a result; therefore,

						no further actions taken.
	iii.	Were the affected samples re-analyzed? Discuss in the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv.	Explain what this could mean for the affected samples. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

5. Laboratory control sample/Laboratory control sample duplicate (LCS/LCSD)

Question		Yes	No	N/A	Comments
A.	Are there LCS/LCSD samples present for the reporting analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Are there LCS/LCSD compounds outside lab limits? If the LCS/LCSD fails, the LCS/LCSD and samples must be re-analyzed.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	i. If yes, are there compounds above the lab QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	ii. Below the QC limits? If yes, an explanation is required. Include in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

6. Matrix spike/Matrix spike duplicate/Sample duplicate (MS/MSD/DUP)

Question		Yes	No	N/A	Comments
A.	Do the analytical methods used require an MS and/or MSD? If no, skip to 6.B.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	i. Have the required matrix spikes been prepared and reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	ii. If no, is there and explanation in the report as to why?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iii. Did the lab process an alternate spiked sample (such as LCSD) instead?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	iv. Are the lab QC limits specified on the report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	v. Are there compounds outside the lab QC limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	vi. If yes, did the lab re-run an MS/MSD?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	1. Did the re-run MS/MSD pass? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	2. Did the re-run MS/MSD fail? Discuss the case narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	3. Is the source sample also flagged for MS/MSD compounds outside the lab QC limits?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

B.	Was a duplicate sample submitted for the analytical method(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
i.	Is the Relative Percentage Difference (RPD) within 20%* for the duplicate pair? If no, explain possible causes and data impact. <i>*Other RPDs may be acceptable. Check with regulatory agency.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

7. Method detection limits/Report limits

Question	Yes	No	N/A	Comments
A. Are reporting limits clearly listed on the report for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Do the reporting limits meet the program required limits listed? If not, an explanation is required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Sample information

Questions	Yes	No	N/A	Comments
A. Are sample numbers cross-referenced correctly with the associated QC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B. Are soil samples reported in dry weight basis?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
C. Are percent moisture results reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
D. Are positive detections reported?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
E. Are sample analytes appropriately flagged if the QC failed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Report narrative

Question	Yes	No	N/A	Comments
A. Is a narrative provided with the laboratory report which describes all problems with the analyses and all corrective actions taken to address these problems?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The lab Y flag indicates that the ion abundance ratio for this compound did not meet the acceptance criterion. Associated samples were qualified estimated "J/UJ" based on this outlier.

10. Additional comments about the lab report

Any detected sample concentrations <RL and >DL were qualified as estimated "J" values.

Any detected sample concentrations reported as EMPC (K qualifier) was qualified as estimated "J" values.

Certification

By typing my name below, I certify the above statements to be true and correct, to the best of my knowledge, and that this information can be used for the purpose of processing this form.

Authorized Representative

Name: Eric Malarek
(This document has been electronically signed.)

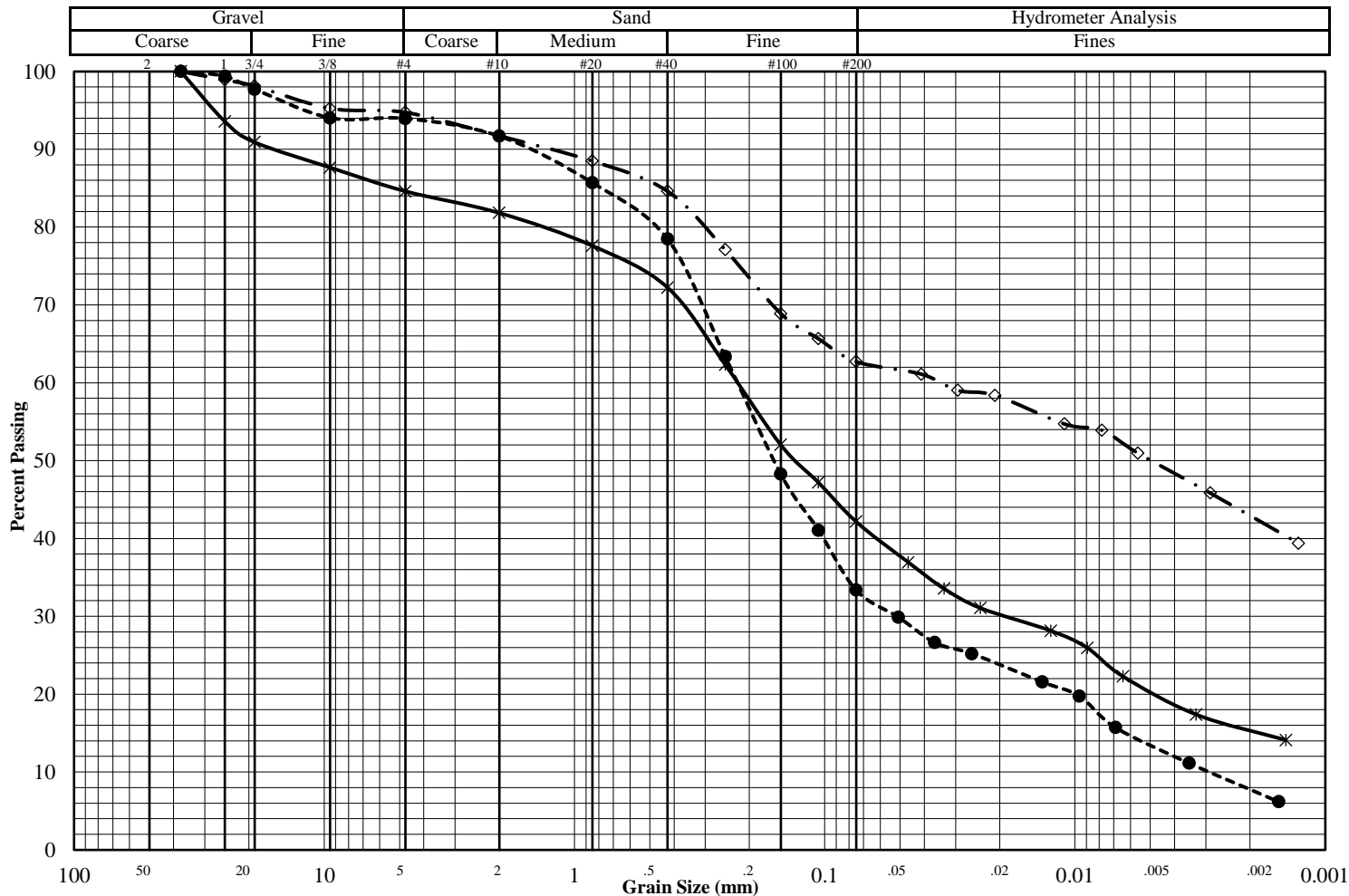
Title: Bay West Program Chemist
Date (mm/dd/yyyy): 12/28/2020

Grain Size Distribution ASTM D6913/D7928

Job No. : **13142**

Project:	Munger Landing	Test Date:	5/21/21
Reported To:	Bay West LLC	Report Date:	5/28/21

	Location / Boring No.	Sample No.	Depth (m)	Sample Type	Soil Classification
*	BW21ML-144		0-0.15	Bag	Sediment - Clayey Sand w/gravel and organic material (SC)
●	BW21ML-145		0-0.15	Bag	Sediment - Silty Sand w/a little gravel and organic material (SM/SC)
◇	BW21ML-146		0-0.15	Bag	Sediment - Sandy Organic Clay w/a little gravel and organic material (OH)



Additional Results

Liquid Limit	*	●	◇
Plastic Limit			
Plasticity Index <small>ASTM: D4316</small>			
Water Content <small>ASTM: D2216</small>			
Dry Density (pcf) <small>ASTM: D7263</small>			
Specific Gravity <small>ASTM: D854</small>	2.54	2.45	2.57
Porosity			
Organic Content <small>ASTM: D2974</small>			
pH <small>ASTM: D4972 Method B</small>			

Percent Passing (Single Set)

	*	●	◇
Mass (g)	2169.0	2125.9	1457.0
1"	93.6	99.4	98.9
3/4"	90.9	97.7	98.1
3/8"	87.7	94.0	95.3
#4	84.6	94.0	94.7
#10	81.8	91.7	91.7
#20	77.6	85.7	88.5
#40	72.2	78.5	84.6
#60	62.3	63.4	77.1
#100	52.0	48.3	68.9
#140	47.2	41.1	65.7
#200	42.2	33.4	62.7

	*	●	◇
D ₆₀			
D ₃₀			
D ₁₀			
C _u			
C _c			

Remarks:

(* = assumed)

**Sieves larger than 1" reported on page 2

Grain Size Distribution ASTM D6913/D7928

Job No. : **13142**

Project:	Munger Landing	Test Date:	5/21/21
Reported To:	Bay West LLC	Report Date:	5/28/21

	Location / Boring No.	Sample No.	Depth (m)	Sample Type	Soil Classification
Spec 1	BW21ML-144		0-0.15	Bag	Sediment - Clayey Sand w/gravel and organic material (SC)
Spec 2	BW21ML-145		0-0.15	Bag	Sediment - Silty Sand w/a little gravel and organic material (SM/SC)
Spec 3	BW21ML-146		0-0.15	Bag	Sediment - Sandy Organic Clay w/a little gravel and organic material (OH)

Sieve Data

Specimen 1		Specimen 2		Specimen 3	
Sieve	% Passing	Sieve	% Passing	Sieve	% Passing
3"		3"		3"	
2"		2"		2"	
1 1/2"	100.0	1 1/2"	100.0	1 1/2"	100.0
1"	93.6	1"	99.4	1"	98.9
3/4"	90.9	3/4"	97.7	3/4"	98.1
3/8"	87.7	3/8"	94.0	3/8"	95.3
#4	84.6	#4	94.0	#4	94.7
#10	81.8	#10	91.7	#10	91.7
#20	77.6	#20	85.7	#20	88.5
#40	72.2	#40	78.5	#40	84.6
#60	62.3	#60	63.4	#60	77.1
#100	52.0	#100	48.3	#100	68.9
#140	47.2	#140	41.1	#140	65.7
#200	42.2	#200	33.4	#200	62.7

Hydrometer Data

Specimen 1		Specimen 2		Specimen 3	
Diameter (mm)	% Passing	Diameter	% Passing	Diameter	% Passing
0.046	36.9	0.051	29.9	0.041	61.1
0.033	33.6	0.036	26.6	0.029	59.0
0.024	31.1	0.026	25.2	0.021	58.4
0.013	28.1	0.014	21.6	0.011	54.7
0.009	25.9	0.010	19.8	0.008	53.9
0.006	22.3	0.007	15.7	0.006	51.0
0.003	17.4	0.004	11.1	0.003	45.9
0.001	14.1	0.002	6.2	0.001	39.4

Remarks

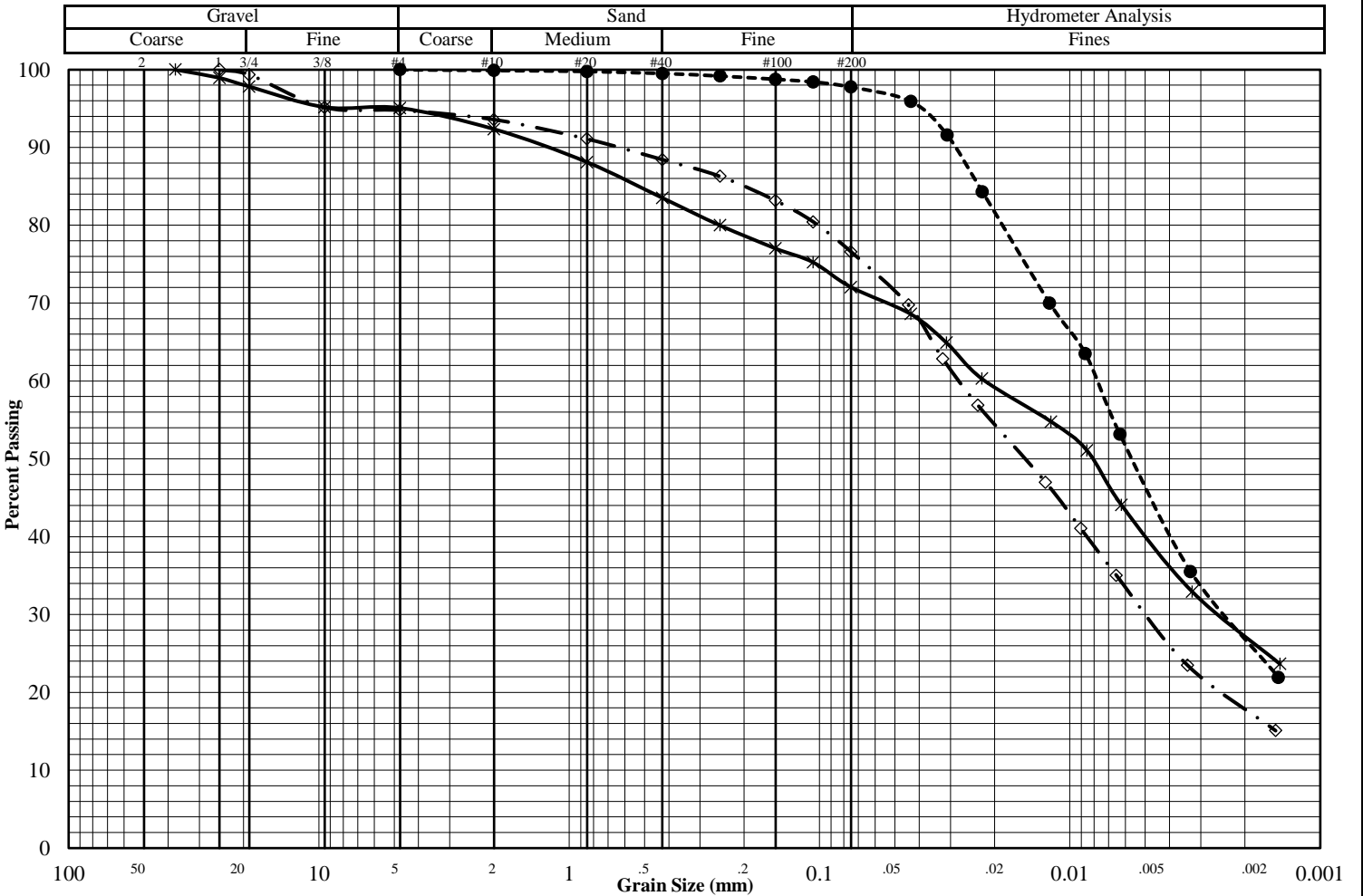
Specimen 1	Specimen 2	Specimen 3

Grain Size Distribution ASTM D6913/D7928

Job No. : **13142**

Project:	Munger Landing	Test Date:	5/21/21
Reported To:	Bay West LLC	Report Date:	5/28/21

	Location / Boring No.	Sample No.	Depth (m)	Sample Type	Soil Classification
*	BW21ML-147		0-0.15	Bag	Sediment - Organic Clay w/ sand, a little gravel and organic material (OL)
●	BW21ML-148		0-0.15	Bag	Sediment - Organic Clay (OL)
◇	BW21ML-149		0-0.15	Bag	Sediment - Organic Clay w/ sand, a little gravel and organic material (OL)



Additional Results	*	●	◇
Liquid Limit			
Plastic Limit			
Plasticity Index			
ASTM: D4316			
Water Content			
ASTM: D2216			
Dry Density (pcf)			
ASTM: D7263			
Specific Gravity	2.45	2.50	2.44
ASTM: D854			
Porosity			
Organic Content			
ASTM: D2974			
pH			
ASTM: D4972 Method B			

	Percent Passing (Single Set)		
	*	●	◇
Mass (g)	915.3	1230.4	959.3
1"	98.9		100.0
3/4"	97.8		99.4
3/8"	95.2		95.1
#4	95.1	100.0	94.8
#10	92.4	99.9	93.6
#20	88.1	99.8	91.1
#40	83.5	99.5	88.4
#60	80.0	99.2	86.3
#100	77.0	98.8	83.2
#140	75.2	98.4	80.4
#200	72.1	97.8	76.6

	*	●	◇
D ₆₀			
D ₃₀			
D ₁₀			
C _u			
C _c			

Remarks:

(* = assumed)

**Sieves larger than 1" reported on page 2

Grain Size Distribution ASTM D6913/D7928

Job No. : **13142**

Project:	Munger Landing	Test Date:	5/21/21
Reported To:	Bay West LLC	Report Date:	5/28/21

	Location / Boring No.	Sample No.	Depth (m)	Sample Type	Soil Classification
Spec 1	BW21ML-147		0-0.15	Bag	Sediment - Organic Clay w/sand, a little gravel and organic material (OL)
Spec 2	BW21ML-148		0-0.15	Bag	Sediment - Organic Clay (OL)
Spec 3	BW21ML-149		0-0.15	Bag	Sediment - Organic Clay w/sand, a little gravel and organic material (OL)

Sieve Data

Specimen 1		Specimen 2		Specimen 3	
Sieve	% Passing	Sieve	% Passing	Sieve	% Passing
3"		3"		3"	
2"		2"		2"	
1 1/2"	100.0	1 1/2"		1 1/2"	
1"	98.9	1"		1"	100.0
3/4"	97.8	3/4"		3/4"	99.4
3/8"	95.2	3/8"		3/8"	95.1
#4	95.1	#4	100.0	#4	94.8
#10	92.4	#10	99.9	#10	93.6
#20	88.1	#20	99.8	#20	91.1
#40	83.5	#40	99.5	#40	88.4
#60	80.0	#60	99.2	#60	86.3
#100	77.0	#100	98.8	#100	83.2
#140	75.2	#140	98.4	#140	80.4
#200	72.1	#200	97.8	#200	76.6

Hydrometer Data

Specimen 1		Specimen 2		Specimen 3	
Diameter (mm)	% Passing	Diameter	% Passing	Diameter	% Passing
0.043	68.6	0.043	95.9	0.044	69.8
0.031	64.9	0.031	91.6	0.032	62.8
0.022	60.3	0.022	84.3	0.023	56.9
0.012	54.8	0.012	70.0	0.013	47.0
0.009	51.1	0.009	63.5	0.009	41.1
0.006	44.1	0.006	53.2	0.007	35.0
0.003	32.9	0.003	35.5	0.003	23.5
0.001	23.7	0.001	21.9	0.002	15.1

Remarks

Specimen 1	Specimen 2	Specimen 3

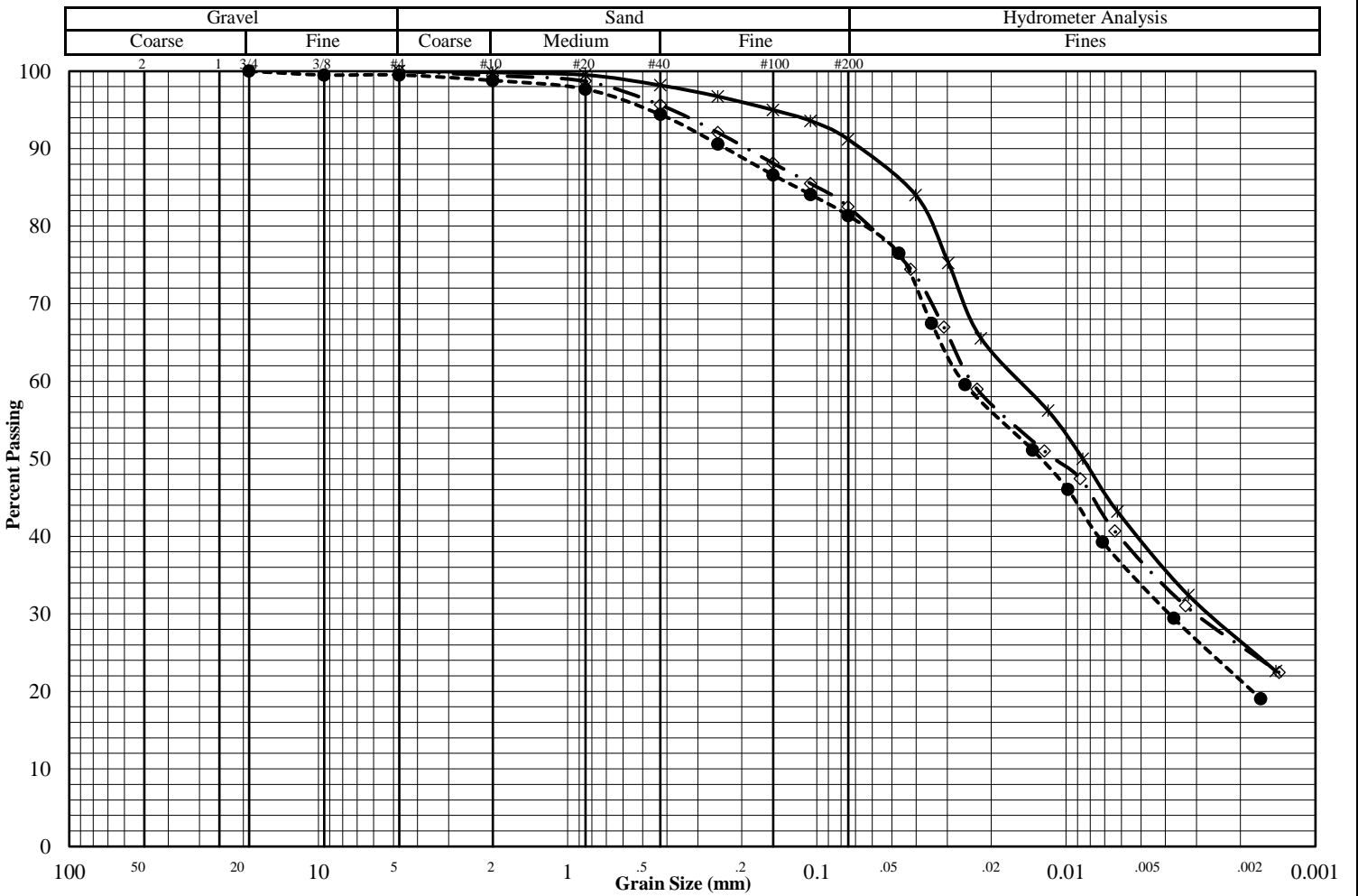
Grain Size Distribution ASTM D6913/D7928

Job No. : **13142**

Project: Munger Landing
Reported To: Bay West LLC

Test Date: 5/21/21
Report Date: 5/28/21

	Location / Boring No.	Sample No.	Depth (m)	Sample Type	Soil Classification
*	BW21ML-150		0-0.15	Bag	Sediment - Organic Clay (OL)
●	BW21ML-151		0-0.15	Bag	Sediment - Organic Clay w/sand and organic material (OL)
◇	BW21ML-152		0-0.15	Bag	Sediment - Organic Clay w/sand and organic material (OL)



Additional Results

	*	●	◇
Liquid Limit			
Plastic Limit			
Plasticity Index			
ASTM: D4316			
Water Content			
ASTM: D2216			
Dry Density (pcf)			
ASTM: D7263			
Specific Gravity	2.49	2.15	2.40
ASTM: D854			
Porosity			
Organic Content			
ASTM: D2974			
pH			
ASTM: D4972 Method B			

Percent Passing (Single Set)

	*	●	◇
Mass (g)	1614.0	647.1	599.8
1"			
3/4"		100.0	
3/8"		99.5	
#4	100.0	99.5	100.0
#10	99.8	98.8	99.4
#20	99.5	97.7	98.7
#40	98.2	94.4	95.6
#60	96.7	90.6	92.1
#100	95.0	86.6	88.1
#140	93.6	84.1	85.5
#200	91.2	81.4	82.5

	*	●	◇
D ₆₀			
D ₃₀			
D ₁₀			
C _u			
C _c			

Remarks:

(* = assumed)

**Sieves larger than 1" reported on page 2

Grain Size Distribution ASTM D6913/D7928

Job No. : **13142**

Project:	Munger Landing	Test Date:	5/21/21
Reported To:	Bay West LLC	Report Date:	5/28/21

	Location / Boring No.	Sample No.	Depth (m)	Sample Type	Soil Classification
Spec 1	BW21ML-150		0-0.15	Bag	Sediment - Organic Clay (OL)
Spec 2	BW21ML-151		0-0.15	Bag	Sediment - Organic Clay w/sand and organic material (OL)
Spec 3	BW21ML-152		0-0.15	Bag	Sediment - Organic Clay w/sand and organic material (OL)

Sieve Data

Specimen 1		Specimen 2		Specimen 3	
Sieve	% Passing	Sieve	% Passing	Sieve	% Passing
3"		3"		3"	
2"		2"		2"	
1 1/2"		1 1/2"		1 1/2"	
1"		1"		1"	
3/4"		3/4"	100.0	3/4"	
3/8"		3/8"	99.5	3/8"	
#4	100.0	#4	99.5	#4	100.0
#10	99.8	#10	98.8	#10	99.4
#20	99.5	#20	97.7	#20	98.7
#40	98.2	#40	94.4	#40	95.6
#60	96.7	#60	90.6	#60	92.1
#100	95.0	#100	86.6	#100	88.1
#140	93.6	#140	84.1	#140	85.5
#200	91.2	#200	81.4	#200	82.5

Hydrometer Data

Specimen 1		Specimen 2		Specimen 3	
Diameter (mm)	% Passing	Diameter	% Passing	Diameter	% Passing
0.040	84.0	0.047	76.5	0.042	74.4
0.030	75.3	0.035	67.5	0.031	67.0
0.022	65.5	0.025	59.6	0.023	59.0
0.012	56.2	0.014	51.1	0.012	51.0
0.009	50.0	0.010	46.1	0.009	47.4
0.006	43.2	0.007	39.3	0.006	40.7
0.003	32.4	0.004	29.4	0.003	31.0
0.001	22.6	0.002	19.0	0.001	22.4

Remarks

Specimen 1	Specimen 2	Specimen 3

Project Name: FY21 Munger Landing - SLR AOCs Matrix: Sediment Units: mg/kg Date entered by: Paul Rymaker Date entered: 3/26/2021																	SITE DATA																								
Chemical Sort Order:																	Summary of Sensitivity Analysis (relative percent difference)			TEQs from Substitution			KM Method			(Quasi) Sensitivity Analysis SECTION 1				(Quasi) Sensitivity Analysis SECTION 2				(Quasi) Sensitivity Analysis SECTION 3							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	U = 0 & sum	U = 1/2 DL & sum	U = DL & sum	Sample KM TEQ	Qualifier	Select KM TEQ	KM TEQ	Qualifier and Qualifier Fractions	KM TEQ	Qualifier and Qualifier Fractions	KM TEQ	Qualifier and Qualifier Fractions	TEQ as simple sum when R & U treated as 0 (minimum)	TEQ as simple sum when R & U treated as normal detects	Used if "donor" value is available for R values	Used if "donor" values are available for R and U values	Will sample reanalysis be requested?	Sample ID used for "donor" values	Comment						
27	BW20ML-127(0-35-7): R	0.66 U	3.3 U	3.3 U	3.3 U	2.23 J	22.9	0.66 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	2.65 J	3.3 U	2.1 J	199%	0.0312	4.4697	8.9082	3.4249	J	Section 2, Treatment 1	3.4249	J	3.4249	J	100%	3.4249	J	100%	100%									
28	BW20ML-128(0-0-15): Row value to use: Row B	0.6 U	0.35 U	0.29 U	0.5 U	0.43 U	3.5 J	29	0.58 U	0.43 U	0.27 U	0.31 U	0.38 U	0.22 U	0.31 U	3.4 J	0.43 U	3.2 J	No difference	43.1956	43.1956	43.1956	43.1956	none	Section 1	43.1956	none	6%	100%												
29	BW20ML-130(0-0-3): Row value to use: Row B	0.66 U	0.92 J	1.2 U	4.4 J	3.1 J	4.2	310 J	1.4 J	1.1 U	2.8 J	2.3 J	4.2 J	0.4 U	2.1 J	63 J	1.7 J	38	189%	0.04072	0.74877	1.45682	0.6782	J	Section 2, Treatment 1	0.6782	J	100%	100%												
30	BW20ML-131(0-0-15): Row value to use: Row B	0.81 J	1.1 J	0.92 J	3.2 J	2.2 J	39	340	3.7	1.7 U	5.6 J	3.2 J	3.1 J	0.85 J	3 J	30	2.2 J	37	29%	4.0488	4.7263	5.4038	4.3258	J	Section 1	4.3258	J	99%	100%												
31	BW20ML-132(0-0-27): Row value to use: Row B	0.52 U	0.41 U	0.48 U	0.64 U	0.65 U	3.5 J	27	0.66 J	0.33 U	0.23 U	0.34 U	0.43 J	0.42 U	0.39 U	4.1 J	0.56 U	3.4 J	171%	0.1235	0.8410	1.5585	0.7090	J	Section 2, Treatment 1	0.7090	J	100%	100%												
32	BW20ML-133(0-0-3): Row value to use: Row B	0.28 J	0.81 J	4.5 U	3.02 J	1.57 J	50.1	520	1.02	0.573 J	1.61 J	1.9	3.14 J	1.57 J	2.03 J	96.2	21.3	216	37%	4.9833	6.1083	7.2333	7.2333	J	Section 2, Treatment 1	7.2333	J	65%	100%												
33	BW20ML-134(0-42): Row value to use: Row B	0.2 J	0.532 J	12 U	1.2 J	0.65 J	17.9	218	2.5 U	0.3 J	0.49 J	0.681 J	0.935 J	0.36 J	0.58 J	25.7	12 U	20.9 J	133%	1.5649	4.6874	7.8099	7.6311	J	Section 2, Treatment 1	7.6311	J	96%	100%												
34	BW20ML-135(0-0-3): Row value to use: Row B	1.25 J	2.59 J	2.46 J	12	6.1 J	243	2150	5.8	1.83 J	6.82 J	6.9 J	11.1	2.03 J	6.41 J	312	8.43	234	No difference	15.3722	15.3722	15.3722	15.3722	J	Section 1	15.3722	J	66%	100%												
35	BW20ML-136(0-0-15): Row value to use: Row B	0.54 U	0.4 U	0.66 U	1.6 J	0.83 J	17	160	0.83 J	0.66 U	0.46 J	1 J	1.7 J	0.54 U	0.85 J	22	0.57 U	14 J	54%	1.3052	1.7866	2.2679	1.9370	J	Section 2, Treatment 1	1.9370	J	89%	100%												
36	BW20ML-137(0-0-3): Row value to use: Row B	0.8 U	0.0679 J	4 U	0.161 J	0.14 U	1.57 J	18.8 U	0.8 U	4 U	0.176 J	0.2 J	0.098 J	0.131 J	3.83 J	0.22 J	4.27 J	187%	0.170507	2.692137	5.213767	2.2233	J	Section 2, Treatment 1	2.2233	J	100%	100%													
37	BW20ML-138(0-0-15): Row value to use: Row B	0.57 U	0.41 U	0.64 U	1.3 J	0.78 J	13	120	0.9 J	0.47 U	0.62 J	0.43 U	0.87 J	0.38 U	0.36 J	16	0.69 U	12 J	101%	0.685	1.3907	2.0964	1.3988	J	Section 2, Treatment 1	1.3988	J	91%	100%												
38	BW20ML-139(0-0-1): Row value to use: Row B	0.46 U	0.58 J	0.45 J	1.8 J	1.2 J	21	180	0.57 U	0.47 U	1.2 J	16	3.1 J	1.7 J	1.7 J	54	20	220	11%	4.4860	4.7420	4.9980	4.6226	J	Section 1	4.6226	J	52%	100%					Fewer than 3 detected results. Refer to KM Discussion worksheet for discussion.							
39	BW20ML-140(0-65-0-9): R	0.66 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	0.795 J	0.66 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	0.17 J	3.3 U	6.6 U	200%	0.0018	4.4423	8.8827	Not calculatec	Insufficient Data												Fewer than 3 detected results. Refer to KM Discussion worksheet for discussion.						
40	BW20ML-140(0-1-2): R	0.65 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	0.827 J	0.65 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	0.18 J	3.2 U	6.5 U	200%	0.0019	4.3131	8.6242	Not calculatec	Insufficient Data												Fewer than 3 detected results. Refer to KM Discussion worksheet for discussion.						
41	BW20ML-140(0-0-3): Row value to use: Row B	8.74	25.6	26	174	109	2320	17800	13.1	10	25.3	66.4	311	17.6	19.9	8850	55.1	3500	No difference	198.9660	198.9660	198.9660	198.9660	none	Section 1	198.9660	none	100%													
42	BW20ML-141(0-0-3): Row value to use: Row B	0.97 U	0.062 J	4.8 U	0.21 J	0.23 U	2.41 J	22.4	0.97 U	4.8 U	0.818 J	4.4 J	0.73 J	0.549 J	0.42 J	13.6	11 J	152	115%	1.3489	3.1793	5.0097	3.8984	J	Section 2, Treatment 1	3.8984	J	97%	100%												
43	BW20ML-143(0-0-24): Row value to use: Row B	7.2 J	1.2	1.15	0.011	0.032	0.014	0.013	0.455	0.2	1.05	0.19	0.21	0.33	0.17	0.27	0.022	0.0025	191%	0.2995	6.4095	12.5195	7.7091	J	Section 2, Treatment 1	7.7091	J	100%	100%												

