Report on Interim Soil Spot Removal Actions

for the

Central Heat and Power Plant Demolition
Joint Base Elmendorf/Richardson, AK
Project Number: P8046

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This report was prepared by a Qualified Environmental Professional per 18 AAC 75.333

Signature: 

ACRONYMS AND ABBREVIATIONS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AOC	Area of concern
CEI	Central Environmental, Inc.
CFR	Code of Federal Regulations
CHPP	Central Heating and Power Plant
COC	Contaminants of Concern
CY	Cubic yards
DoD	Department of Defense
DQO	Data Quality Objectives
DRO	Diesel range organics
DU	Doyon Utilities
ELAP	Environmental Laboratory Accreditation Program
EMI	Environmental Management, Inc.
EPA	Environmental Protection Agency
ft.	feet
HMES	Hazardous Material Environmental Survey
IDW	Investigation Derived Waste
ISSRA	Interim Soil Spot Removal Actions
JBER	Joint Base Elmendorf-Richardson
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantification
mg/kg	Milligram per kilogram
ml	milliliters
oz.	Ounce (volume)
PAH	Polynuclear Aromatic Hydrocarbons
PA/SI	Preliminary Assessment / Site Investigation
PCB	Polychlorinated Biphenyl
PCOC	Primary Contaminants of Concern
PCP	Pentachlorophenol
PE	Professional Engineer
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	Parts per million
ppmv	Parts per million (vapor)
QA	Quality Assurance
QC	Quality Control
QEP	Qualified Environmental Professional
QSM	Quality Systems Manual

ACRONYMS AND ABBREVIATIONS (Cont.)

RPD	Relative Percentage Difference
SAP	Sampling and Analysis Plan
SVOC	Semi-volatile Organic Compounds
TCLP	Toxic Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
U.S.	United States
VOC	Volatile Organic Compounds

EXECUTIVE SUMMARY

On November 3, 4, and 6, 2017, Central Environmental, Inc (CEI) and Environmental Management, Inc. (EMI) conducted the removal of identified contaminated soil from five locations where contamination had been reported in the 2012 Preliminary Assessment/Site Investigation (PA/SI) by Tutka. EMI also collected laboratory samples from the limits of excavation to determine if any contamination remained beyond the specific location identified in the PA/SI. The work was performed in accordance with ADEC/EPA approved Work Plan for Interim Soil Spot Removal Actions (ISSRA) dated 10/24/17. Soil removal was completed at the following five spots - approximately 4 cubic yards were removed from each spot:

Results:

Spot AOC02-005 (old transformer pad): Following cleanup efforts, this spot had diesel range organics (DRO) in remaining soil above the project action level (DRO=1230 ppm). Additional site characterization is required before excavation for demolition is conducted.

Spot AOC02-008 (old transformer pad; PCB spot): Following cleanup at this site both DRO and Polychlorinated Biphenyl (PCBs) were detected in the remaining soil above project action levels (DRO=15,900 ppm, PCB=1.92 ppm). This is the most contaminated spot found during this activity. Additional site characterization and soil removal is required before excavation for demolition is conducted.

Spot AOC06-001 (acid vent; PCB spot): Following cleanup all concentrations of PCBs were below the project action level, but the concentration of mercury (Hg) in one sample was above the project action level (Hg=0.557 ppm). No pentachlorophenol (PCP) was detected in any of the samples; however, the limit of detection was above the action level. Additional site characterization is suggested before excavation for demolition is conducted to confirm Hg is not above Fort Richardson background levels.

Spot AOC07-002 (ash tower): Confirmation samples found some elevated levels for specific contaminants of concern including naphthalene, however, the elevated analytical results are likely attributed to the coal and coal dust found at this spot. During excavation, buried railroad tracks were encountered that limited the extent of excavation. Soil excavated from this location in the future should be considered coal impacted soil.

Spot AOC08-005 (South Wall Contaminated Area): Samples collected at the east and west limits of excavation had mercury above the project action level. Note: As discussed in the report the excavation was slightly offset from the planned excavation spot. Therefore soil represented by the 2012 PA/SI sample also remains on site and is not representative of the soil removed. With three independent samples with high Hg, the contaminated soil remaining is a much larger area than a specific spot as hoped. Additional site characterization and soil removal in this area is required before excavation for demolition is conducted.

Excavated soils from each location were characterized based on the highest analyte concentrations reported by the laboratory for samples representing the soil. This includes

samples collected during this effort and for the 2012 PA/SI Report. The removed soils are stored in super-sacks and have been classified as follows: 14 super sacks of soil that are PCB Remediation Waste under 40 CFR 761.61, and 16 super sacks of soil that are polluted soil under 18 AAC 60.

Report on Interim Soil Spot Removal Actions
Sampling, Characterization, and Disposal
for the
Central Heat and Power Plant Demolition
Joint Base Elmendorf/Richardson, AK
Project Number: P8046

1.0 INTRODUCTION

Environmental Management, Inc. (EMI) was retained by Central Environmental, Inc. (CEI), the General Contractor, to provide environmental consulting services for the demolition of the Fort Richardson Central Heat and Power Plant (CHPP), CEI has been contracted by Doyon Utilities LLC (Doyon/DU) to demolish the CHPP. The CHPP is located on Joint Base Elmendorf-Richardson (JBER) in Anchorage, Alaska. The land at the project site is owned by the U.S. Air Force, while the CHPP itself is owned by Doyon Utilities (DU).

This report describes the removal and subsequent characterization of soil remaining at five locations around the CHPP that were previously identified as being impacted with contaminants in excess of regulatory limits. This report further discusses the handling, storage, characterization and disposal of contaminated soil removed. The work was performed in accordance with ADEC/EPA approved Work Plan for Interim Soil Spot Removal Actions (ISSRA) dated 10/24/17.

1.1 Purpose and Objectives

The purpose of this interim soil removal was to remove contaminant impacted soils at five select areas (spots) around the CHPP where sampling in 2012 by Tutka, LLC (Tutka) had previously identified specific contaminants of concern (COC) and to characterize the limits of excavation following the soil removal.

The objective of the demolition project is not to remove <u>all</u> of the contaminated soils at the CHPP site, but rather to ensure any contaminated soils that must be handled during the demolition of the CHPP are handled and/or disposed of appropriately. The efforts covered in this report supports that objective at the five identified specific spots.

1.2 Organization and Responsibilities

The work plan identified project key personnel with their roles, responsibilities and contact information. Since the approval of the work plan Mr. David Beaudoin, has replaced Mike Noe, Arcadis, as the contract project manager. Below are key personnel and their contact information, for their roles and responsibilities refer to the work plan.

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1.3 Background

In 2012 Tutka completed a PA/SI of the property surrounding the CHPP (Tutka, 2012). Nine areas of concern (AOC) were identified in the report. Six of those AOCs are close to the CHPP and have soils that may need to be removed to demolish the foundation. Analytical samples

collected from these six AOCs had COC concentrations above this project's action levels. Arsenic (As), chromium (Cr), and selenium (Se) were not considered COCs since they are naturally occurring in the area. One of these six locations (AOC09-001) was impacted with residual coal found on site; because the coal will not impact ground water this AOC was excluded from the soil spot removal covered by this report. With the exclusion of AOC09-001, five distinct locations remained in which COCs in excess action levels remained. The five locations in the AOCs are: AOC02-005, AOC02-008, AOC06-001, AOC07-002, and AOC08-005. These are further described below (two of the spots had soil regulated for PCB under 40 CFR 761):

1.3.1 Old Transformer Pad (AOC02-005)

During the 2012 PA/SI Tutka identified the area around the former transformer pad as an AOC which they referred to as AOC-02. To characterize the soils in this area they collected eleven samples from eight locations. Nine samples (one duplicate) were collected from 1-2 feet below the surface and two samples were from 3.5 feet below the surface. Two samples had diesel range organics (DRO) concentrations above the 250 ppm action level. One of the locations, AOC02-005, had a sample with DRO concentration of 310 ppm (Sample ID#: 12CHPP205SO01AOC02). This sample was collected from along the south fence. There was no odor or PID readings indicating the soil was contaminated. The duplicate sample from the same location had DRO = 57 ppm and adjacent samples detected DRO < 10 ppm, indicating the contamination may be localized.

1.3.2 Old Transformer Pad (AOC02-008) (PCB-40 CFR 761)

Sample 12CHPP008SO01AOC02 was the second sample collected from AOC-02 that had DRO concentrations in excess of the action level. This sample also had PCB in excess of the action level. This sample was collected from a visibly stained area on the east side of the building between the building and the southern transformer pad, 20 feet north of the southern fence enclosing the old transformers. The sample was collected from 1.5 ft. below the surface, the PCB concentration in this sample was 1.5 ppm and the DRO concentration was 5,400 mg/kg. Based on the evidence, the Tutka report stated the contamination was presumed to be from PCB-containing oil from the transformers.

1.3.3 Acid Vent Area (AOC-06) (PCB-40 CFR 761)

Sample 12CHPP001SO01AOC06 was collected from an area with no vegetation near an acid vent discharge under a porch on the south side of the building which was identified by Tutka as AOC-06. The paint and concrete near the vent were severely eroded leaving no paint in the immediate area. The sample taken at 1 foot below the surface had an estimated level of PCB at 1.2 ppm, and PCP estimated at 0.140 ppm. Based on the Hazardous Material Environmental Survey (HMES) of the building, the blue paint on the concrete stem wall has PCBs well over the regulatory limit of 50 ppm and therefore is considered a PCB Bulk Product. The HMES reported

the paint is also lead-based paint due to high levels of lead in the paint (WEC, 2013). However, just 4 feet to the south of Sample 12CHPP001SO01AOC06, Sample 12CHPP002SO01AOC06 was collected also at a depth of 1 foot below the surface. This sample had PCB = 0.41 ppm, lead (Pb) = 72 ppm, barium (Ba) = 79 ppm, while PCP was not detected in the sample. The data from the second sample suggests the contamination is very localized under the vent. The report presumed the contamination to be from the acid's erosion of the paint and other building materials such as the treated wood.

1.3.4 Ash Tower (AOC-07)

The area in the vicinity of the ash tower was also identified as AOC-07 by Tutka. From AOC-07 two samples were collected. One sample location AOC07-001 (Sample ID#: 12CHPP001SO01AOC07) had metals, As, Cr, and Pb detected above the 2012 PA/SI listed action level. The As and Cr levels (7.7 and 40 ppm) are consistent with typical background levels, and the Pb was estimated at 780 ppm which is below the cleanup level for commercial/industrial property.

Elevated levels of As and Ba were detected at the other sample collected from AOC07-002 (Sample ID#: 12CHPP002SO01AOC07) with As present at 12 ppm and Ba at 2,400 ppm. The As level (12 ppm) is still consistent with typical background levels. The Ba is slightly above the current cleanup level of 2100 ppm. Note: elevated levels of Ba are common in coal ash.

1.3.5 Drip Line (AOC-08)

The drip line located on the southern end of the CHPP and identified by Tutka as AOC-08 had seven samples collected from six locations. One sample location - AOC08-005 (Sample ID#: 12CHPP005SO01AOC08) had metals, As, Cr, Pb and mercury (Hg) detected above their respective action levels. The Cr level (47 ppm) is consistent with typical background levels. The As, Pb and Hg were elevated above typical background (As: 26 ppm, Pb: 2,200 ppm, and Hg: 4.1 ppm). The sample with the next highest results from the drip line had all analytes below the action levels with As at 11 ppm, Pb at 55 ppm, and Hg at 0.23 ppm, indicating the contamination at location AOC08-005 is may be isolated.

1.4 Action Levels for Contaminants of Concern

The primary contaminants of concern (PCOC) for the locations investigated during this removal action were PCB, DRO, PCP, As, Ba, Hg , and Pb. In addition, Low Level volatile organic compounds (VOC), polynuclear aromatic hydrocarbon (PAH), and additional metal analysis was performed on select samples from each area of investigation to supplement the 2012 PA/SI data.

Action Levels: Since the intent is to use as much of the soil as possible as backfill at the demolition site, the various project action levels for soil at the limits of excavation are:

- **PCB: 1 mg/kg** – ADEC cleanup level (18 AAC 75, Table B1). Below this level the soil can be disposed on-site (40 CFR 761.61(a)(4)(i)).

- **PCB 50 ppm** - below this level the soil can be disposed in any appropriately permitted landfill. (Currently there are no permitted landfills in Alaska that can accept this waste.) At 50 ppm and above the soil must be disposed in a landfill approved for Chemical Waste or Hazardous Waste (40 CFR 761.61(a)(5)(i)). Note: All regulated PCB Waste must be disposed outside of Alaska.
- **DRO: 250 mg/kg** – ADEC cleanup level for "under 40 inch zone" (18 AAC 75, Table B2)
- **PCP: 0.0043 mg/kg** – ADEC cleanup level for "migration to groundwater" (18 AAC 75, Table B1). Note: the detection levels for the laboratory's currently approved method is above this level, therefore the detection level was also compared to an alternate action level of 13 mg/kg based on "under 40 inch zone, Human Health" (18 AAC 75, Table B1)
- **As: 13 mg/kg -** The *Background Data Analysis Report, Fort Richardson, Alaska* (E&E, 1996) recorded a maximum level of arsenic at 13 mg/kg in the background samples on Ft. Richardson. Due to the prevalence of naturally occurring arsenic throughout the state, arsenic at a site is considered background arsenic if no anthropogenic contribution from a source, activity, or mobilization by means of another introduced contaminant is known or suspected at this site.
- **Ba: 2100 mg/kg** – ADEC cleanup level for "migration to groundwater" (18 AAC 75, Table B1)
- **Hg: 0.36 mg/kg** – ADEC cleanup level for "migration to groundwater" (18 AAC 75, Table B1). However, due to the prevalence of naturally occurring mercury throughout the area, some slightly elevated mercury may be considered background. The *Background Data Analysis Report, Fort Richardson, Alaska* (E&E, 1996) recorded a maximum level of mercury at 0.6 mg/kg in background samples on Ft. Richardson.
- **Pb: 800 mg/kg** – ADEC cleanup level for commercial or industrial land use (18 AAC 75, Table B1, note 14) note: if soil is to be released for unrestricted use off-site 400 mg/kg is the cleanup level for residential use (18 AAC 75, Table B1))
- **TCLP-Pb: 5 mg/L**– maximum concentration for toxicity characteristics (40 CFR 261.24 Table 1) *Note: <100 mg/kg total lead can also be used to meet this criteria.*

Action levels for other contaminants that may be of concern;

- **Other metals:** varies by metal; cleanup level under "migration to groundwater" (18 AAC 75, Table B1) was the standard used. However, due to the prevalence of naturally occurring metals throughout the area, some slightly elevated results may be considered background. The maximum level in background samples as listed in Table 3-4 of *Background Data Analysis Report, Fort Richardson, Alaska* (E&E, 1996) is used in some cases.
- **VOC:** varies by compound; cleanup level under "migration to groundwater" (18 AAC 75, Table B1) is the primary standard used for comparison of results. In a case by case basis where a specific compound is bound up in coal or coal ash the "Human Health" standard may be the appropriate action level.
    - **Naphthalene: 29 mg/kg** (in areas with coal or coal dust) "under 40 inch zone, Human Health" (18 AAC 75, Table B1) should be used as the action level if there is coal present and there is no other evidence of the source being from a liquid petroleum product. The level in one coal sample in the 2012 PA/SI was 16 mg/kg.

- **PAH:** varies by compound-- cleanup level under "migration to groundwater" (18 AAC 75, Table B1) was the standard used. However, in a case by case basis where a specific compound is bound up in coal or coal ash the "Human Health" standard may be the appropriate action level.

2.0 SAMPLING AND ANALYSIS METHODS

The methods described in the ADEC approved work plan dated October 24, 2017 were used to field screen and sample the soils on this project. Glenn Hasburgh, an ADEC Qualified Environmental Professional, was on-site overseeing the collection of all samples. Andrew Coulson, an environmental scientist and Qualified Sampler, was on-site assisting in the field screening and sampling effort. They followed the guidelines published in the ADEC's August 2017, *Field Sampling Guidance,* where applicable. The samples were placed in clean sample bottles provided by the laboratory specifically for this project. For all samples, each sample bottle was labeled, stored and secured in a cooler with ice before moving onto the next sample location. The sample information was recorded on a chain of custody by the samplers before transportation to the laboratory.

2.1 Sampling Methods for Limits of Excavation (Non-PCB Contaminated Soil)

The limits of all excavations were sampled following the guidelines published in the ADEC's *Field Sampling Guidance* Table 2B (note: the base of each excavation was less than 50 sq.ft. and the side walls were less than 30 sq. ft. each.).

Initial field screening at each site was conducted by looking for physical evidence of soil contamination, such as visual or olfactory. Evidence of suspect contamination was recorded in the field book.

2.1.1 Field Screening with PID

Field screening with a MiniRae 3000 PID was conducted at the Old Transformer Area, AOC02. Five samples for headspace analysis from the bottom and two from each sidewall were collected and tested (per Table 2B, ADEC *Field Sampling Guidance*). Because of the expected low response of the PID, the samples were warmed to more than 85° F and allowed to develop more than 30 minutes. The following field screening procedure for using a PID, as outlined in the *Field Sampling Guidance,* was used:

- Calibrate PID field instruments according to the manufacturer's specifications and requirements and document in the field notes.
- Partially fill (one-third to one-half) a re-sealable polyethylene bag with the sample to be analyzed. Total capacity of the bag may not be less than eight ounces (approximately 250 mL), but the container must not be so large as to allow vapor diffusion and stratification effects to significantly affect the sample.

- If the sample is collected from a split spoon, after collecting analytical sample, transfer it to the jar or re-sealable polyethylene bag for headspace analysis immediately after opening the split spoon.
- Collect the sample from freshly uncovered soil if it is being collected from an excavation or soil stockpile.
- If a re-sealable polyethylene bag is used it must be quickly sealed shut.
- From the time of collection, allow headspace vapors to develop in the container for at least 30 minutes but no longer than one hour.
- Shake or agitate containers for 15 seconds at the beginning and end of the headspace development period to assist volatilization. Temperatures of the headspace must be warmed to at least 85° F (approximately 30° C).
- After headspace development, insert the instrument sampling probe to a point about one half the headspace depth. The container opening must be minimized and care must be taken to avoid uptake of water droplets and soil particulates.
- After probe insertion, record the highest meter reading. This normally will occur between two and five seconds after probe insertion.
- Complete headspace field screening within one hour from the time of sample collection.
- Document all field screening results in the field record or log book.
- Do NOT reuse soil from the head space sample in subsequent laboratory samples or analyses; separate samples from undisturbed, freshly exposed soil are to be collected and used for laboratory analysis.

The PID calibration was checked using isobutylene span gas at 100 ppm at least daily. If the instrument did not meet the manufacturer's specifications (100 ppm +/- 10%), the instrument was recalibrated before use. The results of the calibration check were recorded in the field book. The time of sample collection and time of the reading were recorded in the project field notes, along with highest PID reading from each sample.

2.1.2 Sampling for Laboratory Analysis

At each identified area investigated, analytical soil samples were collected from 1 to 3 feet below ground surface from the in-situ soil. At each spot, a minimum of five analytical samples were collected from the limits of excavation: one from the bottom and one each of the four sidewalls. A clean decontaminated stainless-steel sampling tool or a sterile disposable sampling spoon was used to collect analytical samples at each sample location. The soil was containerized immediately and preserved as necessary. Soil samples were collected as follows:

1. Sample locations were identified. The samples were collected from the spot with the highest field screening result or the spot most likely to be contaminated. If there were no indications of the presence of contamination based on the field screening, the samples were collected from the centers of the excavation base or sidewall.
2. Checked all equipment and sample containers to ensure that the equipment is clean and that the containers are new and have been properly prepared;

3. Containers were labeled and chain-of-custody were completed, as applicable
4. The top couple inches of exposed soil were removed by hand to expose fresh soil for sampling;
5. Clean stainless steel sampling utensils or disposable utensils were used to collect the samples;
6. Samples for volatile analysis were collected first and preserved by adding the entire contents of the 40-mL vial (25mL) of methanol to the pre-weighed 4-oz. amber jar ;
7. Soils were non-volatile analysis were then collected;
8. Information related to the sample was recorded in the field log book, including, time of collection, location, sample ID and other relevant information.

2.2 Sampling Methods for PCB Impacted soils

Samples of sod and soil from areas near the CHPP were collected for PCB analysis following 40 CFR 761 Subpart N, *Cleanup Site Characterization Sampling for PCB Remediation Waste in accordance with 761.61(a)(2).* Samples of the sod were collected prior to excavation in the area; in some instances the asphalt cap that has been constructed around the site had to be removed to access the sod surface. The sod samples were collected from as close to the center of the planned excavation area as possible. Soil samples for PCB analysis from the limits of excavation were collected following soil removal at the same locations and times as for other analyses, but using the same sampling methods as the sod samples.

Soil samples for PCB analysis were collected using a graduated, disposable syringe-like core sampling tool with a diameter of approximately 1". At each location the sampling tool was advanced 2.25 inches into the soils, which resulted in approximately 30 ml of soil being obtained. The collected soil was placed directly into a clean 4 oz. sample jar provided by the laboratory. Each sample jar was labeled and placed in a cooler with ice pending transfer to the laboratory for analysis.

Analysis included all Aroclors following EPA method 8082A.

2.3 Stockpiled Bulk Material (Soil) Sampling Methods

The removed soil was placed directly into super-sacks for storage, pending final classification for disposal.

Because of elevated lead levels, the soil removed from the three non-PCB spots had additional sampling for TCLP-Pb performed. A composite sample of the soils in the 16 super sacks was collected to represent the soil in the sacks. Eight sub-samples were collected from randomly selected super sacks. Each subsample was approximately 100 ml (equal to the volume of a standard 4-oz sample container). The subsamples were homogenized by thoroughly mixing them in a gallon Ziplock bag. The sample for submittal to the laboratory was collected from the homogenized soil in the bag.

The 14 sacks of PCB sod and soil was not sampled after it is placed in the super sacks, under 40 CFR 761, the soil disposal characterization is based on in-situ PCB sampling results.

2.4 Laboratory Analysis

The following laboratory was used for all the analytical work:

- SGS North America, Inc.
  200 W Potter Dr.
  Anchorage, AK 99518
  Lab Certifications: ADEC: UST-005 (exp. 12/18/17)
  A2LA Accredited (DoD ELAP) No. 2944.01 (12/31/17)

Table 1 Analytical Methods and Number of Verification Samples for Each Spot

	Verification of 2012 PA/SI Identified Known Contamination				**Additional Analysis Checking for Potential Contamination**			
Test Hole (Spot) ID (See Figure 1)	DRO - AK102	PCB - SW8082A	Spot Specific PCOC Metals - SW6020A	PCP - SW8270D	PCB - SW8082A	Additional Metals (RCRA plus Ni, V) SW6020A	PAH - SW8270D SIM	VOC - SW8260 LL
AOC02-005 (Old Transformer)**	5				6	2	2	2
AOC02-008 (Old Transformer)	5*	6*				2*	2*	2*
AOC06-001 (Acid Vent)		6*	5*	5*		2	2*	2*
AOC07-002 (Ash Tower)**			6*			3	3	3
AOC08-005 (Drip Line)**		1	5			2		
Field Duplicates (10% or more)	1	2	2	1		1	2	2

* *location with a duplicate sample*

** *one composite sample collected from the 16 super sacks from locations AOC02-005, AOC07-002, AOC08-005 was analyzed by SW1311/6020A for Pb (TCLP)*

3.0 SOIL REMOVAL ACTIVITIES WITH RESULTS

This initial effort was to remove limited quantities of contaminated soils identified by Tutka and to classify the remaining soils following excavation. Soil removal was conducted at five separate spots around the CHPP. These are identified based on the sample location ID used in the 2012 PA/SI, along with the description of the AOC. The specific locations excavated and investigated

during this work were identified as follows: AOC02-005 (Old Transformer), AOC02-008 (Old Transformer), AOC06-001 (Acid Vent), and AOC08-005 (Drip Line).

The same general approach to soil removal was followed at all five spots. First, each of the five locations was surveyed to locate the original sample location from the 2012 PA/SI. Once the location had been identified the limits of the planned excavation were measured and marked out on the asphalt cap that surrounds the building. A masonry saw was used to cut the asphalt around the perimeter of the planned excavation and the asphalt was then removed. At sample locations where sod samples were to be collected a small section of asphalt was first removed from the center of the planned excavation (see Photo 7 in Appendix A). Once the sod sample had been collected the remainder of the asphalt was removed (see Photo 2 in Appendix A).

3.1 Summary of Activities

The specific cleanup work described in this report occurred November 3 through November 6, 2017. Prior to excavation at each spot a bagging area was established to minimize spillage of impacted soils while placing them into super-sacks. This bagging area consisted of a 6 mil polyethylene liner placed on the asphalt surface under a soil hopper (see Photo 8 in Appendix A). At each location the contaminated soils were excavated and placed directly into lined super-sacks using the hopper. Once the excavation reached the planned depth, excavation ceased and sample collection began to screen (if applicable) and characterize the excavation sidewalls and base. At each spot there was less than 5 feet (1.5 meters per 40 CFR761 Subpart O) separation between analytical samples. Once the analytical samples had been collected the excavation was lined with plastic to create a visual barrier and backfilled with clean fill. A summary of the samples collected and analyzed at each spot is shown in Table 1. A discussion of the removal activities at each specific spot is presented in the following sections.

3.2 AOC02-005 Old Transformer Pad

At AOC02-005 the PCOC was DRO based on the PA/SI. Due to the proximity of the former transformers PCBs were also of potential concern, including in the surface soils. Due to the concern for PCB, samples of the sod and soils at the limits of excavation were collected using a disposable cored device and the methods described in Section 2.2. After the collection of the sod sample, the top 6 inches were removed and placed in a super sack dedicated for the sod layers at the site. The excavation then proceeded until it reached the planned dimensions of 6 ft. by 6 ft. laterally and 3 ft. bgs. The removed soil below the sod was placed directly into five lined super sacks for storage pending characterization for disposal. The super sacks were labeled to show the source of the material.

The PID was used to screen the limits of excavation. Five field screening samples were collected from the bottom and two were collected from each of the sidewalls using the methods outlined in Section 2.1.1. Field screening results from base of the excavation ranged from 2.0 ppm to 8.5

ppm, sidewall headspace results ranged from 2.5 to 12.5 ppm. Analytical samples were collected: one from the base and one from each of the four sidewalls. All analytical samples were collected from the location with the highest headspace value. All samples collected were analyzed for DRO and PCB. Furthermore, the samples from the two locations with the highest field screening results also had VOC, PAH and RCRA metals analysis performed as identified in Table 1.

The results of the sampling at this spot are summarized in Figure 2 and Table 2. The west side of the excavation, which is represented by sample AOC02-005 West Wall 2, and the north side of the excavation, which is represented by sample AOC02-005 North Wall 2 did not have detections above the action levels. Sample AOC02-005 East Wall 2, which was collected from the southern half of the east sidewall had a DRO concentration of 1,230 ppm, which exceeds the project action levels. This result also exceeds the value observed in Tutka's 2012 sample that found DRO at 310 ppm. No PCBs were detected in the sod core sample. PCBs (0.681 ppm Aroclor 1260) were detected in the subsurface in sample AOC02-005 East Wall 2 at higher levels than found in 2012, but still below the action level.

If the demolition can be completed without impacting soils at this location no further action regarding the soils in this area should be needed to complete the demolition of the CHPP. However, based on the data obtained during this investigation, DRO contamination at location AOC02-005 does exist in excess of ADEC Method II cleanup levels for migration to groundwater. Since these soils may be impacted during the demolition of the CHPP additional characterization of this spot should be conducted to determine the limits of the contamination at this spot.

3.3 PCB Soil Removal at the Old Transformer Pad (sample location AOC02- 008)

The PCOCs at AOC02-008, as identified in the PA/SI, were DRO and PCB. Since this spot was next to the building, a sod sample was collected prior to excavation and the top six inches of soil (including sod) was removed and placed in a separate super-sack dedicated to sod. A 6 ft. by 6.5 ft. area between the concrete transformer pad and the building was excavated to a depth of 3 feet bgs. The excavated soils, excluding the segregated top six inches, were placed directly into five lined super sacks and labeled for storage pending characterization for disposal.

The limits of excavation were screened using a PID as described in Section 2.1.1. Five field screening samples were collected from the base and two were collected from each sidewall. Headspace results from the base ranged from 3.7 ppm to 63.8 ppm, while headspace values from the sidewalls ranged from 5.3 to 45.7 ppm. All samples collected were analyzed for PCB and DRO. The two locations with the highest headspace location were also analyzed for VOC, PAH and RCRA metals as indicated in Table 1.

Analytical results found DRO in excess the project action levels in five out the six samples collected. The DRO levels within these five samples ranged from 4,710 ppm (sample ID: AOC02-008 North Wall 2) to 15,900 ppm (sample IDs: AOC02-008 Base NE 2 and AOC02-008 South Wall 1). The only sample analyzed for DRO that was found to be below the action level was sample AOC02-008 West Wall 2, which was collected from the base of the excavation since west side of the excavation was flush with the CHPP foundation. The DRO results observed exceed the values identified by Tutka in 2012.

PCB was also detected in all samples analyzed in the form of Aroclor-1260. The PCB results ranged from 0.246 ppm to 1.92 ppm, with two samples exceeding the 1 ppm project action level; these samples were AOC02-008 Sod (1.62 ppm) and AOC02-008 West Wall 2 (1.92 ppm).

The results of the sampling at this spot are summarized in Figure 3 and Table 3.

Based on the sample results this is the most contaminated spot found during this effort. Both PCB and DRO exceed the project action levels in the remaining soils, and since these soils will be impacted during the demolition of the CHPP, additional characterization of this area is required to determine the limits of contamination.

3.4 PCB Soil Removal at the Acid Vent Site (sample location AOC06-001)

At location AOC06-001 the PCOCs were PCB, Pb, and PCP. As with other locations that were next to the wall, a core sample of the sod was collected prior to excavation and the top six inches of soil, including the sod was segregated into a separate super-sack.

Tutka's 2012 PA/SI sample at this location was next to the wall and the source was known to be from the acid in the vent dissolving the PCB containing paint. The excavation area was described in the work plan to be 4 feet to either side of the 2012 PA/SI sample and 4 feet away from the wall. The area was excavated to a depth of 3 feet bgs. Since the PCOCs at this location are not detectable with a PID, headspace field screening the limits of excavation was not performed. However, the limits of excavation where physically inspection for signs of contamination including staining and odor; none were noted.

One analytical sample was collected from the base and one from each of the sidewalls (since the north wall of the excavation was flush with the building the sample from the north wall was collected from the wall/base interface). With exception of the sample representing the north wall, all other sidewall samples were collected from the middle of the sidewall (vertically and laterally) at a depth of 1.5 feet. The location of these sidewall samples were predetermined by the approved work plan.

All samples collected from the limits of excavation were analyzed for PCB, Hg, Pb, and PCP. Two samples were also analyzed for the remaining RCRA metals, PAH, and VOC and presented in Table 1. The sample locations selected for the additional analysis were AOC06-001 North

Wall and AOC06-001 Base. These areas were selected since they were the locations at the limits of excavation that were closest to the acid vent, which was considered as the contaminant source.

The sample locations are shown in Figure 4. After the samples were collected the excavation was lined with plastic and backfilled with clean soils.

This soil was placed directly into seven lined super sacks and labeled for storage pending characterization for disposal.

All detected results at this spot were below the project action levels except for Hg at the west side wall (sample ID: AOC06-001 West Wall) which was at 0.577 ppm. This is very close to the 0.6 ppm that was found in background samples at Fort Richardson. PCP was not detected in any sample, however using the approved analytical method the detectable reporting limits were still above the project action levels.

By removing the 4 CY of soils, the PCB levels remaining at this spot were reduced to below the action level of 1 ppm. PCBs were not detected in all of the samples except for estimated values reported at two locations. These estimated values were 0.033 ppm in sample AOC06-001 West Wall and 0.041 ppm in sample AOC06-001 East Wall. Both of these estimated values are below the project action levels.

All other analyte detections were below the project action levels. The results of the sampling are summarized Table 4.

With no evidence of elevated levels of PCP or PCB remaining at this spot the soil in this area should no longer be regulated under 40 CFR 761. However, with levels of Hg still close to the Fort Richardson background levels, additional characterization should be completed to confirm Hg above background do not remain in the area.

3.5 Soil Removal at the Ash Tower (AOC07-002)

For the ash tower area (location AOC07-002) the identified PCOC was barium (Ba). Ba is commonly found in coal dust or coal ash, which were visibly present at this location. The Ba was present above the action level in the 2012 PA/RI sample from this location. Naphthalene was also detected above the current 18 AAC 75 migration to ground water cleanup standard, however it was not considered a PCOC since it would be bound in the coal and not available to migrate into the groundwater.

At this spot obstructions to excavation were found just below the surface; a railroad track including wood ties was discovered below the surface at approximately 10 to 12 inches bgs. Due to the presence of the track the limits of the excavation were adjusted. At AOC07-002 the surface soil was removed to the depth of the track (10 to 12 inches bgs.) but the full depth of the excavation (3 ft.) was limited to between the tracks and two of the railroad ties plus a two foot

wide trench that paralleled the tracks on the west side of the tracks (see Figure 6 and Photos 5 and 6 in Appendix A). Due to the additional complexity of this spot, an additional sample was collected to better characterize the soils at this spot. Since the PCOC cannot be detected with a PID, headspace field screening was not performed.

A total of seven analytical samples were collected, including a duplicate. None of the analytes were detected above any of the project action levels. Slightly elevated levels of some metals and PAH compounds were found in the sample from the bottom of the excavation, including naphthalene (sample ID: AOC07-002 Base). The distribution of the elevated results was similar to the distribution found in the coal samples in the 2012 PA/SI. Since coal dust was visibly present in the surface soils at this spot, the elevated results were likely due to coal dust that settled on the bottom of the excavation. The results on the sidewall samples were lower even though they were closer to the visible coal dust. This may be due to the specific sample location on the sidewall being more protected from settling dust after the sampler exposed fresh soils on the sidewall. These sidewall samples which were closer to the RR ties had lower PAH levels indicating the elevated PAH did not come from the treatment material in the ties.

The results of the sampling are summarized in Figure 5 and Table 5.

No evidence of anything other than coal dust was present in any of the samples. While the naphthalene detected was above migration to ground water cleanup standard it was well below the Human Health standard in Table B1, 18 AAC 75. The soil in this area should be treated as coal impacted soils, but no other special handing should be required.

3.6 Soil Removal at South Wall Contaminated Area (area around AOC08-005)

The PCOCs at location AOC08-005 were the metals As, Pb, and Hg, plus the potential for PCBs in the surface soils/sod due to its close proximity to the CHPP's PCB containing painted walls. As with other locations next to the walls, a core sample of the sod was collected prior to excavation and the upper six inches of soil, including the sod, was placed into a separate super-sack designated for sod for later disposal.

The actual excavation was off set to the east of the location of the 2012 PA/SI sample 12CHPP005SO01AOC08. See Figure 6. The off-set was due to an error that occurred in marking the sample spot. The excavation extended out 4 ft. from the south foundation wall of the CHPP boiler room, which formed the excavation's north wall. The excavation measured 9 ft. by 4 ft. and extended 3 ft. bgs as planned. While the actual excavation slightly overlapped the proposed excavation limits, the soil at the 2012 PA/SI sample 12CHPP005SO01AOC08 location still remains on site.

Analytical samples from limits of actual excavation were collected from the center of the base and the center of each sidewall. The sample representing the north sidewall was collected at the

base/wall interface. AOC08-005 South Wall and AOC08-005 Base were also selected for the full suite of RCRA metals, plus nickel and vanadium.

Analysis of the samples found Hg to exceed the project action levels in AOC08-005 West Wall (1.49 ppm) and AOC08-005 East Wall (0.750 ppm). All other target analytes were below their respective action levels. Finding elevated mercury in three separate locations indicates this is an area with contamination and not just a spot of contamination as hoped.

The results of the sampling are summarized in Table 6.

With levels of Hg still above the action level and the soils at the 2012 PA/SI sample location still in place additional characterization and soil removal needs to be completed, including testing for As, Hg, and Pb.

3.7 Results of Additional Analysis at Each Spot

At each of the above spots at least two samples were collected and analyzed for additional potential contaminates of concern. The results of the all the additional VOC, PAH and metal analysis are presented in Table 7. Additional analyses detected nothing above the project action levels in any of the samples. The elevated DRO levels listed in Table 7 are from the analysis of the PCOCs at AOC02-005 and AOC02-008, the old transformer pad spots and have been already discussed above.

3.8 Decontamination

All equipment that had been in direct contact with the contaminated soils was decontaminated before it is reused on other parts of the project. Dry decon methods were used except where PCB waste was directly contacted by the equipment. At the PCB waste sites the equipment was swabbed with hexane rags after the dry decontamination was completed. The decontamination material is stored in super sacks along with the contaminated soil from the same location and will be disposed along with the soil. No liquid decontamination waste was generated during this removal action. Decontamination was performed over a plastic liner; this plastic liner, along with the plastic liners surrounding excavation activities at each location, was placed in a lined super sack of soil from that same location for disposal with the soil. The decontamination of excavator equipment was verified with wipe samples after working at the PCB waste sites.

3.9 Waste Storage Area

The soil and investigation-derived waste (IDW) associated with this spot removal are stored in lined super sacks the meet the DOT standards for transporting PCB contaminated soils or polluted soils. These super sacks will be stored in the JBER contaminated soil storage cell located on Loop Road, Ft Richardson. The waste will be stored there less than 180 days per 40 CFR 761.65 (c) (9). The lined super sacks will act as the primary liner and cover to contain the material. In addition, the super sacks will be placed on a plastic liner and completely wrapped

up to keep snow and other precipitation from contacting the super sacks and freezing. The contaminated soil storage cell is designed to prevent any surface water run on into the cell from a storm or thaw event.

4.0 DATA VALIDATION

Quality Control (QC) data and Quality Assurance (QA) procedures were used to help ensure the analytical results are representative of the sampled material. One field duplicate (QC sample) was collected and analyzed for every 10 samples for each method of analysis. A total of 30 primary samples were collect along with three duplicates (a duplicate for TCLP analysis used for waste characterization was not performed).

Equipment blanks were not used on this project. Samples were collected using disposable tools or clean tools brought to the field, so no decontamination in the field was required

All data was validated through a quality assurance review of the sample handling procedures and laboratory's quality data. The approach described in *Data Quality Objectives, Checklists, Quality Assurance Requirements for Laboratory Data, and Sample Handling* (ADEC, 2017) was followed in reviewing the data. The ADEC-provided data review checklists are attached behind their respective laboratory report in Appendix C.

4.1 Precision

Three field duplicate samples were collected during the course of this investigation. The relative percent difference (RPD) between all detected analytes in the primary and associated field duplicate were acceptable (<50%) with only two exceptions: RPD for cadmium between sample duplicate set AOC02-008 Base NE and AOC02-008 Base NE2 was 125%, and RPD for barium in duplicate set AOC07-002 North Wall and AOC07-002 North Wall 2 was 120.3%. In these specific instances the precision for these analytes between the primary and duplicate sample were poor. However, in both of these cases the analyte was well below the project action level – for this reason data quality or usability is not affected.

All relative percent difference RPD in the laboratory QC data were within method specific ranges, with no failures noted.

4.2 Accuracy

In many instances the samples required dilutions which resulted in failed surrogate recoveries. This may have a minor effect on accuracy with certain analytes, but this does not affect the usability of the data since detections in these samples were either well above or well below the project action levels.

All percent recoveries (%R) between the laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) were within range.

Accuracy for this project is considered satisfactory.

4.3 Representativeness

All data is consistent with field findings and historic data. All samples were properly preserved and handled. The data is considered representative of the site.

4.4 Sensitivity:

Multiple compounds had LOQs above the action level. Therefore the attached report is a revised version that was requested from the laboratory to give estimated values. Samples with sensitivity concerns are discussed below.

Six samples from location AOC06-001 (acid vent) were analyzed for PCP. In each case the limit of quantification (reporting limit; 2.23-2.53 mg/kg) was significantly (by a factor of 500) above the action level (0.0043 mg/kg). Furthermore, the detection limit was also significantly above the action level as well (0.692-0.784 mg/kg, over 100 times the action level). However, the LOQ and LOD provided by lab are consistent with the method limits for Method SW8270D, the ADEC approved method for this project. Since the LOQs and LODs are above the project action level the PCP results cannot be results cannot be used to state that AOC06-001 is free of PCP contamination above the action level. Note that the apparent source of the PCP was a small section of acid-deteriorated treated lumber, which would not release a large volume of PCP. Unless there is another unknown source these results can be used to show that there is not a significant quantity of PCP remaining at this spot.

Some VOC analytes also had LOQ above the project action levels in select samples. These analytes include 1,2,3-thrichloropropane, 1,2-dibromoethane, and vinyl chloride. These analytes are not considered COCs since they were not detected in any sample analyzed and have historically never been a known contaminant at the site. Although the sensitivity for these analytes in specific samples was not sufficient, it does not affect the usability of the data.

Multiple PAH compounds in samples associated with location AOC02-008 also had samples with LOQs above the action levels. In each of these samples DRO results far exceeded the project action levels and the samples required dilution up to 50 X. Since contamination is known to exist at these sample locations, the elevated LOQs do not significantly affect the usability of the data or the conclusions about soil handling and further characterization.

With the exclusion of the above mentioned issues, sensitivity for the remaining data is adequate.

4.5 Completeness

The work plan was executed in its entirety with areas investigated and all planned samples collected. Additional samples were collected from AOC07-002 to further characterize that location. Based on this the completeness is considered over 100%.

5.0 MATERIAL CHARACTERIZATION AND DISPOSAL

Since the quantity of soil waste is so small at each spot (4 cy), the soil from the initial spot removal actions was characterized based on previously completed sampling as listed in Tutka's 2012 Report plus the additional data collected during this investigation (6-7 data points for each spot). The highest result for each compound associated with the soil should be used to characterize the waste.

5.1 Soil Characterization

Soils from AOC02-005 (5 super sacks) should be considered polluted soil due to DRO concentrations of 1230 mg/kg detected in sample AOC02-005 East Wall 2.

Soils from AOC02-008 (5 super sacks) should be considered PCB remediation waste due to Aroclor-1260 detected at 1.92 ppm in sample AOC-02-008 West Wall 2. This soil also had a sample with a DRO concentration of 15,900 ppm.

Soils from AOC06-001 (7 super sacks) should be considered PCB remediation waste due to Aroclor-1254 detected at an estimated 1.2 ppm in sample 12CHPP001SO01AOC06 from the 2012 Tutka PA/SI.

Soils from AOC-07-002 (5 super sacks) should be considered polluted soil for disposal off-site due to barium detected at 2,400 mg/kg in sample 12CHPP002S001AOC07 from the 2012 Tutka PA/SI.

Soils from AOC08-005 (6 super sacks) should be considered polluted soil due to mercury detected above the action level in this sampling effort, at 1.49 mg/kg and 0.750 mg/kg in samples AOC08-005 West Wall and AOC08-005 East Wall respectively. Because this excavation did not include the location of sample 12CHPP005SO01AOC08 from the 2012 PA/SI report which contained 4.10 mg/kg of mercury, soil represented by that sample is not included in these super-sacks and so only results from this sampling effort should be used for characterization of these soils.

Soil removed from the sod layer during this sampling effort (2 super sacks) should be classified as PCB remediation waste, due to Aroclor-1260 detected at 1.62 ppm in sod from AOC02-008. Soil from the sod layer from different locations was combined into the same super sacks.

In summary, the soils at AOC02-008, AOC-06 and the sod (14 super sacks) are classified as a PCB Bulk Remediation Waste (<50 ppm) per 40 CFR 761.61. The soils from AOC02-005, AOC07-002, and AOC08-005 (16 super sacks) are classified as a polluted soil per 18 AAC 60 for disposal due to concentrations of DRO, barium, lead, and mercury. The concentrations of barium and mercury were below levels where the waste would need to be classified a hazardous waste due to its characteristics. A composite sample of soil from 8 randomly selected polluted

soil super sacks (Supersack Composite 1) produced a lead TCLP concentration of 0.501 mg/L, confirming the polluted soils are not hazardous wastes due to their toxicity characteristics.

5.2 Disposal

Disposal options are consistent with those in the approved ISSRA Work Plan.

All contaminated soils generated by the ISSRA will be transferred to the Government (JBER Environmental) for temporary storage on the facility and ultimately disposal.

All samples related to the PCB Bulk Remediation Waste are less than 50 ppm PCB as anticipated, therefore these materials must be transported by an approved transporter to a non-TSCA waste landfill outside Alaska that is permitted to receive and dispose of less than 50 ppm PCB containing waste.

The non-PCB Polluted Soils must be transported by an approved transporter to an approved landfill outside Alaska permitted to accept these wastes. Once a disposal option is selected by the Government, specific approval from ADEC will be obtained prior to removing the soil from the facility.

6.0CONCLUSION

Twenty cubic yards of contaminated soils have been removed from the project site. They have sufficient sample data to be characterized for disposal. Once a disposal option is selected ADEC must approve the transportation and disposal before the soils are taken off of JBER.

A follow up addendum to the previously approved work plan will be submitted to address further characterization of surface soils that maybe contaminated with paint chips and the identified contamination remaining after the spot removal.

7.0REFERENCES

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Table 2 - Old Transformer - AOC02-005 Summary of Sample Results

	Client Sample Id:	A0C02-005 Sod		A0C02-005 Base		A0C02-005 West Wall 2		A0C02-005 East Wall 2		A0C02-005 North Wall 2		A0C02-005 South Wall 1		12CHPP205S O01AOC02	
	Date Sampled:	11/4/2017		11/4/2017		11/4/2017		11/4/2017		11/4/2017		11/4/2017		10/3/2012	
	Depth (ft bgs)	0.2		3		1.5		1.5		1.5		1.5		1.8	
Analyte	**Unit**	**AL***												2012 PA/RI**	
Diesel Range Organics	mg/Kg	250		20.9	U	**21.1**	**J**	**1230**		**17.8**	**J**	**27.0**		**310**	**D**
Arsenic	mg/Kg	13*		**5.77**								**6.99**		**2.50**	**J**
Barium	mg/Kg	2,100		**43.5**								**156**		**82.0**	
Cadmium	mg/Kg	9.1		0.207	U							**0.119**	**J**		
Chromium	mg/Kg	58*		**31.1**								**39.1**		**38.0**	
Lead	mg/Kg	800		**7.05**								**14.1**		**7.80**	
Mercury	mg/Kg	0.6*		**0.135**								**0.0854**		**0.093**	
Nickel	mg/Kg	340		**28.2**								**35.1**			
Selenium	mg/Kg	6.9		1.03	U							**0.414**	**J**	**3.90**	**J**
Vanadium	mg/Kg	1,100		**50.9**								**69.2**			
1-Methylnaphthalene	ug/Kg	410		26.0	U							**12.0**	**J**	**15.0**	**J**
2-Methylnaphthalene	ug/Kg	1,300		26.0	U							**17.3**	**J**	**22.0**	
Naphthalene	ug/Kg	38		20.8	U							**9.06**	**J**		
Aroclor-1254	ug/Kg	1,000	53.5 U	51.5	U	55.7	U	61.6	U	54.9	U	57.4	U		
Aroclor-1260	ug/Kg	1,000	53.5 U	51.5	U	55.7	U	**618**		**26.8**	**J**	57.4	U	**64.0**	
1,2,3-Trichloropropane	ug/Kg	0.031		*0.305*	*U*							*0.492*	*U*	*14.0*	*U*
1,2-Dibromoethane	ug/Kg	0.24		*0.153*	*U*							*0.246*	*U*	*14.0*	*U*
Chloroform	ug/Kg	7.1		**1.68**	**TB**							**2.70**	**TB**		

Notes:

Analyte Bold and underline indicates this is a known contaminatant at this spot

21.1 Detectable concentration reported in project sample

1230 =Concentration above Action Level.

mg/kg = milligrams per kilogram

ug/kg =micrograms per kilogram

(ft bgs) = feet below ground surface

D = the reported value is from a dilution of the sample at the laboratory

J = Estimated concentration greater than the Limit of Detection (LOD), but less than the Limit of Quantification (LOQ).

U = Undected - Concentration is below listed LOQ; *Italics = LOQ > AL with concentration below LOD (1/2 of LOQ)*

TB = the reported value is similar to level found in the trip blank.

AL* = Action Level as listed in section 1.3; *indicates action level is above migration to ground water cleanup levels

** = lists detected results for the analytes shown

Table 3 - Old Transformer - AOC02-008 Summary of Sample Results

	Client Sample Id:		A0C02-008 Sod		A0C02-008 North Wall 2		A0C02-008 Base NE		A0C02-008 Base NE2		A0C02-008 South Wall 1		A0C02-008 West Wall 2		A0C02-008 East Wall 2		12CHPP008SO 01AOC02	
	Date Sampled:		11/4/2017		11/4/2017		11/4/2017		11/4/2017		11/4/2017		11/4/2017		11/4/2017		10/3/2012	
	Depth (ft bgs)		0.2		1.5		3		3		1.5		1.5		1.5		1.5	
Analyte	**Unit**	**AL***															2012 PA/RI**	
Diesel Range Organics	mg/Kg	250			**4710**		**12100**		**15900**		**15900**		**173**		**13200**		**5,400**	
Aroclor-1260	ug/Kg	1,000	**1620**		**706**		**793**		**638**		**545**		**1920**		**246**		**1,500**	
Arsenic	mg/Kg	13*					**9.97**		**7.15**						**6.00**		**2.50**	**J**
Barium	mg/Kg	2,100					**96.7**		**104**						**120**		**55**	
Cadmium	mg/Kg	9.1					**2.56**		**0.590**						**4.65**		**4.00**	
Chromium	mg/Kg	58*					**40.4**		**36.5**						**38.8**		**29.0**	
Lead	mg/Kg	800					**11.8**		**12.2**						**9.75**		**14.00**	
Mercury	mg/Kg	0.6*					**0.0972**		**0.109**						**0.148**		**0.089**	
Nickel	mg/Kg	340					**36.4**		**34.7**						**35.9**			
Selenium	mg/Kg	6.9					**0.354**	**J**	**0.357**	**J**					1.12	U	**3.20**	
Vanadium	mg/Kg	1,100					**70.2**		**58.8**						**68.5**			
1-Methylnaphthalene	ug/Kg	410					*705*	*U*	*690*	*U*					*730*	*U*		
2-Methylnaphthalene	ug/Kg	1,300					*705*	*U*	*690*	*U*					*730*	*U*		
Benzo(a)Anthracene	ug/Kg	280					*705*	*U*	*690*	*U*					*730*	*U*		
Benzo[a]pyrene	ug/Kg	270					*705*	*U*	*690*	*U*					*730*	*U*		
Dibenzo[a,h]anthracene	ug/Kg	870					*705*	*U*	*690*	*U*					*730*	*U*		
Naphthalene	ug/Kg	38					*565*	*U*	*555*	*U*					*585*	*U*		
Aroclor-1254	ug/Kg	1,000	65.5	U	55.9	U	54.7	U	54.4	U	56.0	U	57.0	U	55.8	U		
1,2,3-Trichloropropane	ug/Kg	0.031					*0.54*	*U*	*0.399*	*U*					*0.52*	*U*	*14.0*	*U*
1,2-Dibromoethane	ug/Kg	0.24					*0.271*	*U*	*0.200*	*U*					*0.258*	*U*	*14.0*	*U*
Chloroform	ug/Kg	7.1					**2.97**	**TB**	**2.39**	**TB**					**2.84**	**TB**		
Trichloroethene	ug/Kg	11					**4.33**	**J**	**2.99**	**J**					5.16	U		

Notes:

Analyte Bold and underline indicates this is a known contaminatant at this spot

706 Detectable concentration reported in project sample

1620 =Concentration above Action Level.

D = the reported value is from a dilution of the sample at the laboratory

J = Estimated concentration greater than the Limit of Detection (LOD), but less than the Limit of Quantification (LOQ).

U = Undected - Concentration is below listed LOQ; *Italics = LOQ > AL with concentration below LOD (1/2 of LOQ)*

TB = the reported value is similar to level found in the trip blank.

AL* = Action Level as listed in section 1.3; *indicates action level is above migration to ground water cleanup levels

mg/kg = milligrams per kilogram

ug/kg =micrograms per kilogram

(ft bgs) = feet below ground surface

** = lists detected results for the analytes shown

Table 4 - Acid Vent - AOC06-001 Summary of Sample Results

Client Sample Id:			A0C06-001 Sod	A0C06-001 Base		A0C06-001 North Wall		A0C06-001 North Wall 2		A0C06-001 West Wall		A0C06-001 South Wall		A0C06-001 East Wall		12CHPP001SO 01AOC06	
Date Sampled:			11/6/2017	11/6/2017		11/6/2017		11/6/2017		11/6/2017		11/6/2017		11/6/2017		10/5/2012	
Depth (ft bgs)			0.2	3.0		3.0		1.5		1.5		1.5		1.5		1.0	
Analyte	**Unit**	**AL***														2012 PA/RI**	
Aroclor-1254	ug/Kg	1,000	**471**	56.6	U	55.2	U	66.0	U	**33.1**	**J**	56.0	U	**40.6**	**J**	**1200**	**J**
Mercury	mg/Kg	0.36		**0.113**		**0.118**		**0.118**		**0.557**		**0.0887**		**0.161**		**0.950**	
Pentachlorophenol	mg/Kg	0.0043		*1.13*	*U*	*1.13*	*U*	*1.11*	*U*	*1.26*	*U*	*1.12*	*U*	*1.14*	*U*	**0.140**	**J**
Arsenic	mg/Kg	13*		**11.7**		**9.88**		**11.0**								**4.1**	
Barium	mg/Kg	2,100		**119**		**144**		**164**								**1200**	**D**
Cadmium	mg/Kg	9.1		**0.105**	**J**	**0.0987**	**J**	**0.0785**	**J**								
Chromium	mg/Kg	58*		**53.9**		**49.6**		**56.4**								**4.4**	
Lead	mg/Kg	800		**8.61**		**13.9**		**15.7**		**58.1**		**18.7**		**20.8**		**530**	
Nickel	mg/Kg	340		**34.9**		**34.1**		**34.2**									
Vanadium	mg/Kg	1,100		**72.9**		**76.9**		**86.6**									
1-Methylnaphthalene	ug/Kg	410		28.1	U	**16.3**	**J**	**12.9**	**J**							**100**	
2-Methylnaphthalene	ug/Kg	1,300		28.1	U	**19.6**	**J**	**15.1**	**J**							**120**	
Anthracene	ug/Kg	390,000		**10.9**	**J**	28.2	U	27.9	U								
Benzo(a)Anthracene	ug/Kg	280		**16.1**	**J**	28.2	U	27.9	U								
Benzo[a]pyrene	ug/Kg	270		**17.1**	**J**	28.2	U	27.9	U								
Benzo[b]Fluoranthene	ug/Kg	2,700		**19.2**	**J**	28.2	U	27.9	U								
Chrysene	ug/Kg	82,000		**19.4**	**J**	28.2	U	27.9	U							**40**	
Fluoranthene	ug/Kg	590,000		**28.5**		28.2	U	27.9	U							**160**	
Naphthalene	ug/Kg	38		22.5	U	**11.9**	**J**	**9.85**	**J**							**110**	
Phenanthrene	ug/Kg	39,000		**34.0**		28.2	U	27.9	U							**150**	
Pyrene	ug/Kg	87,000		**30.8**		28.2	U	27.9	U							**70**	
1,2,3-Trichloropropane	ug/Kg	0.031		*0.55*	*U*	*0.59*	*U*	*0.67*	*U*							*23*	*U*
1,2-Dibromoethane	ug/Kg	0.24		*0.275*	*U*	*0.294*	*U*	*0.335*	*U*							*23*	*U*
Chloroform	ug/Kg	7.1		2.20	U	**3.23**	**TB**	**3.68**	**TB**								
Vinyl chloride	ug/Kg	0.8		*0.439*	*U*	*0.471*	*U*	*0.54*	*U*								

Notes:

Analyte Bold and underline indicates this is a known contaminatant at this spot

471 Detectable concentration reported in project sample

1,200 =Concentration above Action Level.

D = the reported value is from a dilution of the sample at the laboratory

J = Estimated concentration greater than the Limit of Detection (LOD), but less than the Limit of Quantification (LOQ).

U = Undected - Concentration is below listed LOQ; *Italics = LOQ > AL with concentration below LOD (1/2 of LOQ)*

TB = the reported value is similar to level found in the trip blank.

AL* = Action Level as listed in section 1.3; *indicates action level is above migration to ground water cleanup levels

mg/kg = milligrams per kilogram

ug/kg =micrograms per kilogram

(ft bgs) = feet below ground surface

** = lists detected results for the analytes shown

Table 5 - Ash Tower - AOC07-002 Summary of Sample Results

	Client Sample Id:		A0C07-002 Base		A0C07-002 North Wall	A0C07-002 North Wall 2	A0C07-002 East Wall		A0C07-002 South Wall		A0C07-002 NW Wall	A0C07-002 West Wall	12CHPP002S001AOC07	
	Date Sampled:		11/6/2017		11/6/2017	11/6/2017	11/6/2017		11/6/2017		11/6/2017	11/6/2017	10/5/2012	
	Depth (ft bgs)		3.0		2.3	2.3	1.5		2.2		2.1	2.2	1.0	
Analyte	**Unit**	**AL***											2012 PA/RI**	
Barium	mg/Kg	2,100	**193**		**204**	**50.8**	**103**		**54.7**		**50.2**	**48.1**	**2,400**	**D**
Arsenic	mg/Kg	13*	**6.51**				**8.35**		**6.03**				**12.0**	**J**
Cadmium	mg/Kg	9.1	**0.129**	**J**			**0.101**	**J**	**0.0912**	**J**				
Chromium	mg/Kg	58*	**38.2**				**39.2**		**35.8**				**15.0**	
Lead	mg/Kg	800	**5.57**				**6.48**		**5.76**				**13.0**	
Mercury	mg/Kg	0.6*	**0.169**				**0.269**		**0.217**				**0.0360**	
Nickel	mg/Kg	340	**38.2**				**55.6**		**36.6**					
Selenium	mg/Kg	6.9	**0.359**	**J**			**0.596**	**J**	1.03	U			**1.80**	
Vanadium	mg/Kg	1,100	**63.3**				**67.7**		**62.2**					
1-Methylnaphthalene	ug/Kg	38,000*	**246**				**39.9**		25.8	U			**900**	
2-Methylnaphthalene	ug/Kg	1,300	**417**				**69.3**		**12.7**	**J**			**1300**	
Acenaphthene	ug/Kg	37,000	**91.6**				**9.78**	**J**	25.8	U				
Acenaphthylene	ug/Kg	18,000	**30.9**				**12.2**	**J**	**16.5**	**J**				
Anthracene	ug/Kg	390,000	**129**				**26.6**		**41.8**				**35.0**	
Benzo(a)Anthracene	ug/Kg	280	**203**				**13.0**	**J**	**9.83**	**J**			**23.0**	**J**
Benzo[a]pyrene	ug/Kg	270	**86.4**				**9.71**	**J**	**14.1**	**J**				
Benzo[b]Fluoranthene	ug/Kg	2,700	**148**				**14.8**	**J**	**15.0**	**J**				
Benzo[g,h,i]perylene	ug/Kg	15,000,000	**28.4**				26.1	U	**13.7**	**J**				
Benzo[k]fluoranthene	ug/Kg	27,000	**42.5**				26.1	U	25.8	U				
Chrysene	ug/Kg	82,000	**201**				**17.4**	**J**	**11.5**	**J**			**24.0**	**J**
Dibenzo[a,h]anthracene	ug/Kg	870	**10.7**	**J**			26.1	U	25.8	U				
Fluoranthene	ug/Kg	590,000	**997**				**117**		**56.8**				**35.0**	
Fluorene	ug/Kg	36,000	**71.7**				**11.1**	**J**	**9.03**	**J**				
Indeno[1,2,3-c,d] pyrene	ug/Kg	8,800	**28.5**				26.1	U	**11.0**	**J**				
Naphthalene	ug/Kg	29,000*	**2000**				**396**		**46.1**				**5,800**	
Phenanthrene	ug/Kg	39,000	**446**				**125**		**93.0**					
Pyrene	ug/Kg	87,000	**733**				**87.7**		**43.0**					
1,2,3-Trichloropropane	ug/Kg	0.031	*0.413*	*U*			*0.343*	*U*	*0.386*	*U*				
1,2-Dibromoethane	ug/Kg	0.24	*0.207*	*U*			*0.172*	*U*	*0.193*	*U*				

Notes on next page

Notes:

Analyte	Bold and underline indicates this is a known contaminatant at this spot
193	Detectable concentration reported in project sample
2,400	=Concentration above Action Level.
D	= the reported value is from a dilution of the sample at the laboratory
J	= Estimated concentration greater than the Limit of Detection (LOD), but less than the Limit of Quantification (LOQ).
U	= Undected - Concentration is below listed LOQ; *Italics = LOQ > AL with concentration below LOD (1/2 of LOQ)*
AL*	= Action Level as listed in section 1.3; *indicates action level is above migration to ground water cleanup levels

mg/kg	= milligrams per kilogram
ug/kg	=micrograms per kilogram
(ft bgs)	= feet below ground surface
**	= lists detected results for the analytes shown

Table 6 - South Wall Contaminated Area (AOC08-005) Summary of Sample Results

	Client Sample Id:	A0C08-005 Sod		A0C08-005 North Wall		A0C08-005 South Wall		A0C08-005 Base		A0C08-005 West Wall		A0C08-005 East Wall		12CHPP005 SO01AOC08	
	Date Sampled:	11/3/2017		11/3/2017		11/3/2017		11/3/2017		11/3/2017		11/3/2017		10/5/2012	
	Depth (ft bgs)	0.2		3.0		1.5		3.0		1.5		1.5		0.8	
Analyte	**Unit**	**AL***												2012 PA/RI**	
Arsenic	mg/Kg	13*		**8.27**		**5.65**		**5.62**		**10.1**		**10.1**		**26**	
Lead	mg/Kg	800		**399**		**18.7**		**22.3**		**565**		**531**		**2200**	**D**
Mercury	mg/Kg	0.6*		**0.327**		**0.152**		**0.229**		**1.49**		**0.750**		**4.10**	**DJ**
Aroclor-1254	ug/Kg	1,000	77.5 U											**480**	
Barium	mg/Kg	2,100				**56.8**		**72.3**						**570**	**BJ**
Cadmium	mg/Kg	9.1				**0.109**	**J**	**0.0897**	**J**					**1.4**	
Chromium	mg/Kg	58*				**37.9**		**31.5**						**47**	**J**
Nickel	mg/Kg	340				**47.0**		**34.9**							
Selenium	mg/Kg	6.9				**0.348**	**J**	0.982	U					**5.3**	**J**
Vanadium	mg/Kg	1,100				**63.0**		**56.3**							
1-Methylnaphthalene	ug/Kg	410				25.8	U	**26.2**	**J**						
2-Methylnaphthalene	ug/Kg	1,300				25.8	U	**29.5**							
Anthracene	ug/Kg	390,000				25.8	U	**12.4**	**J**						
Benzo(a)Anthracene	ug/Kg	280				25.8	U	**84.5**							
Benzo[a]pyrene	ug/Kg	270				25.8	U	**89.1**							
Benzo[b]Fluoranthene	ug/Kg	2,700				25.8	U	**123**							
Benzo[g,h,i]perylene	ug/Kg	15,000,000				25.8	U	**52.1**							
Benzo[k]fluoranthene	ug/Kg	27,000				25.8	U	**40.1**							
Chrysene	ug/Kg	82,000				25.8	U	**90.6**							
Dibenzo[a,h]anthracene	ug/Kg	870				25.8	U	**16.6**	**J**						
Fluoranthene	ug/Kg	590,000				25.8	U	**129**							
Indeno[1,2,3-c,d] pyrene	ug/Kg	8,800				25.8	U	**48.0**							
Naphthalene	ug/Kg	38				20.7	U	**19.7**	**J**						
Phenanthrene	ug/Kg	39,000				25.8	U	**34.6**							
Pyrene	ug/Kg	87,000				25.8	U	**119**							

Notes:

Analyte Bold and underline indicates this is a known contaminatant at this spot

471 Detectable concentration reported in project sample

1,200 =Concentration above Action Level.

D = the reported value is from a dilution of the sample at the laboratory

J = Estimated concentration greater than the Limit of Detection (LOD), but less than the Limit of Quantification (LOQ).

U = Undected - Concentration is below listed LOQ; *Italics = LOQ > AL with concentration below LOD (1/2 of LOQ)*

TB = the reported value is similar to level found in the trip blank.

B = Analyte was detected above one halve of the reporting liming in the associated method blank

AL* = Action Level as listed in section 1.3; *indicates action level is above migration to ground water cleanup levels

mg/kg = milligrams per kilogram

ug/kg =micrograms per kilogram

(ft bgs) = feet below ground surface

** = lists detected results for the analytes shown

Table 7 - All Results for the Samples with Additional Analysis

				A0C02-005	A0C02-005	A0C02-008	~A0C02-008	A0C02-008	A0C06-001	A0C06-001	A0C06-001	A0C07-002	A0C07-002	A0C07-002	A0C08-005	A0C08-005
Client Sample Id:				Base	South Wall 1	Base NE	Base NE2	East Wall 2	Base	North Wall	North Wall 2	Base	East Wall	South Wall	Base	South Wall
Date Sampled:				11/4/17	11/4/17	11/4/17	11/4/17	11/4/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/6/17	11/3/17	11/3/17
Analyte	**Analysis**	**Unit**	**AL***													
Diesel Range Organics	AK102	mg/Kg	250	20.9 U	**27.0**	**12,100**	**15,900**	**13,200**								
Metals																
Arsenic	SW6020A	mg/Kg	13*	**5.77**	**6.99**	**9.97**	**7.15**	**6.00**	**11.7**	**9.88**	**11.0**	**6.51**	**8.35**	**6.03**	**5.62**	**5.65**
Barium	SW6020A	mg/Kg	2100	**43.5**	**156**	**96.7**	**104**	**120**	**119**	**144**	**164**	**193**	**103**	**54.7**	**72.3**	**56.8**
Cadmium	SW6020A	mg/Kg	9.1	0.207 U	**0.119 J**	**2.56**	**0.590**	**4.65**	**0.105 J**	**0.0987 J**	**0.0785 J**	**0.129 J**	**0.101 J**	**0.0912 J**	**0.0897 J**	**0.109 J**
Chromium	SW6020A	mg/Kg	58*	**31.1**	**39.1**	**40.4**	**36.5**	**38.8**	**53.9**	**49.6**	**56.4**	**38.2**	**39.2**	**35.8**	**31.5**	**37.9**
Lead	SW6020A	mg/Kg	800	**7.05**	**14.1**	**11.8**	**12.2**	**9.75**	**8.61**	**13.9**	**15.7**	**5.57**	**6.48**	**5.76**	**22.3**	**18.7**
Mercury	SW6020A	mg/Kg	0.34	**0.135**	**0.0854**	**0.0972**	**0.109**	**0.148**	**0.113**	**0.118**	**0.118**	**0.169**	**0.269**	**0.217**	**0.229**	**0.152**
Nickel	SW6020A	mg/Kg	340	**28.2**	**35.1**	**36.4**	**34.7**	**35.9**	**34.9**	**34.1**	**34.2**	**38.2**	**55.6**	**36.6**	**34.9**	**47.0**
Selenium	SW6020A	mg/Kg	6.9	1.03 U	**0.414 J**	**0.354 J**	**0.357 J**	1.12 U	1.09 U	1.06 U	1.11 U	**0.359 J**	**0.596 J**	1.03 U	0.982 U	**0.348 J**
Silver	SW6020A	mg/Kg	11	0.207 U	0.214 U	0.206 U	0.205 U	0.223 U	0.218 U	0.212 U	0.223 U	0.205 U	0.205 U	0.206 U	0.196 U	0.207 U
Vanadium	SW6020A	mg/Kg	1100	**50.9**	**69.2**	**70.2**	**58.8**	**68.5**	**72.9**	**76.9**	**86.6**	**63.3**	**67.7**	**62.2**	**56.3**	**63.0**
PCBs																
Aroclor-1016	SW8082A	ug/Kg	1000	51.5 U	57.4 U	54.7 U	54.4 U	55.8 U	56.6 U	55.2 U	66.0 U					
Aroclor-1221	SW8082A	ug/Kg	1000	206 U	230 U	219 U	218 U	223 U	227 U	221 U	264 U					
Aroclor-1232	SW8082A	ug/Kg	1000	51.5 U	57.4 U	54.7 U	54.4 U	55.8 U	56.6 U	55.2 U	66.0 U					
Aroclor-1242	SW8082A	ug/Kg	1000	51.5 U	57.4 U	54.7 U	54.4 U	55.8 U	56.6 U	55.2 U	66.0 U					
Aroclor-1248	SW8082A	ug/Kg	1000	51.5 U	57.4 U	54.7 U	54.4 U	55.8 U	56.6 U	55.2 U	66.0 U					
Aroclor-1254	SW8082A	ug/Kg	1000	51.5 U	57.4 U	54.7 U	54.4 U	55.8 U	56.6 U	55.2 U	66.0 U					
Aroclor-1260	SW8082A	ug/Kg	1000	51.5 U	57.4 U	**793**	**638**	**246**	56.6 U	55.2 U	66.0 U					
VOCs																
1,1,2,2-Tetrachloroethane	SW8260C LL w/MeOH	ug/Kg	3	1.22 U	1.97 U	2.16 U	1.59 U	2.06 U	2.20 U	2.35 U	2.67 U	1.65 U	1.37 U	1.54 U		
1,1,2-Trichloroethane	SW8260C LL w/MeOH	ug/Kg	1.4	0.488 U	0.787 U	0.865 U	0.638 U	0.826 U	0.878 U	0.941 U	1.07 U	0.661 U	0.549 U	0.617 U		
1,2,3-Trichloropropane	SW8260C LL w/MeOH	ug/Kg	0.031	*0.305 U*	*0.492 U*	*0.54 U*	*0.399 U*	*0.52 U*	*0.55 U*	*0.59 U*	*0.67 U*	*0.413 U*	*0.343 U*	*0.386 U*		
1,2-Dibromoethane	SW8260C LL w/MeOH	ug/Kg	0.24	*0.153 U*	*0.246 U*	*0.271 U*	*0.200 U*	*0.258 U*	*0.275 U*	*0.294 U*	*0.335 U*	*0.207 U*	*0.172 U*	*0.193 U*		
1,2-Dichloroethane	SW8260C LL w/MeOH	ug/Kg	5.5	1.22 U	1.97 U	2.16 U	1.59 U	2.06 U	2.20 U	2.35 U	2.67 U	1.65 U	1.37 U	1.54 U		
Bromodichloromethane	SW8260C LL w/MeOH	ug/Kg	4.3	1.22 U	1.97 U	2.16 U	1.59 U	2.06 U	2.20 U	2.35 U	2.67 U	1.65 U	1.37 U	1.54 U		
Bromomethane	SW8260C LL w/MeOH	ug/Kg	24	12.2 U	19.7 U	21.6 U	15.9 U	20.6 U	22.0 U	23.5 U	*13.4 U*	16.5 U	13.7 U	15.4 U		
Chloroform	SW8260C LL w/MeOH	ug/Kg	7.1	**1.68**	**2.70**	**2.97**	**2.39**	**2.84**	2.20 U	**3.23**	**3.68**	1.65 U	1.37 U	1.54 U		
Dibromochloromethane	SW8260C LL w/MeOH	ug/Kg	2.7	1.22 U	1.97 U	2.16 U	1.59 U	2.06 U	2.20 U	2.35 U	2.67 U	1.65 U	1.37 U	1.54 U		
Trichloroethene	SW8260C LL w/MeOH	ug/Kg	11	3.05 U	4.92 U	**4.33 J**	**2.99 J**	5.16 U	5.49 U	5.88 U	6.69 U	4.13 U	3.43 U	3.85 U		
Vinyl chloride	SW8260C LL w/MeOH	ug/Kg	0.8	0.488 U	0.787 U	*0.433 U*	0.638 U	*0.413 U*	*0.439 U*	*0.471 U*	*0.54 U*	0.661 U	0.549 U	0.617 U		
PAHs																
1-Methylnaphthalene	8270D SIM (PAH)	ug/Kg	410	26.0 U	**12.0 J**	*705 U*	*690 U*	*730 U*	28.1 U	**16.3 J**	**12.9 J**	**246**	**39.9**	25.8 U	**26.2 J**	25.8 U
2-Methylnaphthalene	8270D SIM (PAH)	ug/Kg	1300	26.0 U	**17.3 J**	*705 U*	*690 U*	*730 U*	28.1 U	**19.6 J**	**15.1 J**	**417**	**69.3**	**12.7 J**	**29.5**	25.8 U
Acenaphthene	8270D SIM (PAH)	ug/Kg	37000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	28.1 U	28.2 U	27.9 U	**91.6**	**9.78 J**	25.8 U	26.9 U	25.8 U
Acenaphthylene	8270D SIM (PAH)	ug/Kg	18000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	28.1 U	28.2 U	27.9 U	**30.9**	**12.2 J**	**16.5 J**	26.9 U	25.8 U
Anthracene	8270D SIM (PAH)	ug/Kg	390000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	**10.9 J**	28.2 U	27.9 U	**129**	**26.6**	**41.8**	**12.4 J**	25.8 U
Benzo(a)Anthracene	8270D SIM (PAH)	ug/Kg	280	26.0 U	27.9 U	*705 U*	*690 U*	*730 U*	**16.1 J**	28.2 U	27.9 U	**203**	**13.0 J**	**9.83 J**	**84.5**	25.8 U
Benzo[a]pyrene	8270D SIM (PAH)	ug/Kg	270	26.0 U	27.9 U	*705 U*	*690 U*	*730 U*	**17.1 J**	28.2 U	27.9 U	**86.4**	**9.71 J**	**14.1 J**	**89.1**	25.8 U
Benzo[b]Fluoranthene	8270D SIM (PAH)	ug/Kg	2700	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	**19.2 J**	28.2 U	27.9 U	**148**	**14.8 J**	**15.0 J**	**123**	25.8 U
Benzo[g,h,i]perylene	8270D SIM (PAH)	ug/Kg	15000000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	28.1 U	28.2 U	27.9 U	**28.4**	26.1 U	**13.7 J**	**52.1**	25.8 U
Benzo[k]fluoranthene	8270D SIM (PAH)	ug/Kg	27000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	28.1 U	28.2 U	27.9 U	**42.5**	26.1 U	25.8 U	**40.1**	25.8 U
Chrysene	8270D SIM (PAH)	ug/Kg	82000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	**19.4 J**	28.2 U	27.9 U	**201**	**17.4 J**	**11.5 J**	**90.6**	25.8 U
Dibenzo[a,h]anthracene	8270D SIM (PAH)	ug/Kg	870	26.0 U	27.9 U	*705 U*	*690 U*	*730 U*	28.1 U	28.2 U	27.9 U	**10.7 J**	26.1 U	25.8 U	**16.6 J**	25.8 U
Fluoranthene	8270D SIM (PAH)	ug/Kg	590000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	**28.5**	28.2 U	27.9 U	**997**	**117**	**56.8**	**129**	25.8 U
Fluorene	8270D SIM (PAH)	ug/Kg	36000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	28.1 U	28.2 U	27.9 U	**71.7**	**11.1 J**	**9.03 J**	26.9 U	25.8 U
Indeno[1,2,3-c,d] pyrene	8270D SIM (PAH)	ug/Kg	8800	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	28.1 U	28.2 U	27.9 U	**28.5**	26.1 U	**11.0 J**	**48.0**	25.8 U
Naphthalene	8270D SIM (PAH)	ug/Kg	38 / 29,000*	20.8 U	**9.06 J**	*565 U*	*555 U*	*585 U*	22.5 U	**11.9 J**	**9.85 J**	**2,000**	**396**	**46.1**	**19.7 J**	20.7 U
Phenanthrene	8270D SIM (PAH)	ug/Kg	39000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	**34.0**	28.2 U	27.9 U	**446**	**125**	**93.0**	**34.6**	25.8 U
Pyrene	8270D SIM (PAH)	ug/Kg	87000	26.0 U	27.9 U	1,410 U	1,380 U	1,460 U	**30.8**	28.2 U	27.9 U	**733**	**87.7**	**43.0**	**119**	25.8 U
SVOCs																
Pentachlorophenol	SW8270D	mg/Kg	0.0043						*1.14 U*	*1.14 U*	*1.12 U*					

Notes:

43.5 = Detectable concentration reported in project sample

2,000 = Concentration above Action Level.

J = Estimated concentration greater than the Limit of Detection (LOD), but less than the Limit of Quantification (LOQ).

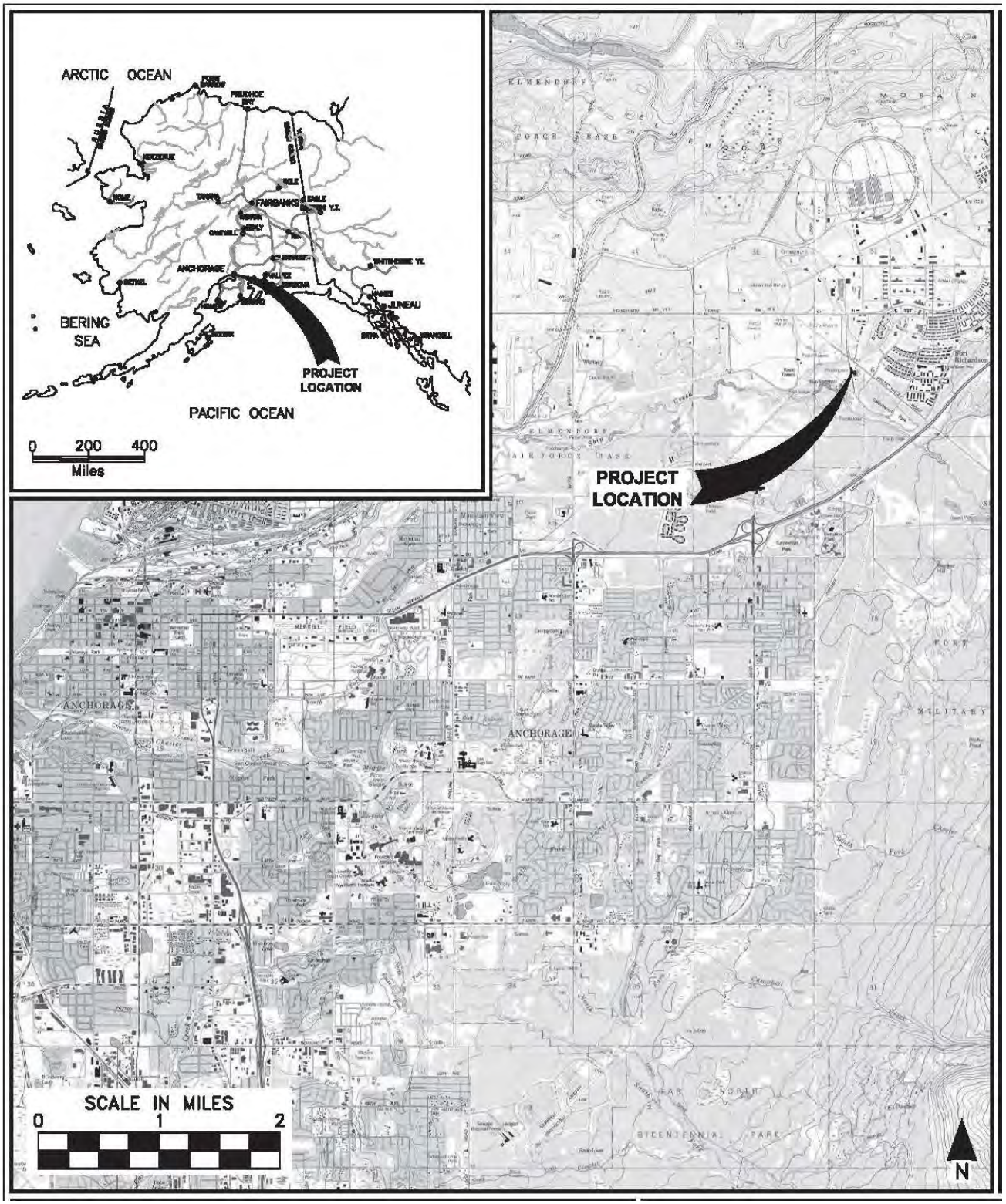
U = Undected - Concentration is below listed LOQ; Italics = LOQ > AL with concentration below LOD (1/2 of LOQ)

AL* = Action Level as listed in section 1.3; *indicates action level is above migration to ground water cleanup levels

mg/kg = milligrams per kilogram

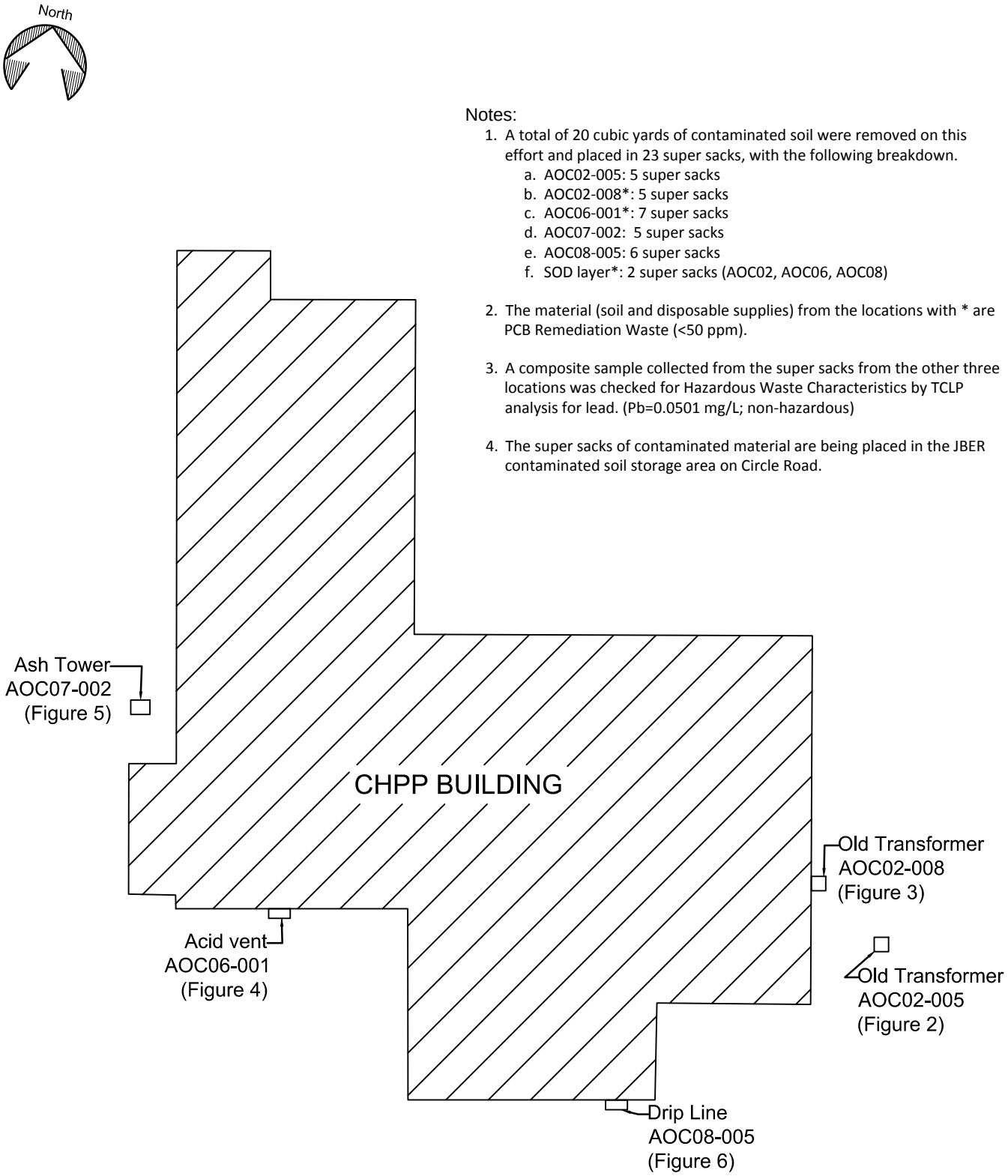
ug/kg =micrograms per kilogram

(ft bgs) = feet below ground surface



The Ft. Richardson CHPP is located on Joint Base Elmendorf/Richardson, northeast of Anchorage Alaska. It is located approximately 0.1 mile north of the North Fork Ship Creek.

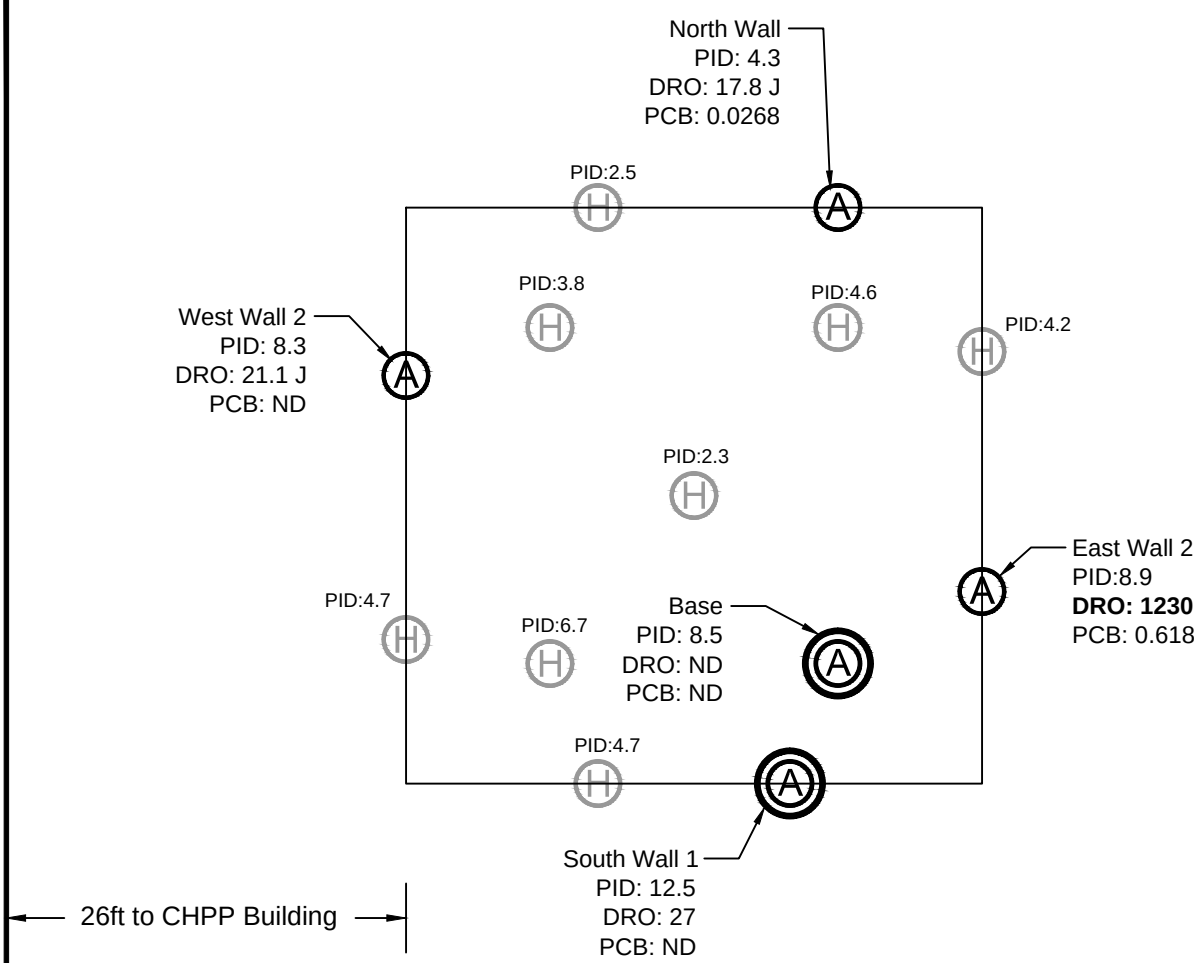
Location Map



Notes:

1. A total of 20 cubic yards of contaminated soil were removed on this effort and placed in 23 super sacks, with the following breakdown.
   a. AOC02-005: 5 super sacks
   b. AOC02-008*: 5 super sacks
   c. AOC06-001*: 7 super sacks
   d. AOC07-002: 5 super sacks
   e. AOC08-005: 6 super sacks
   f. SOD layer*: 2 super sacks (AOC02, AOC06, AOC08)
2. The material (soil and disposable supplies) from the locations with * are PCB Remediation Waste (<50 ppm).
3. A composite sample collected from the super sacks from the other three locations was checked for Hazardous Waste Characteristics by TCLP analysis for lead. (Pb=0.0501 mg/L; non-hazardous)
4. The super sacks of contaminated material are being placed in the JBER contaminated soil storage area on Circle Road.

SPOT EXCAVATION LOCATIONS	JBER CHPP DEMO ANCHORAGE, AK	EMI Consulting, Engineering & Training	PREPARED: TRM DRAWN: TRM REVIEWED: LAH DATE: 11/6/17	FIGURE 1



Notes:

1. Grab sample of the SOD layer: PCB = ND
2. Extra analysis included analysis for 10 metals (As, Ba, Cd, Cr, Pb, Hg, Ni, Se, Ag, and V), PAH compounds plus 1-Methylnaphthalene and 2-Methylnaphthalene and Low Level VOCs. All detections were below the action levels listed in section 1.4.
3. The source of the DRO contamination found in the 2012 sample appears to be further east. This is near the edge of the expected zone of excavation needed for demolition of the building.
4. Additional investigation is needed at this spot to determine the extent of the DRO contamination. No further interim removal actions may be needed for this spot, if the impacted soil does not need to be disturbed to remove the building.

Legend

——— Excavation sidewall

(A) Analytical sample

PCB: 0.618 Polychlorinated Biphenyls in ppm

DRO: 1230 Diesel Range Organics results in ppm (Bold indicates above action level)

(A) Analytical sample (extra analysis see note 2)

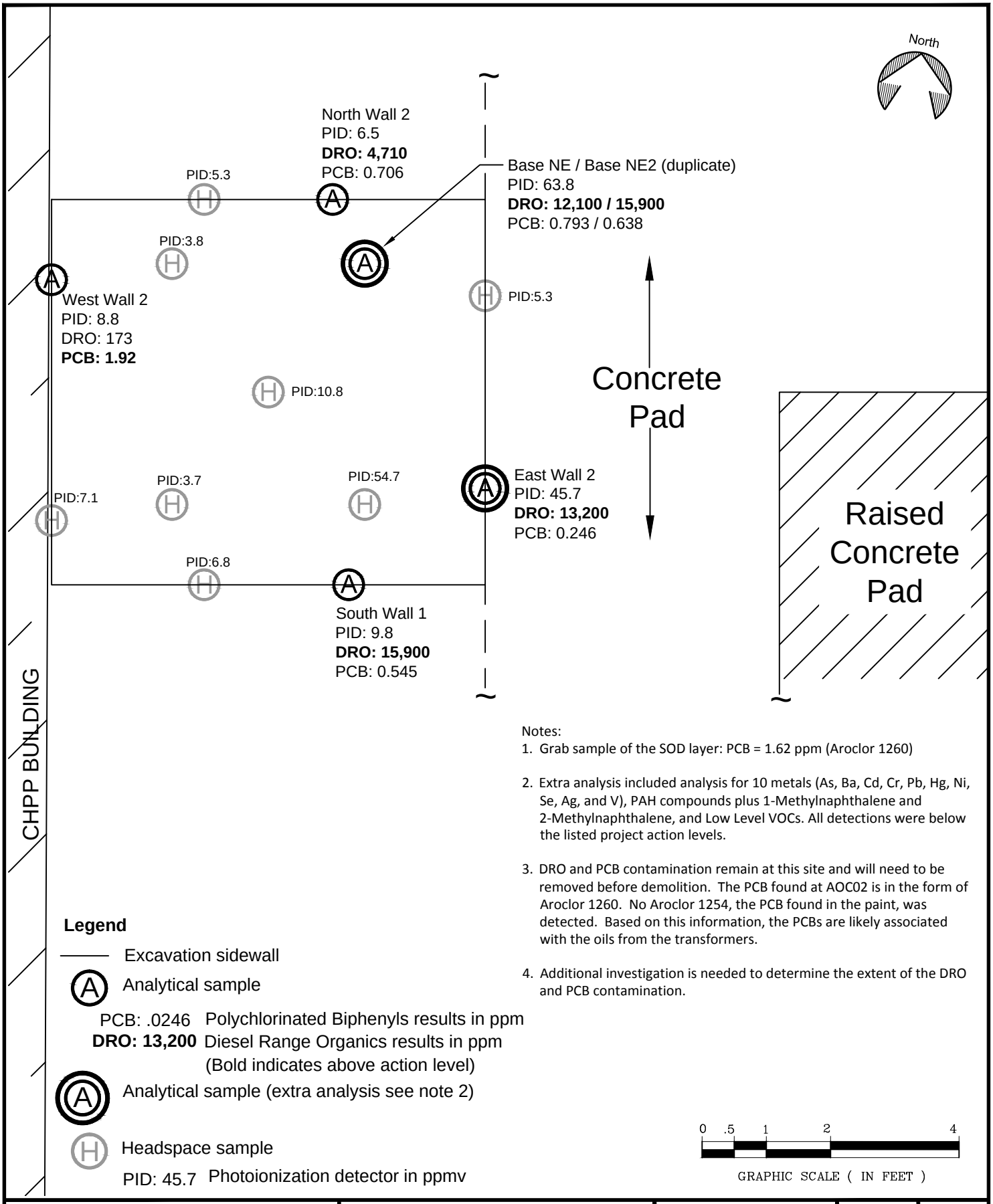
(H) Headspace sample

PID: 4.7 Photoionization detector in ppmv

0 .5 1 2 4

GRAPHIC SCALE (IN FEET)

OLD TRANSFORMER AOC02-005 SAMPLE LOCATION	JBER CHPP DEMO ANCHORAGE, AK	EMI Consulting, Engineering & Training	PREPARED: TRM DRAWN: TRM REVIEWED: LAH DATE: 11/6/17	FIGURE 2



Notes:

1. Grab sample of the SOD layer: PCB = 1.62 ppm (Aroclor 1260)
2. Extra analysis included analysis for 10 metals (As, Ba, Cd, Cr, Pb, Hg, Ni, Se, Ag, and V), PAH compounds plus 1-Methylnaphthalene and 2-Methylnaphthalene, and Low Level VOCs. All detections were below the listed project action levels.
3. DRO and PCB contamination remain at this site and will need to be removed before demolition. The PCB found at AOC02 is in the form of Aroclor 1260. No Aroclor 1254, the PCB found in the paint, was detected. Based on this information, the PCBs are likely associated with the oils from the transformers.
4. Additional investigation is needed to determine the extent of the DRO and PCB contamination.

Legend

——— Excavation sidewall

(A) Analytical sample

PCB: .0246 Polychlorinated Biphenyls results in ppm

DRO: 13,200 Diesel Range Organics results in ppm

(Bold indicates above action level)

(A) Analytical sample (extra analysis see note 2)

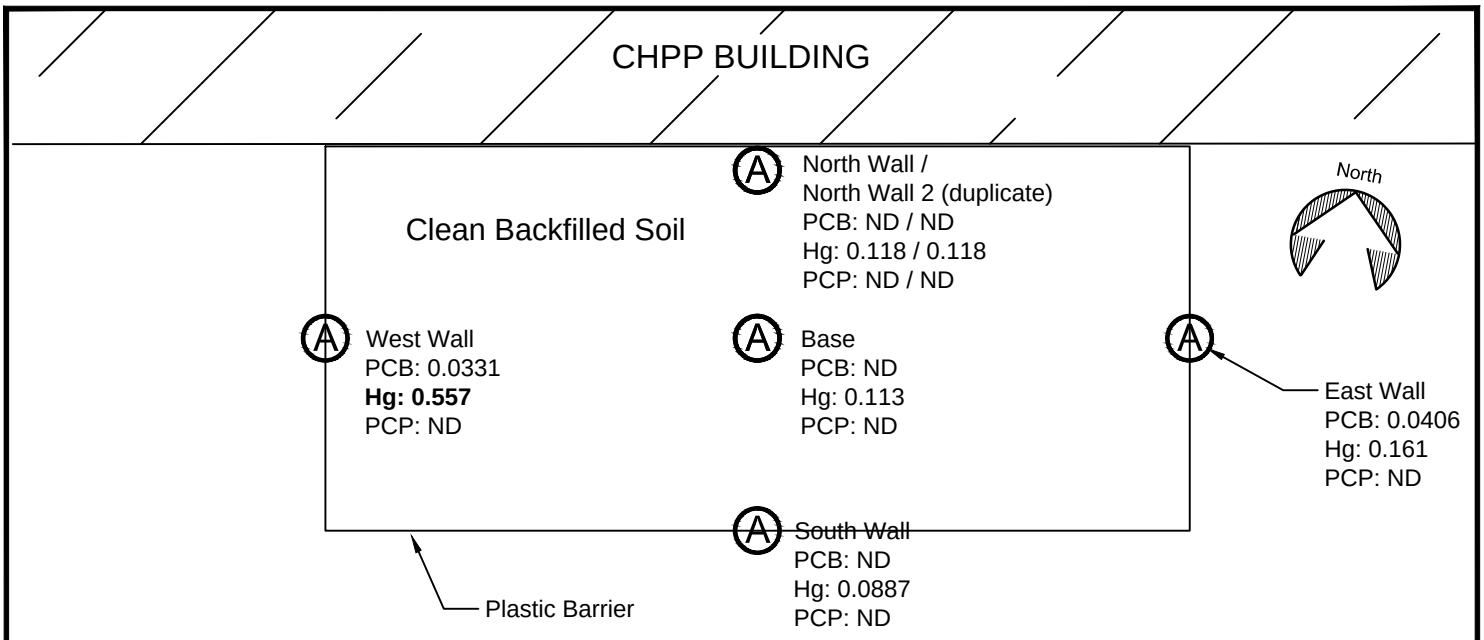
(H) Headspace sample

PID: 45.7 Photoionization detector in ppmv

0 .5 1 2 4

GRAPHIC SCALE (IN FEET)

OLD TRANSFORMER AOC02-008 SAMPLE LOCATION	JBER CHPP DEMO ANCHORAGE, AK	EMI Consulting, Engineering & Training	PREPARED: TRM DRAWN: TRM REVIEWED: LAH DATE: 11/6/17	FIGURE 3



Notes:

1. Grab sample of the SOD layer: PCB = ND
2. Extra analysis included analysis for 9 metals (As, Ba, Cd, Cr, Pb, Ni, Se, Ag, and V), PAH compounds plus 1-Methylnaphthalene and 2-Methylnaphthalene, and Low Level VOCs. All detections were below the listed project action levels.
3. No PCBs or PCPs were detected; however the PCP limits of detection were above the action level.
4. Additional investigation is needed at this spot to determine the extent of the Hg contamination.

Legend

——— Excavation sidewall

Ⓐ Analytical sample

PCB: 0.0331 Polychlorinated Biphenyls results in ppm

Hg: 0.557 Mercury results in ppm

(Bold indicates above action level)

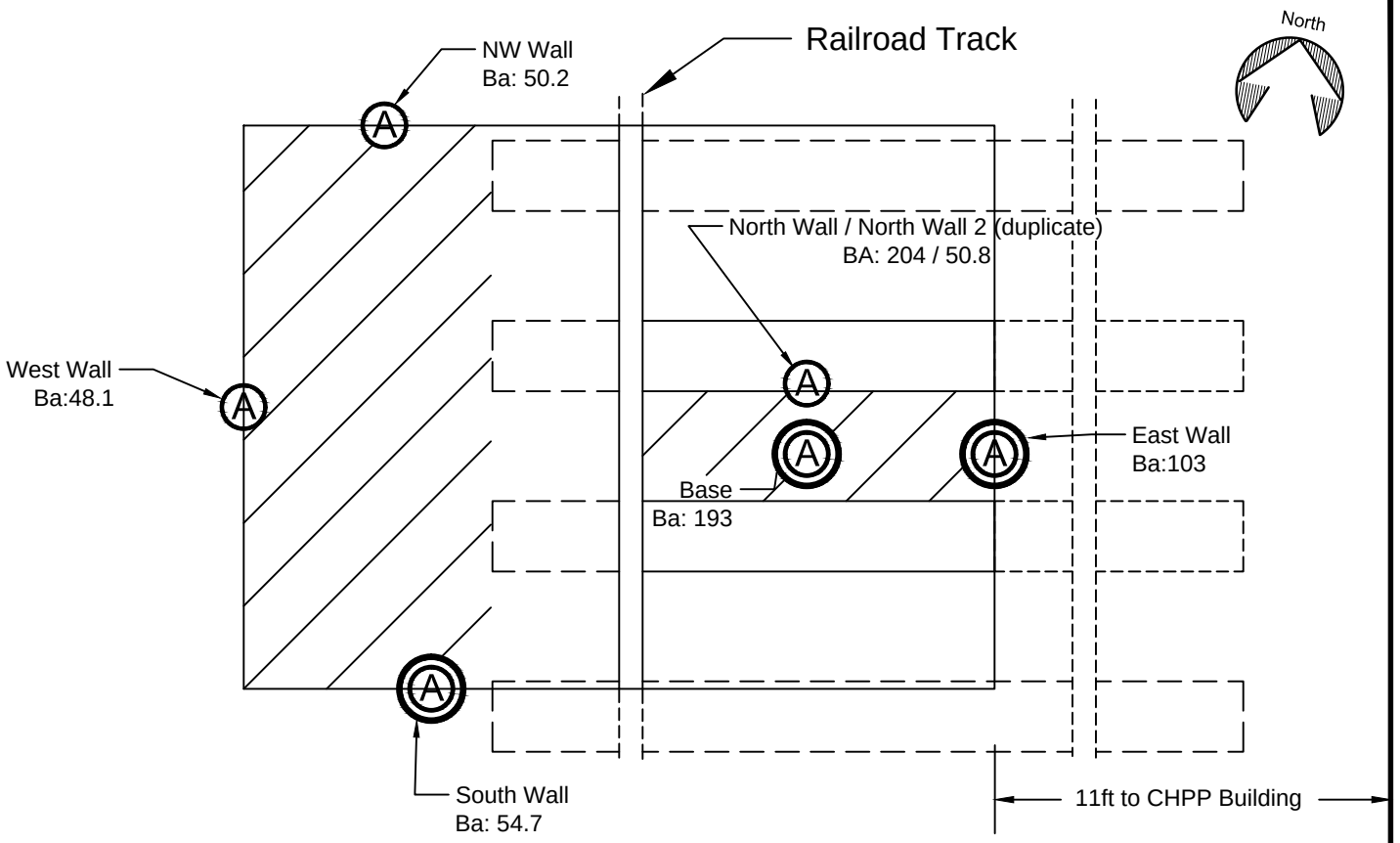
PCP: ND Pentachlorophenol results not detected

Ⓐ Analytical sample (extra analysis see note 2)

0 .5 1 2 4

GRAPHIC SCALE (IN FEET)

ACID VENT AOC06-001 SAMPLE LOCATION	JBER CHPP DEMO ANCHORAGE, AK	EMI Consulting, Engineering & Training	PREPARED: TRM DRAWN: TRM REVIEWED: LAH DATE: 11/6/17	FIGURE 4



Notes:

1. The surface soils in this area were visibly impacted with coal dust. Railroad (RR) tracks were discovered just below the surface, requiring a modification to planned area of excavation. However samples were able to be collected representing the bottom and sidewalls.

2. Extra analysis included an additional sidewall sample location due to the presence of the RR track. The North Wall sample was collected directly below a RR Tie. All the other samples except the West Wall were collected below and within 1 foot horizontally of a RR tie. Analysis for 9 additional metals (As, Cd, Cr, Pb, Hg, Ni, Se, Ag, and V), PAH compounds plus 1-Methylnaphthalene and 2-Methylnaphthalene, and Low Level VOCs were conducted at three locations. All detections were below the listed project action levels.

3. The only compounds detected at this spot are likely associated with coal and coal dust. The soil from this area should be treated as coal impacted soils.

Legend

Excavation to top of railroad track (0.5ft.)

Deeper excavation (3ft.)

Analytical sample

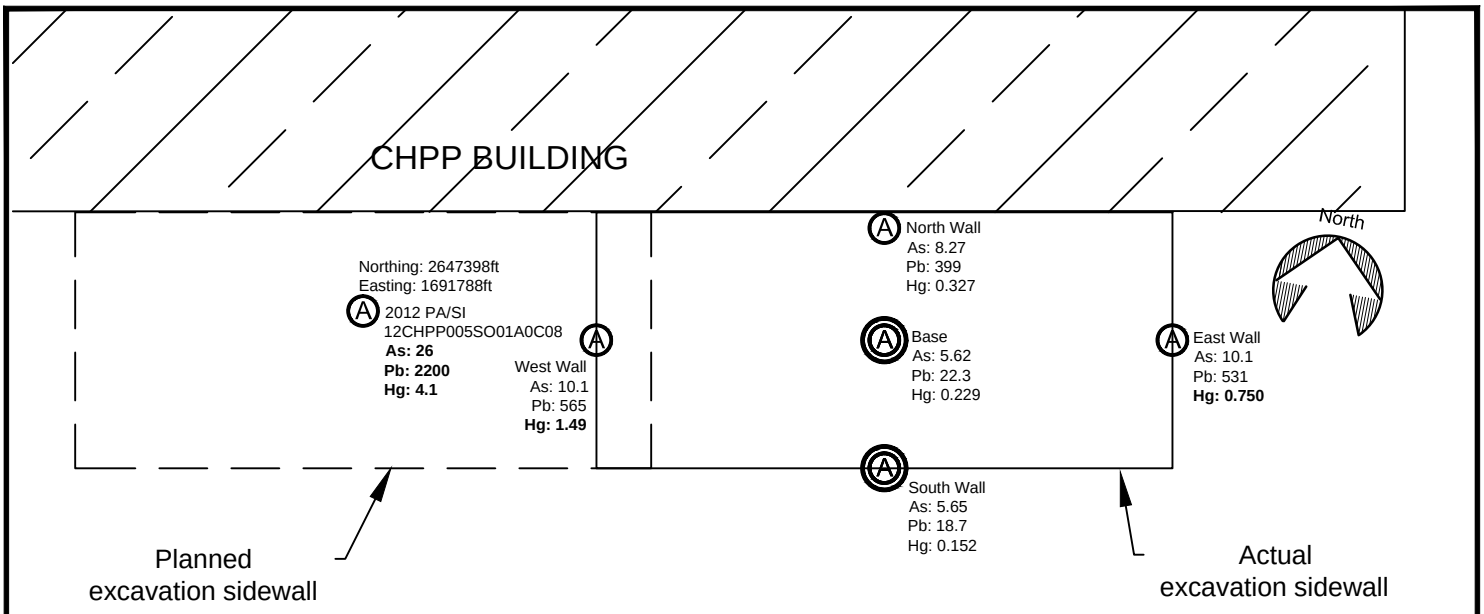
Ba: 48.1 Barium results in ppm

Analytical sample (extra analysis see note 2)

0 .5 1 2 4

GRAPHIC SCALE (IN FEET)

ASH TOWER AOC07-002 SAMPLE LOCATION	JBER CHPP DEMO ANCHORAGE, AK	EMI Consulting, Engineering & Training	PREPARED: TRM DRAWN: TRM REVIEWED: LAH DATE: 11/6/17	FIGURE 5



Notes:

1. Grab sample of the SOD layer (center of excavation): PCB = ND
2. The excavation at this spot was offset to the east due to an error marking the 2012 PA/RI sample location.
3. Extra analysis included analysis for seven additional metals (Ba, Cd, Cr, Ni, Se, Ag, and V) and PAH compounds plus 1-Methylnaphthalene and 2-Methylnaphthalene. All detections were below the listed project action levels.
4. The source of the arsenic (As=26 ppm), lead (Pb=2200 ppm) and mercury (Hg=4.1 ppm) contamination in the 2012 PA/RI sample is unknown. The levels to east of this sample are lower. With a noticeable drop in the level from the sample from the base (3' bgs) and the sample to the south.
5. With the elevated levels of Hg remaining in the area additional investigation is needed to delineate the extent of the contamination.

Legend

——— Excavation sidewall

Ⓐ Analytical sample

As: 10.1 Arsenic results in ppm

Pb: 565 Lead results in ppm

Hg: 1.49 Mercury results in ppm

(Bold indicates above action level)

Ⓐ Analytical sample (extra analysis see note 2)

0 1 3 6

GRAPHIC SCALE (IN FEET)

SOUTH WALL CONTAMINATED AREA SAMPLE LOCATION	JBER CHPP DEMO ANCHORAGE, AK	EMI Consulting, Engineering & Training	PREPARED: TRM DRAWN: TRM REVIEWED: LAH DATE: 11/6/17	FIGURE 6

Appendix A

Photo Log

Photo Log

Photo 1: AOC02-005. November 4, 2017 - facing west.

Photo 2: AOC02-008 after sod removal but before excavation. November 4, 2017 - facing south.

Photo Log

Photo 3: Cables encountered during excavation of AOC02-008. November 4, 2017 - facing east.

Photo 4: AOC06-001. Acid Vent location. November 6, 2017 - facing west.

Photo Log

Photo 5: Railroad tracks uncovered during excavation of AOC07-002.
November 6, 2017 - facing east.

Photo 6: AOC07-002, showing full-depth excavation between 2 railroad ties in the foreground, and on the fare side of the rail. Coal is also visible in the far sidewall.
November 6, 2017 - facing west.

Photo Log

Photo 7: Sod sampling and asphalt removal at AOC08-005. November 3, 2017.

Photo 8: Excavation of AOC08-005. See soil hopper is on the left.
November 3, 2017 - facing northwest.

Photo Log

Photo 9: Dry decontamination of excavator bucket after excavating soil from AOC08-005. November 3, 2017 facing east.

Appendix B

SGS Laboratory Report and Data Validation Checklist

Laboratory Report of Analysis

To: Environmental Mgmt Inc (EMI)
206 E Fireweed Ln #201
Anchorage, AK 99503
(907) 272-9336

Report Number: **1179607**

Client Project: **JBER CHPP DCVR-006 17849**

Amended to include J flags.

Dear Larry Helgeson,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Jillian at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

cn=Jillian Vlahovich, o=SGS North America, Inc., ou=Environmental Division, email=Jillian.Vlahovich@sgs.com, c=US
2017.11.28 16:12:27 -09'00'

Jillian Vlahovich Date
Project Manager

Print Date: 11/28/2017 3:10:11PM

Case Narrative

SGS Client: **Environmental Mgmt Inc (EMI)**
SGS Project: **1179607**
Project Name/Site: **JBER CHPP DCVR-006 17849**
Project Contact: **Larry Helgeson**

Refer to sample receipt form for information on sample condition.

A0C02-005 East Wall 2 (1179607010) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (4X) and a final extraction volume of 5 mL.

A0C02-008 North Wall 2 (1179607014) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (5X) and a final extraction volume of 5 mL.

A0C02-008 Base NE (1179607015) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (4X) and a final extraction volume of 5 mL.
8270D SIM - The PAH LOQs are elevated due to sample dilution (50X). The sample was analyzed at a dilution due to matrix.

A0C02-008 Base NE2 (1179607016) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (20X) and a final extraction volume of 5 mL.
8270D SIM - The PAH LOQs are elevated due to sample dilution (50X). The sample was analyzed at a dilution due to matrix.

A0C02-008 South Wall 1 (1179607017) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (10X) and a final extraction volume of 5 mL.

A0C02-008 East Wall 2 (1179607019) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (10X) and a final extraction volume of 5 mL.
8270D SIM - The PAH LOQs are elevated due to sample dilution (50X). The sample was analyzed at a dilution due to matrix.

MB for HBN 1771929 [MXX/31221] (1425217) MB

6020A - Metals analyte chromium is detected in the MB above the LOQ. The associated sample concentrations are 10 times greater than the concentration in the MB.

1179607016MS (1424776) MS

8082A - Surrogate recovery for decachlorobiphenyl (53%) does not meet QC criteria due to matrix interference confirmed by the MSD.
8082A - PCB Aroclor 1260 MS recovery (143%) does not meet QC criteria. Refer to the LCS for accuracy requirements.

1179580001(1424938MS) (1424941) MS

6020A - Metals MS recoveries for barium (162%), chromium (140%) and vanadium (201%) do not meet QC criteria. The post digestion spike was successful.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Case Narrative

SGS Client: **Environmental Mgmt Inc (EMI)**
SGS Project: **1179607**
Project Name/Site: **JBER CHPP DCVR-006 17849**
Project Contact: **Larry Helgeson**

1179607031(1425219MS) (1425221) MS

6020A - Metals MS recoveries for chromium (120%) and vanadium (130%) do not meet QC criteria. The post digestion spike was successful.

1179607016MSD (1424777) MSD

8082A - Surrogate recovery for decachlorobiphenyl (33%) does not meet QC criteria due to matrix interference.

1179580001(1424938MSD) (1424942) MSD

6020A - Metals MSD recoveries for barium (129%), chromium (134%) and vanadium (200%) do not meet QC criteria. The post digestion spike was successful.

1179607031(1425219MSD) (1425222) MSD

6020A - Metals MSD recoveries for barium (131%) and vanadium (122%) do not meet QC criteria. The post digestion spike was successful.

1179437020MSD (1425425) MSD

8260C - Surrogate recovery for 4-bromofluorobenzene (52%) does not meet QC criteria due to matrix interference.

*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

SGS North America Inc.
200 West Potter Drive, Anchorage, AK 99518
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Report of Manual Integrations

Laboratory ID	Client Sample ID	Analytical Batch	Analyte	Reason
8270D SIM (PAH)				
1179607004	A0C08-005 Base	XMS10553	Benzo[k]fluoranthene	RP
1179607021	A0C06-001 Base	XMS10553	Benzo[k]fluoranthene	RP
1179607027	A0C07-002 Base	XMS10553	Benzo[k]fluoranthene	RP
SW8082A				
1179607013	A0C02-008 Sod	XGC9954	Aroclor-1260	RP
1179607016	A0C02-008 Base NE2	XGC9955	Aroclor-1260	RP
1179607041	A0C02-008 North Wall 2	XGC9955	Aroclor-1260	RP
1179607042	A0C02-008 Base NE	XGC9954	Aroclor-1260	RP
1179607043	A0C02-008 South Wall 1	XGC9954	Aroclor-1260	RP
1179607045	A0C02-008 East Wall 2	XGC9954	Aroclor-1260	RP
1424776	1179607016MS	XGC9955	Aroclor-1016	PNF
1424776	1179607016MS	XGC9955	Aroclor-1260	RP
1424777	1179607016MSD	XGC9955	Aroclor-1016	PNF
1424777	1179607016MSD	XGC9955	Aroclor-1260	RP

Manual Integration Reason Code Descriptions

Code	Description
O	Original Chromatogram
M	Modified Chromatogram
SS	Skimmed surrogate
BLG	Closed baseline gap
RP	Reassign peak name
PIR	Pattern integration required
IT	Included tail
SP	Split peak
RSP	Removed split peak
FPS	Forced peak start/stop
BLC	Baseline correction
PNF	Peak not found by software

All DRO/RRO analysis are integrated per SOP.

Print Date: 11/28/2017 3:10:14PM

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indenmification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are **AK00971 DW Chemistry (Provisionally Certified as of 10/12/2017) & Microbiology (Provisionally Certified as of 9/21/2017)** & UST-005 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
A0C08-005 Sod	1179607001	11/03/2017	11/07/2017	Soil/Solid (dry weight)
A0C08-005 North Wall	1179607002	11/03/2017	11/07/2017	Soil/Solid (dry weight)
A0C08-005 South Wall	1179607003	11/03/2017	11/07/2017	Soil/Solid (dry weight)
A0C08-005 Base	1179607004	11/03/2017	11/07/2017	Soil/Solid (dry weight)
A0C08-005 West Wall	1179607005	11/03/2017	11/07/2017	Soil/Solid (dry weight)
A0C08-005 East Wall	1179607006	11/03/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 Sod	1179607007	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 Base	1179607008	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 West Wall 2	1179607009	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 East Wall 2	1179607010	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 North Wall 2	1179607011	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 South Wall 1	1179607012	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 Sod	1179607013	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 North Wall 2	1179607014	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 Base NE	1179607015	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 Base NE2	1179607016	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 South Wall 1	1179607017	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 West Wall 2	1179607018	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 East Wall 2	1179607019	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 Sod	1179607020	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 Base	1179607021	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 North Wall	1179607022	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 North Wall 2	1179607023	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 West Wall	1179607024	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 South Wall	1179607025	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 East Wall	1179607026	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 Base	1179607027	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 North Wall	1179607028	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 North Wall 2	1179607029	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 East Wall	1179607030	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 South Wall	1179607031	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 NW Wall	1179607032	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C07-002 West Wall	1179607033	11/06/2017	11/07/2017	Soil/Solid (dry weight)
Supersack Composite 1	1179607034	11/06/2017	11/07/2017	Solid/Soil (Wet Weight)
Trip Blank	1179607035	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 Base	1179607036	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 West Wall 2	1179607037	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 East Wall 2	1179607038	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-005 North Wall 2	1179607039	11/04/2017	11/07/2017	Soil/Solid (dry weight)

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
A0C02-005 South Wall 1	1179607040	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 North Wall 2	1179607041	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 Base NE	1179607042	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 South Wall 1	1179607043	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 West Wall 2	1179607044	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C02-008 East Wall 2	1179607045	11/04/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 Base	1179607046	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 North Wall	1179607047	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 North Wall 2	1179607048	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 West Wall	1179607049	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 South Wall	1179607050	11/06/2017	11/07/2017	Soil/Solid (dry weight)
A0C06-001 East Wall	1179607051	11/06/2017	11/07/2017	Soil/Solid (dry weight)

Method	Method Description
8270D SIM (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
AK102	Diesel Range Organics (S)
SW6020A TCLP	Metals by ICP-MS
SW6020A	Metals by ICP-MS (S)
SM21 2540G	Percent Solids SM2540G
SW8082A	SW8082 PCB's
SW8270D	SW846 8270 Semi-Volatiles by GC/MS (S)
SW8260C LL w/MeOH	VOC 8260 LL (S) w/MeOH

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Detectable Results Summary

Client Sample ID: **A0C08-005 North Wall**
Lab Sample ID: 1179607002

Parameter	Result	Units
Metals by ICP/MS		
Arsenic	8.27	mg/Kg
Lead	399	mg/Kg
Mercury	0.327	mg/Kg

Client Sample ID: **A0C08-005 South Wall**
Lab Sample ID: 1179607003

Parameter	Result	Units
Metals by ICP/MS		
Arsenic	5.65	mg/Kg
Barium	56.8	mg/Kg
Cadmium	0.109J	mg/Kg
Chromium	37.9	mg/Kg
Lead	18.7	mg/Kg
Mercury	0.152	mg/Kg
Nickel	47.0	mg/Kg
Selenium	0.348J	mg/Kg
Vanadium	63.0	mg/Kg

Client Sample ID: **A0C08-005 Base**
Lab Sample ID: 1179607004

Parameter	Result	Units
Metals by ICP/MS		
Arsenic	5.62	mg/Kg
Barium	72.3	mg/Kg
Cadmium	0.0897J	mg/Kg
Chromium	31.5	mg/Kg
Lead	22.3	mg/Kg
Mercury	0.229	mg/Kg
Nickel	34.9	mg/Kg
Vanadium	56.3	mg/Kg
Polynuclear Aromatics GC/MS		
1-Methylnaphthalene	26.2J	ug/Kg
2-Methylnaphthalene	29.5	ug/Kg
Anthracene	12.4J	ug/Kg
Benzo(a)Anthracene	84.5	ug/Kg
Benzo[a]pyrene	89.1	ug/Kg
Benzo[b]Fluoranthene	123	ug/Kg
Benzo[g,h,i]perylene	52.1	ug/Kg
Benzo[k]fluoranthene	40.1	ug/Kg
Chrysene	90.6	ug/Kg
Dibenzo[a,h]anthracene	16.6J	ug/Kg
Fluoranthene	129	ug/Kg
Indeno[1,2,3-c,d] pyrene	48.0	ug/Kg
Naphthalene	19.7J	ug/Kg
Phenanthrene	34.6	ug/Kg
Pyrene	119	ug/Kg

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Detectable Results Summary

Client Sample ID: **A0C08-005 West Wall**
Lab Sample ID: 1179607005

Metals by ICP/MS

Parameter	Result	Units
Arsenic	10.1	mg/Kg
Lead	565	mg/Kg
Mercury	1.49	mg/Kg

Client Sample ID: **A0C08-005 East Wall**
Lab Sample ID: 1179607006

Metals by ICP/MS

Parameter	Result	Units
Arsenic	10.1	mg/Kg
Lead	531	mg/Kg
Mercury	0.750	mg/Kg

Client Sample ID: **A0C02-005 Base**
Lab Sample ID: 1179607008

Metals by ICP/MS

Parameter	Result	Units
Arsenic	5.77	mg/Kg
Barium	43.5	mg/Kg
Chromium	31.1	mg/Kg
Lead	7.05	mg/Kg
Mercury	0.135	mg/Kg
Nickel	28.2	mg/Kg
Vanadium	50.9	mg/Kg

Volatile GC/MS

Parameter	Result	Units
Chloroform	1.68	ug/Kg

Client Sample ID: **A0C02-005 West Wall 2**
Lab Sample ID: 1179607009

Semivolatile Organic Fuels

Parameter	Result	Units
Diesel Range Organics	21.1J	mg/Kg

Client Sample ID: **A0C02-005 East Wall 2**
Lab Sample ID: 1179607010

Semivolatile Organic Fuels

Parameter	Result	Units
Diesel Range Organics	1230	mg/Kg

Client Sample ID: **A0C02-005 North Wall 2**
Lab Sample ID: 1179607011

Semivolatile Organic Fuels

Parameter	Result	Units
Diesel Range Organics	17.8J	mg/Kg

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Detectable Results Summary

Client Sample ID: **A0C02-005 South Wall 1**
Lab Sample ID: 1179607012

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	6.99	mg/Kg
	Barium	156	mg/Kg
	Cadmium	0.119J	mg/Kg
	Chromium	39.1	mg/Kg
	Lead	14.1	mg/Kg
	Mercury	0.0854	mg/Kg
	Nickel	35.1	mg/Kg
	Selenium	0.414J	mg/Kg
	Vanadium	69.2	mg/Kg
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	12.0J	ug/Kg
	2-Methylnaphthalene	17.3J	ug/Kg
	Naphthalene	9.06J	ug/Kg
Semivolatile Organic Fuels	Diesel Range Organics	27.0	mg/Kg
Volatile GC/MS	Chloroform	2.70	ug/Kg

Client Sample ID: **A0C02-008 Sod**
Lab Sample ID: 1179607013

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	1620	ug/Kg

Client Sample ID: **A0C02-008 North Wall 2**
Lab Sample ID: 1179607014

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	4710	mg/Kg

Client Sample ID: **A0C02-008 Base NE**
Lab Sample ID: 1179607015

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	9.97	mg/Kg
	Barium	96.7	mg/Kg
	Cadmium	2.56	mg/Kg
	Chromium	40.4	mg/Kg
	Lead	11.8	mg/Kg
	Mercury	0.0972	mg/Kg
	Nickel	36.4	mg/Kg
	Selenium	0.354J	mg/Kg
	Vanadium	70.2	mg/Kg
Semivolatile Organic Fuels	Diesel Range Organics	12100	mg/Kg
Volatile GC/MS	Chloroform	2.97	ug/Kg
	Trichloroethene	4.33J	ug/Kg

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Detectable Results Summary

Client Sample ID: **A0C02-008 Base NE2**
Lab Sample ID: 1179607016

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	7.15	mg/Kg
	Barium	104	mg/Kg
	Cadmium	0.590	mg/Kg
	Chromium	36.5	mg/Kg
	Lead	12.2	mg/Kg
	Mercury	0.109	mg/Kg
	Nickel	34.7	mg/Kg
	Selenium	0.357J	mg/Kg
	Vanadium	58.8	mg/Kg
Polychlorinated Biphenyls	Aroclor-1260	638	ug/Kg
Semivolatile Organic Fuels	Diesel Range Organics	15900	mg/Kg
Volatile GC/MS	Chloroform	2.39	ug/Kg
	Trichloroethene	2.99J	ug/Kg

Client Sample ID: **A0C02-008 South Wall 1**
Lab Sample ID: 1179607017

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	15900	mg/Kg

Client Sample ID: **A0C02-008 West Wall 2**
Lab Sample ID: 1179607018

	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	173	mg/Kg

Client Sample ID: **A0C02-008 East Wall 2**
Lab Sample ID: 1179607019

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	6.00	mg/Kg
	Barium	120	mg/Kg
	Cadmium	4.65	mg/Kg
	Chromium	38.8	mg/Kg
	Lead	9.75	mg/Kg
	Mercury	0.148	mg/Kg
	Nickel	35.9	mg/Kg
	Vanadium	68.5	mg/Kg
Semivolatile Organic Fuels	Diesel Range Organics	13200	mg/Kg
Volatile GC/MS	Chloroform	2.84	ug/Kg

Client Sample ID: **A0C06-001 Sod**
Lab Sample ID: 1179607020

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1254	471	ug/Kg

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Detectable Results Summary

Client Sample ID: **A0C06-001 Base**
Lab Sample ID: 1179607021

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	11.7	mg/Kg
	Barium	119	mg/Kg
	Cadmium	0.105J	mg/Kg
	Chromium	53.9	mg/Kg
	Lead	8.61	mg/Kg
	Mercury	0.113	mg/Kg
	Nickel	34.9	mg/Kg
	Vanadium	72.9	mg/Kg
Polynuclear Aromatics GC/MS	Anthracene	10.9J	ug/Kg
	Benzo(a)Anthracene	16.1J	ug/Kg
	Benzo[a]pyrene	17.1J	ug/Kg
	Benzo[b]Fluoranthene	19.2J	ug/Kg
	Chrysene	19.4J	ug/Kg
	Fluoranthene	28.5	ug/Kg
	Phenanthrene	34.0	ug/Kg
	Pyrene	30.8	ug/Kg

Client Sample ID: **A0C06-001 North Wall**
Lab Sample ID: 1179607022

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	9.88	mg/Kg
	Barium	144	mg/Kg
	Cadmium	0.0987J	mg/Kg
	Chromium	49.6	mg/Kg
	Lead	13.9	mg/Kg
	Mercury	0.118	mg/Kg
	Nickel	34.1	mg/Kg
	Vanadium	76.9	mg/Kg
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	16.3J	ug/Kg
	2-Methylnaphthalene	19.6J	ug/Kg
	Naphthalene	11.9J	ug/Kg
Volatile GC/MS	Chloroform	3.23	ug/Kg

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Detectable Results Summary

Client Sample ID: **A0C06-001 North Wall 2**
Lab Sample ID: 1179607023

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	11.0	mg/Kg
	Barium	164	mg/Kg
	Cadmium	0.0785J	mg/Kg
	Chromium	56.4	mg/Kg
	Lead	15.7	mg/Kg
	Mercury	0.118	mg/Kg
	Nickel	34.2	mg/Kg
	Vanadium	86.6	mg/Kg
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	12.9J	ug/Kg
	2-Methylnaphthalene	15.1J	ug/Kg
	Naphthalene	9.85J	ug/Kg
Volatile GC/MS	Chloroform	3.68	ug/Kg

Client Sample ID: **A0C06-001 West Wall**
Lab Sample ID: 1179607024

	Parameter	Result	Units
Metals by ICP/MS	Lead	58.1	mg/Kg
	Mercury	0.557	mg/Kg

Client Sample ID: **A0C06-001 South Wall**
Lab Sample ID: 1179607025

	Parameter	Result	Units
Metals by ICP/MS	Lead	18.7	mg/Kg
	Mercury	0.0887	mg/Kg

Client Sample ID: **A0C06-001 East Wall**
Lab Sample ID: 1179607026

	Parameter	Result	Units
Metals by ICP/MS	Lead	20.8	mg/Kg
	Mercury	0.161	mg/Kg

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Detectable Results Summary

Client Sample ID: **A0C07-002 Base**
Lab Sample ID: 1179607027

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	6.51	mg/Kg
	Barium	193	mg/Kg
	Cadmium	0.129J	mg/Kg
	Chromium	38.2	mg/Kg
	Lead	5.57	mg/Kg
	Mercury	0.169	mg/Kg
	Nickel	38.2	mg/Kg
	Selenium	0.359J	mg/Kg
	Vanadium	63.3	mg/Kg
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	246	ug/Kg
	2-Methylnaphthalene	417	ug/Kg
	Acenaphthene	91.6	ug/Kg
	Acenaphthylene	30.9	ug/Kg
	Anthracene	129	ug/Kg
	Benzo(a)Anthracene	203	ug/Kg
	Benzo[a]pyrene	86.4	ug/Kg
	Benzo[b]Fluoranthene	148	ug/Kg
	Benzo[g,h,i]perylene	28.4	ug/Kg
	Benzo[k]fluoranthene	42.5	ug/Kg
	Chrysene	201	ug/Kg
	Dibenzo[a,h]anthracene	10.7J	ug/Kg
	Fluoranthene	997	ug/Kg
	Fluorene	71.7	ug/Kg
	Indeno[1,2,3-c,d] pyrene	28.5	ug/Kg
	Naphthalene	2000	ug/Kg
	Phenanthrene	446	ug/Kg
	Pyrene	733	ug/Kg

Client Sample ID: **A0C07-002 North Wall**
Lab Sample ID: 1179607028

	Parameter	Result	Units
Metals by ICP/MS	Barium	204	mg/Kg

Client Sample ID: **A0C07-002 North Wall 2**
Lab Sample ID: 1179607029

	Parameter	Result	Units
Metals by ICP/MS	Barium	50.8	mg/Kg

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Detectable Results Summary

Client Sample ID: **A0C07-002 East Wall**
Lab Sample ID: 1179607030

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	8.35	mg/Kg
	Barium	103	mg/Kg
	Cadmium	0.101J	mg/Kg
	Chromium	39.2	mg/Kg
	Lead	6.48	mg/Kg
	Mercury	0.269	mg/Kg
	Nickel	55.6	mg/Kg
	Selenium	0.596J	mg/Kg
	Vanadium	67.7	mg/Kg
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	39.9	ug/Kg
	2-Methylnaphthalene	69.3	ug/Kg
	Acenaphthene	9.78J	ug/Kg
	Acenaphthylene	12.2J	ug/Kg
	Anthracene	26.6	ug/Kg
	Benzo(a)Anthracene	13.0J	ug/Kg
	Benzo[a]pyrene	9.71J	ug/Kg
	Benzo[b]Fluoranthene	14.8J	ug/Kg
	Chrysene	17.4J	ug/Kg
	Fluoranthene	117	ug/Kg
	Fluorene	11.1J	ug/Kg
	Naphthalene	396	ug/Kg
	Phenanthrene	125	ug/Kg
	Pyrene	87.7	ug/Kg

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Detectable Results Summary

Client Sample ID: **A0C07-002 South Wall**
Lab Sample ID: 1179607031

	Parameter	Result	Units
Metals by ICP/MS	Arsenic	6.03	mg/Kg
	Barium	54.7	mg/Kg
	Cadmium	0.0912J	mg/Kg
	Chromium	35.8	mg/Kg
	Lead	5.76	mg/Kg
	Mercury	0.217	mg/Kg
	Nickel	36.6	mg/Kg
	Vanadium	62.2	mg/Kg
Polynuclear Aromatics GC/MS	2-Methylnaphthalene	12.7J	ug/Kg
	Acenaphthylene	16.5J	ug/Kg
	Anthracene	41.8	ug/Kg
	Benzo(a)Anthracene	9.83J	ug/Kg
	Benzo[a]pyrene	14.1J	ug/Kg
	Benzo[b]Fluoranthene	15.0J	ug/Kg
	Benzo[g,h,i]perylene	13.7J	ug/Kg
	Chrysene	11.5J	ug/Kg
	Fluoranthene	56.8	ug/Kg
	Fluorene	9.03J	ug/Kg
	Indeno[1,2,3-c,d] pyrene	11.0J	ug/Kg
	Naphthalene	46.1	ug/Kg
	Phenanthrene	93.0	ug/Kg
	Pyrene	43.0	ug/Kg

Client Sample ID: **A0C07-002 NW Wall**
Lab Sample ID: 1179607032

	Parameter	Result	Units
Metals by ICP/MS	Barium	50.2	mg/Kg

Client Sample ID: **A0C07-002 West Wall**
Lab Sample ID: 1179607033

	Parameter	Result	Units
Metals by ICP/MS	Barium	48.1	mg/Kg

Client Sample ID: **Supersack Composite 1**
Lab Sample ID: 1179607034

	Parameter	Result	Units
TCLP Constituents Metals	Lead	0.0501	mg/L

Client Sample ID: **Trip Blank**
Lab Sample ID: 1179607035

	Parameter	Result	Units
Volatile GC/MS	Chloroform	3.58	ug/Kg

Client Sample ID: **A0C02-005 East Wall 2**
Lab Sample ID: 1179607038

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	618	ug/Kg

Client Sample ID: **A0C02-005 North Wall 2**
Lab Sample ID: 1179607039

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	26.8J	ug/Kg

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Detectable Results Summary

Client Sample ID: **A0C02-008 North Wall 2**
Lab Sample ID: 1179607041

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	706	ug/Kg

Client Sample ID: **A0C02-008 Base NE**
Lab Sample ID: 1179607042

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	793	ug/Kg

Client Sample ID: **A0C02-008 South Wall 1**
Lab Sample ID: 1179607043

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	545	ug/Kg

Client Sample ID: **A0C02-008 West Wall 2**
Lab Sample ID: 1179607044

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	1920	ug/Kg

Client Sample ID: **A0C02-008 East Wall 2**
Lab Sample ID: 1179607045

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1260	246	ug/Kg

Client Sample ID: **A0C06-001 West Wall**
Lab Sample ID: 1179607049

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1254	33.1J	ug/Kg

Client Sample ID: **A0C06-001 East Wall**
Lab Sample ID: 1179607051

	Parameter	Result	Units
Polychlorinated Biphenyls	Aroclor-1254	40.6J	ug/Kg

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Results of **A0C08-005 Sod**

Client Sample ID: **A0C08-005 Sod**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607001
Lab Project ID: 1179607

Collection Date: 11/03/17 12:43
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):63.9
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	38.8	U	77.5	23.3	ug/Kg	1		11/15/17 01:10
Aroclor-1221	155	U	310	96.2	ug/Kg	1		11/15/17 01:10
Aroclor-1232	38.8	U	77.5	23.3	ug/Kg	1		11/15/17 01:10
Aroclor-1242	38.8	U	77.5	23.3	ug/Kg	1		11/15/17 01:10
Aroclor-1248	38.8	U	77.5	23.3	ug/Kg	1		11/15/17 01:10
Aroclor-1254	38.8	U	77.5	23.3	ug/Kg	1		11/15/17 01:10
Aroclor-1260	38.8	U	77.5	23.3	ug/Kg	1		11/15/17 01:10
Surrogates								
Decachlorobiphenyl (surr)	87		60-125		%	1		11/15/17 01:10

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 01:10
Container ID: 1179607001-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.687 g
Prep Extract Vol: 5 mL

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Results of **A0C08-005 North Wall**

Client Sample ID: **A0C08-005 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607002
Lab Project ID: 1179607

Collection Date: 11/03/17 15:08
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.1
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	8.27		1.06	0.328	mg/Kg	10		11/12/17 17:05
Lead	399		1.06	0.328	mg/Kg	50		11/12/17 20:40
Mercury	0.327		0.0423	0.0127	mg/Kg	10		11/12/17 17:05

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:05
Container ID: 1179607002-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.049 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 20:40
Container ID: 1179607002-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.049 g
Prep Extract Vol: 50 mL

Results of **A0C08-005 South Wall**

Client Sample ID: **A0C08-005 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607003
Lab Project ID: 1179607

Collection Date: 11/03/17 14:57
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	5.65		1.04	0.321	mg/Kg	10		11/12/17 17:23
Barium	56.8		0.311	0.0975	mg/Kg	10		11/12/17 17:23
Cadmium	0.109	J	0.207	0.0643	mg/Kg	10		11/12/17 17:23
Chromium	37.9		0.415	0.135	mg/Kg	10		11/12/17 17:23
Lead	18.7		0.207	0.0643	mg/Kg	10		11/12/17 17:23
Mercury	0.152		0.0415	0.0124	mg/Kg	10		11/12/17 17:23
Nickel	47.0		0.207	0.0643	mg/Kg	10		11/12/17 17:23
Selenium	0.348	J	1.04	0.321	mg/Kg	10		11/12/17 17:23
Silver	0.103	U	0.207	0.0643	mg/Kg	10		11/12/17 17:23
Vanadium	63.0		3.11	0.975	mg/Kg	10		11/12/17 17:23

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:23
Container ID: 1179607003-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.015 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

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Results of **A0C08-005 South Wall**

Client Sample ID: **A0C08-005 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607003
Lab Project ID: 1179607

Collection Date: 11/03/17 14:57
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
2-Methylnaphthalene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Acenaphthene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Acenaphthylene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Anthracene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Benzo(a)Anthracene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Benzo[a]pyrene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Benzo[b]Fluoranthene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Benzo[g,h,i]perylene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Benzo[k]fluoranthene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Chrysene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Dibenzo[a,h]anthracene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Fluoranthene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Fluorene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Indeno[1,2,3-c,d] pyrene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Naphthalene	10.4	U	20.7	6.20	ug/Kg	1		11/20/17 21:29
Phenanthrene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Pyrene	12.9	U	25.8	7.75	ug/Kg	1		11/20/17 21:29
Surrogates								
2-Methylnaphthalene-d10 (surr)	81.6		50-150		%	1		11/20/17 21:29
Fluoranthene-d10 (surr)	80.5		50-150		%	1		11/20/17 21:29

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 21:29
Container ID: 1179607003-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.915 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C08-005 Base**

Client Sample ID: **A0C08-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607004
Lab Project ID: 1179607

Collection Date: 11/03/17 15:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):92.8
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	5.62		0.982	0.305	mg/Kg	10		11/12/17 17:27
Barium	72.3		0.295	0.0923	mg/Kg	10		11/12/17 17:27
Cadmium	0.0897	J	0.196	0.0609	mg/Kg	10		11/12/17 17:27
Chromium	31.5		0.393	0.128	mg/Kg	10		11/12/17 17:27
Lead	22.3		0.196	0.0609	mg/Kg	10		11/12/17 17:27
Mercury	0.229		0.0393	0.0118	mg/Kg	10		11/12/17 17:27
Nickel	34.9		0.196	0.0609	mg/Kg	10		11/12/17 17:27
Selenium	0.491	U	0.982	0.305	mg/Kg	10		11/12/17 17:27
Silver	0.0980	U	0.196	0.0609	mg/Kg	10		11/12/17 17:27
Vanadium	56.3		2.95	0.923	mg/Kg	10		11/12/17 17:27

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:27
Container ID: 1179607004-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.097 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C08-005 Base**

Client Sample ID: **A0C08-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607004
Lab Project ID: 1179607

Collection Date: 11/03/17 15:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):92.8
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	26.2	J	26.9	8.06	ug/Kg	1		11/20/17 21:49
2-Methylnaphthalene	29.5		26.9	8.06	ug/Kg	1		11/20/17 21:49
Acenaphthene	13.4	U	26.9	8.06	ug/Kg	1		11/20/17 21:49
Acenaphthylene	13.4	U	26.9	8.06	ug/Kg	1		11/20/17 21:49
Anthracene	12.4	J	26.9	8.06	ug/Kg	1		11/20/17 21:49
Benzo(a)Anthracene	84.5		26.9	8.06	ug/Kg	1		11/20/17 21:49
Benzo[a]pyrene	89.1		26.9	8.06	ug/Kg	1		11/20/17 21:49
Benzo[b]Fluoranthene	123		26.9	8.06	ug/Kg	1		11/20/17 21:49
Benzo[g,h,i]perylene	52.1		26.9	8.06	ug/Kg	1		11/20/17 21:49
Benzo[k]fluoranthene	40.1		26.9	8.06	ug/Kg	1		11/20/17 21:49
Chrysene	90.6		26.9	8.06	ug/Kg	1		11/20/17 21:49
Dibenzo[a,h]anthracene	16.6	J	26.9	8.06	ug/Kg	1		11/20/17 21:49
Fluoranthene	129		26.9	8.06	ug/Kg	1		11/20/17 21:49
Fluorene	13.4	U	26.9	8.06	ug/Kg	1		11/20/17 21:49
Indeno[1,2,3-c,d] pyrene	48.0		26.9	8.06	ug/Kg	1		11/20/17 21:49
Naphthalene	19.7	J	21.5	6.45	ug/Kg	1		11/20/17 21:49
Phenanthrene	34.6		26.9	8.06	ug/Kg	1		11/20/17 21:49
Pyrene	119		26.9	8.06	ug/Kg	1		11/20/17 21:49
Surrogates								
2-Methylnaphthalene-d10 (surr)	80.2		50-150		%	1		11/20/17 21:49
Fluoranthene-d10 (surr)	80.3		50-150		%	1		11/20/17 21:49

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 21:49
Container ID: 1179607004-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.556 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

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Results of **A0C08-005 West Wall**

Client Sample ID: **A0C08-005 West Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607005
Lab Project ID: 1179607

Collection Date: 11/03/17 15:05
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.3
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	10.1		1.10	0.340	mg/Kg	10		11/12/17 17:32
Lead	565		1.10	0.340	mg/Kg	50		11/12/17 20:44
Mercury	1.49		0.0439	0.0132	mg/Kg	10		11/12/17 17:32

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:32
Container ID: 1179607005-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.021 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 20:44
Container ID: 1179607005-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.021 g
Prep Extract Vol: 50 mL

Results of **A0C08-005 East Wall**

Client Sample ID: **A0C08-005 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607006
Lab Project ID: 1179607

Collection Date: 11/03/17 15:10
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	10.1		1.10	0.342	mg/Kg	10		11/12/17 17:36
Lead	531		1.10	0.342	mg/Kg	50		11/12/17 20:49
Mercury	0.750		0.0441	0.0132	mg/Kg	10		11/12/17 17:36

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:36
Container ID: 1179607006-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.016 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 20:49
Container ID: 1179607006-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.016 g
Prep Extract Vol: 50 mL

Results of **A0C02-005 Sod**

Client Sample ID: **A0C02-005 Sod**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607007
Lab Project ID: 1179607

Collection Date: 11/04/17 09:28
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):92.9
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	26.8	U	53.5	16.1	ug/Kg	1		11/15/17 01:25
Aroclor-1221	107	U	214	66.4	ug/Kg	1		11/15/17 01:25
Aroclor-1232	26.8	U	53.5	16.1	ug/Kg	1		11/15/17 01:25
Aroclor-1242	26.8	U	53.5	16.1	ug/Kg	1		11/15/17 01:25
Aroclor-1248	26.8	U	53.5	16.1	ug/Kg	1		11/15/17 01:25
Aroclor-1254	26.8	U	53.5	16.1	ug/Kg	1		11/15/17 01:25
Aroclor-1260	26.8	U	53.5	16.1	ug/Kg	1		11/15/17 01:25
Surrogates								
Decachlorobiphenyl (surr)	85		60-125		%	1		11/15/17 01:25

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 01:25
Container ID: 1179607007-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.612 g
Prep Extract Vol: 5 mL

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Results of **A0C02-005 Base**

Client Sample ID: **A0C02-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607008
Lab Project ID: 1179607

Collection Date: 11/04/17 16:33
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.4
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	5.77		1.03	0.321	mg/Kg	10		11/12/17 17:41
Barium	43.5		0.310	0.0972	mg/Kg	10		11/12/17 17:41
Cadmium	0.103	U	0.207	0.0641	mg/Kg	10		11/12/17 17:41
Chromium	31.1		0.414	0.134	mg/Kg	10		11/12/17 17:41
Lead	7.05		0.207	0.0641	mg/Kg	10		11/12/17 17:41
Mercury	0.135		0.0414	0.0124	mg/Kg	10		11/12/17 17:41
Nickel	28.2		0.207	0.0641	mg/Kg	10		11/12/17 17:41
Selenium	0.515	U	1.03	0.321	mg/Kg	10		11/12/17 17:41
Silver	0.103	U	0.207	0.0641	mg/Kg	10		11/12/17 17:41
Vanadium	50.9		3.10	0.972	mg/Kg	10		11/12/17 17:41

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:41
Container ID: 1179607008-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.013 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-005 Base**

Client Sample ID: **A0C02-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607008
Lab Project ID: 1179607

Collection Date: 11/04/17 16:33
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.4
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
2-Methylnaphthalene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Acenaphthene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Acenaphthylene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Anthracene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Benzo(a)Anthracene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Benzo[a]pyrene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Benzo[b]Fluoranthene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Benzo[g,h,i]perylene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Benzo[k]fluoranthene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Chrysene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Dibenzo[a,h]anthracene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Fluoranthene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Fluorene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Indeno[1,2,3-c,d] pyrene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Naphthalene	10.4	U	20.8	6.24	ug/Kg	1		11/20/17 22:09
Phenanthrene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Pyrene	13.0	U	26.0	7.80	ug/Kg	1		11/20/17 22:09
Surrogates								
2-Methylnaphthalene-d10 (surr)	72.4		50-150		%	1		11/20/17 22:09
Fluoranthene-d10 (surr)	77.1		50-150		%	1		11/20/17 22:09

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 22:09
Container ID: 1179607008-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.678 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-005 Base**

Client Sample ID: **A0C02-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607008
Lab Project ID: 1179607

Collection Date: 11/04/17 16:33
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.4
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	10.4	U	20.9	6.47	mg/Kg	1		11/08/17 19:58
Surrogates								
5a Androstane (surr)	85.5		50-150		%	1		11/08/17 19:58

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 19:58
Container ID: 1179607008-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.12 g
Prep Extract Vol: 1 mL

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Results of **A0C02-005 Base**

Client Sample ID: **A0C02-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607008
Lab Project ID: 1179607

Collection Date: 11/04/17 16:33
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.4
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	0.610	U	1.22	0.378	ug/Kg	1		11/11/17 23:31
1,1,2-Trichloroethane	0.244	U	0.488	0.152	ug/Kg	1		11/11/17 23:31
1,2,3-Trichloropropane	0.305	U	0.610	0.189	ug/Kg	1		11/11/17 23:31
1,2-Dibromoethane	0.153	U	0.305	0.0915	ug/Kg	1		11/11/17 23:31
1,2-Dichloroethane	0.610	U	1.22	0.378	ug/Kg	1		11/11/17 23:31
Bromodichloromethane	0.610	U	1.22	0.378	ug/Kg	1		11/11/17 23:31
Bromomethane	6.10	U	12.2	3.78	ug/Kg	1		11/11/17 23:31
Chloroform	1.68		1.22	0.378	ug/Kg	1		11/11/17 23:31
Dibromochloromethane	0.610	U	1.22	0.378	ug/Kg	1		11/11/17 23:31
Trichloroethene	1.52	U	3.05	0.915	ug/Kg	1		11/11/17 23:31
Vinyl chloride	0.244	U	0.488	0.152	ug/Kg	1		11/11/17 23:31
Surrogates								
1,2-Dichloroethane-D4 (surr)	95.9		71-136		%	1		11/11/17 23:31
4-Bromofluorobenzene (surr)	98		55-151		%	1		11/11/17 23:31
Toluene-d8 (surr)	98.5		85-116		%	1		11/11/17 23:31

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/11/17 23:31
Container ID: 1179607008-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/04/17 16:33
Prep Initial Wt./Vol.: 101.898 g
Prep Extract Vol: 29.6526 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-005 West Wall 2**

Client Sample ID: **A0C02-005 West Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607009
Lab Project ID: 1179607

Collection Date: 11/04/17 16:37
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	21.1	J	21.9	6.79	mg/Kg	1		11/08/17 20:09
Surrogates								
5a Androstane (surr)	87.3		50-150		%	1		11/08/17 20:09

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 20:09
Container ID: 1179607009-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.246 g
Prep Extract Vol: 1 mL

Results of **A0C02-005 East Wall 2**

Client Sample ID: **A0C02-005 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607010
Lab Project ID: 1179607

Collection Date: 11/04/17 16:20
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):82.7
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	1230		477	148	mg/Kg	4		11/08/17 21:40
Surrogates								
5a Androstane (surr)	0	*	50-150		%	4		11/08/17 21:40

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 21:40
Container ID: 1179607010-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.427 g
Prep Extract Vol: 5 mL

Results of **A0C02-005 North Wall 2**

Client Sample ID: **A0C02-005 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607011
Lab Project ID: 1179607

Collection Date: 11/04/17 16:42
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):92.4
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	17.8	J	21.6	6.70	mg/Kg	1		11/08/17 20:19
Surrogates								
5a Androstane (surr)	87.7		50-150		%	1		11/08/17 20:19

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 20:19
Container ID: 1179607011-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.016 g
Prep Extract Vol: 1 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-005 South Wall 1**

Client Sample ID: **A0C02-005 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607012
Lab Project ID: 1179607

Collection Date: 11/04/17 16:27
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	6.99		1.07	0.332	mg/Kg	10		11/12/17 17:45
Barium	156		0.322	0.101	mg/Kg	10		11/12/17 17:45
Cadmium	0.119	J	0.214	0.0665	mg/Kg	10		11/12/17 17:45
Chromium	39.1		0.429	0.139	mg/Kg	10		11/12/17 17:45
Lead	14.1		0.214	0.0665	mg/Kg	10		11/12/17 17:45
Mercury	0.0854		0.0429	0.0129	mg/Kg	10		11/12/17 17:45
Nickel	35.1		0.214	0.0665	mg/Kg	10		11/12/17 17:45
Selenium	0.414	J	1.07	0.332	mg/Kg	10		11/12/17 17:45
Silver	0.107	U	0.214	0.0665	mg/Kg	10		11/12/17 17:45
Vanadium	69.2		3.22	1.01	mg/Kg	10		11/12/17 17:45

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:45
Container ID: 1179607012-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.045 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-005 South Wall 1**

Client Sample ID: **A0C02-005 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607012
Lab Project ID: 1179607

Collection Date: 11/04/17 16:27
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	12.0	J	27.9	8.37	ug/Kg	1		11/20/17 06:39
2-Methylnaphthalene	17.3	J	27.9	8.37	ug/Kg	1		11/20/17 06:39
Acenaphthene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Acenaphthylene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Anthracene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Benzo(a)Anthracene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Benzo[a]pyrene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Benzo[b]Fluoranthene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Benzo[g,h,i]perylene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Benzo[k]fluoranthene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Chrysene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Dibenzo[a,h]anthracene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Fluoranthene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Fluorene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Indeno[1,2,3-c,d] pyrene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Naphthalene	9.06	J	22.3	6.70	ug/Kg	1		11/20/17 06:39
Phenanthrene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Pyrene	13.9	U	27.9	8.37	ug/Kg	1		11/20/17 06:39
Surrogates								
2-Methylnaphthalene-d10 (surr)	79.5		50-150		%	1		11/20/17 06:39
Fluoranthene-d10 (surr)	79.4		50-150		%	1		11/20/17 06:39

Batch Information

Analytical Batch: XMS10551
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 06:39
Container ID: 1179607012-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.587 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-005 South Wall 1**

Client Sample ID: **A0C02-005 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607012
Lab Project ID: 1179607

Collection Date: 11/04/17 16:27
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	27.0		22.4	6.94	mg/Kg	1		11/08/17 20:29
Surrogates								
5a Androstane (surr)	81.7		50-150		%	1		11/08/17 20:29

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 20:29
Container ID: 1179607012-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.043 g
Prep Extract Vol: 1 mL

Results of **A0C02-005 South Wall 1**

Client Sample ID: **A0C02-005 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607012
Lab Project ID: 1179607

Collection Date: 11/04/17 16:27
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.2
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	0.985	U	1.97	0.610	ug/Kg	1		11/11/17 23:49
1,1,2-Trichloroethane	0.394	U	0.787	0.246	ug/Kg	1		11/11/17 23:49
1,2,3-Trichloropropane	0.491	U	0.983	0.305	ug/Kg	1		11/11/17 23:49
1,2-Dibromoethane	0.246	U	0.492	0.147	ug/Kg	1		11/11/17 23:49
1,2-Dichloroethane	0.985	U	1.97	0.610	ug/Kg	1		11/11/17 23:49
Bromodichloromethane	0.985	U	1.97	0.610	ug/Kg	1		11/11/17 23:49
Bromomethane	9.85	U	19.7	6.10	ug/Kg	1		11/11/17 23:49
Chloroform	2.70		1.97	0.610	ug/Kg	1		11/11/17 23:49
Dibromochloromethane	0.985	U	1.97	0.610	ug/Kg	1		11/11/17 23:49
Trichloroethene	2.46	U	4.92	1.47	ug/Kg	1		11/11/17 23:49
Vinyl chloride	0.394	U	0.787	0.246	ug/Kg	1		11/11/17 23:49
Surrogates								
1,2-Dichloroethane-D4 (surr)	99		71-136		%	1		11/11/17 23:49
4-Bromofluorobenzene (surr)	89.8		55-151		%	1		11/11/17 23:49
Toluene-d8 (surr)	100		85-116		%	1		11/11/17 23:49

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/11/17 23:49
Container ID: 1179607012-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/04/17 16:27
Prep Initial Wt./Vol.: 75.525 g
Prep Extract Vol: 33.1301 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Sod**

Client Sample ID: **A0C02-008 Sod**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607013
Lab Project ID: 1179607

Collection Date: 11/04/17 09:46
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):76.3
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	32.8	U	65.5	19.6	ug/Kg	1		11/15/17 01:39
Aroclor-1221	131	U	262	81.2	ug/Kg	1		11/15/17 01:39
Aroclor-1232	32.8	U	65.5	19.6	ug/Kg	1		11/15/17 01:39
Aroclor-1242	32.8	U	65.5	19.6	ug/Kg	1		11/15/17 01:39
Aroclor-1248	32.8	U	65.5	19.6	ug/Kg	1		11/15/17 01:39
Aroclor-1254	32.8	U	65.5	19.6	ug/Kg	1		11/15/17 01:39
Aroclor-1260	1620		65.5	19.6	ug/Kg	1		11/15/17 01:39
Surrogates								
Decachlorobiphenyl (surr)	89		60-125		%	1		11/15/17 01:39

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 01:39
Container ID: 1179607013-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.517 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 North Wall 2**

Client Sample ID: **A0C02-008 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607014
Lab Project ID: 1179607

Collection Date: 11/04/17 14:15
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.4
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	4710		547	170	mg/Kg	5		11/09/17 17:03
Surrogates								
5a Androstane (surr)	0	*	50-150		%	5		11/09/17 17:03

Batch Information

Analytical Batch: XFC13966
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/09/17 17:03
Container ID: 1179607014-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.337 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 Base NE**

Client Sample ID: **A0C02-008 Base NE**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607015
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	9.97		1.03	0.320	mg/Kg	10		11/12/17 17:50
Barium	96.7		0.310	0.0970	mg/Kg	10		11/12/17 17:50
Cadmium	2.56		0.206	0.0640	mg/Kg	10		11/12/17 17:50
Chromium	40.4		0.413	0.134	mg/Kg	10		11/12/17 17:50
Lead	11.8		0.206	0.0640	mg/Kg	10		11/12/17 17:50
Mercury	0.0972		0.0413	0.0124	mg/Kg	10		11/12/17 17:50
Nickel	36.4		0.206	0.0640	mg/Kg	10		11/12/17 17:50
Selenium	0.354	J	1.03	0.320	mg/Kg	10		11/12/17 17:50
Silver	0.103	U	0.206	0.0640	mg/Kg	10		11/12/17 17:50
Vanadium	70.2		3.10	0.970	mg/Kg	10		11/12/17 17:50

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:50
Container ID: 1179607015-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.093 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Base NE**

Client Sample ID: **A0C02-008 Base NE**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607015
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
2-Methylnaphthalene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Acenaphthene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Acenaphthylene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Anthracene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Benzo(a)Anthracene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Benzo[a]pyrene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Benzo[b]Fluoranthene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Benzo[g,h,i]perylene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Benzo[k]fluoranthene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Chrysene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Dibenzo[a,h]anthracene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Fluoranthene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Fluorene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Indeno[1,2,3-c,d] pyrene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Naphthalene	565	U	1130	338	ug/Kg	50		11/21/17 06:18
Phenanthrene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Pyrene	705	U	1410	423	ug/Kg	50		11/21/17 06:18
Surrogates								
2-Methylnaphthalene-d10 (surr)	87.9		50-150		%	50		11/21/17 06:18
Fluoranthene-d10 (surr)	73.9		50-150		%	50		11/21/17 06:18

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/21/17 06:18
Container ID: 1179607015-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.523 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Base NE**

Client Sample ID: **A0C02-008 Base NE**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607015
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	12100		447	138	mg/Kg	4		11/08/17 21:49
Surrogates								
5a Androstane (surr)	0	*	50-150		%	4		11/08/17 21:49

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 21:49
Container ID: 1179607015-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.312 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Base NE**

Client Sample ID: **A0C02-008 Base NE**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607015
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.6
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	1.08	U	2.16	0.671	ug/Kg	1		11/12/17 00:06
1,1,2-Trichloroethane	0.433	U	0.865	0.270	ug/Kg	1		11/12/17 00:06
1,2,3-Trichloropropane	0.540	U	1.08	0.335	ug/Kg	1		11/12/17 00:06
1,2-Dibromoethane	0.271	U	0.541	0.162	ug/Kg	1		11/12/17 00:06
1,2-Dichloroethane	1.08	U	2.16	0.671	ug/Kg	1		11/12/17 00:06
Bromodichloromethane	1.08	U	2.16	0.671	ug/Kg	1		11/12/17 00:06
Bromomethane	10.8	U	21.6	6.71	ug/Kg	1		11/12/17 00:06
Chloroform	2.97		2.16	0.671	ug/Kg	1		11/12/17 00:06
Dibromochloromethane	1.08	U	2.16	0.671	ug/Kg	1		11/12/17 00:06
Trichloroethene	4.33	J	5.41	1.62	ug/Kg	1		11/12/17 00:06
Vinyl chloride	0.433	U	0.865	0.270	ug/Kg	1		11/12/17 00:06
Surrogates								
1,2-Dichloroethane-D4 (surr)	100		71-136		%	1		11/12/17 00:06
4-Bromofluorobenzene (surr)	87.5		55-151		%	1		11/12/17 00:06
Toluene-d8 (surr)	98.6		85-116		%	1		11/12/17 00:06

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 00:06
Container ID: 1179607015-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/04/17 13:53
Prep Initial Wt./Vol.: 68.38 g
Prep Extract Vol: 32.7746 mL

Results of **A0C02-008 Base NE2**

Client Sample ID: **A0C02-008 Base NE2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607016
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	7.15		1.03	0.318	mg/Kg	10		11/12/17 17:54
Barium	104		0.308	0.0965	mg/Kg	10		11/12/17 17:54
Cadmium	0.590		0.205	0.0637	mg/Kg	10		11/12/17 17:54
Chromium	36.5		0.411	0.133	mg/Kg	10		11/12/17 17:54
Lead	12.2		0.205	0.0637	mg/Kg	10		11/12/17 17:54
Mercury	0.109		0.0411	0.0123	mg/Kg	10		11/12/17 17:54
Nickel	34.7		0.205	0.0637	mg/Kg	10		11/12/17 17:54
Selenium	0.357	J	1.03	0.318	mg/Kg	10		11/12/17 17:54
Silver	0.102	U	0.205	0.0637	mg/Kg	10		11/12/17 17:54
Vanadium	58.8		3.08	0.965	mg/Kg	10		11/12/17 17:54

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:54
Container ID: 1179607016-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.082 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Base NE2**

Client Sample ID: **A0C02-008 Base NE2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607016
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.2	U	54.4	16.3	ug/Kg	1		11/15/17 17:57
Aroclor-1221	109	U	218	67.4	ug/Kg	1		11/15/17 17:57
Aroclor-1232	27.2	U	54.4	16.3	ug/Kg	1		11/15/17 17:57
Aroclor-1242	27.2	U	54.4	16.3	ug/Kg	1		11/15/17 17:57
Aroclor-1248	27.2	U	54.4	16.3	ug/Kg	1		11/15/17 17:57
Aroclor-1254	27.2	U	54.4	16.3	ug/Kg	1		11/15/17 17:57
Aroclor-1260	638		54.4	16.3	ug/Kg	1		11/15/17 17:57
Surrogates								
Decachlorobiphenyl (surr)	68		60-125		%	1		11/15/17 17:57

Batch Information

Analytical Batch: XGC9955
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 17:57
Container ID: 1179607016-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.98 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 Base NE2**

Client Sample ID: **A0C02-008 Base NE2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607016
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
2-Methylnaphthalene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Acenaphthene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Acenaphthylene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Anthracene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Benzo(a)Anthracene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Benzo[a]pyrene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Benzo[b]Fluoranthene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Benzo[g,h,i]perylene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Benzo[k]fluoranthene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Chrysene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Dibenzo[a,h]anthracene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Fluoranthene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Fluorene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Indeno[1,2,3-c,d] pyrene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Naphthalene	555	U	1110	332	ug/Kg	50		11/21/17 06:39
Phenanthrene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Pyrene	690	U	1380	415	ug/Kg	50		11/21/17 06:39
Surrogates								
2-Methylnaphthalene-d10 (surr)	87		50-150		%	50		11/21/17 06:39
Fluoranthene-d10 (surr)	85.7		50-150		%	50		11/21/17 06:39

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/21/17 06:39
Container ID: 1179607016-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.588 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Base NE2**

Client Sample ID: **A0C02-008 Base NE2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607016
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	15900		2220	688	mg/Kg	20		11/09/17 16:51
Surrogates								
5a Androstane (surr)	0	*	50-150		%	20		11/09/17 16:51

Batch Information

Analytical Batch: XFC13966
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/09/17 16:51
Container ID: 1179607016-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.051 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 Base NE2**

Client Sample ID: **A0C02-008 Base NE2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607016
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):90.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	0.795	U	1.59	0.494	ug/Kg	1		11/12/17 00:24
1,1,2-Trichloroethane	0.319	U	0.638	0.199	ug/Kg	1		11/12/17 00:24
1,2,3-Trichloropropane	0.399	U	0.797	0.247	ug/Kg	1		11/12/17 00:24
1,2-Dibromoethane	0.200	U	0.399	0.120	ug/Kg	1		11/12/17 00:24
1,2-Dichloroethane	0.795	U	1.59	0.494	ug/Kg	1		11/12/17 00:24
Bromodichloromethane	0.795	U	1.59	0.494	ug/Kg	1		11/12/17 00:24
Bromomethane	7.95	U	15.9	4.94	ug/Kg	1		11/12/17 00:24
Chloroform	2.39		1.59	0.494	ug/Kg	1		11/12/17 00:24
Dibromochloromethane	0.795	U	1.59	0.494	ug/Kg	1		11/12/17 00:24
Trichloroethene	2.99	J	3.99	1.20	ug/Kg	1		11/12/17 00:24
Vinyl chloride	0.319	U	0.638	0.199	ug/Kg	1		11/12/17 00:24
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.4		71-136		%	1		11/12/17 00:24
4-Bromofluorobenzene (surr)	90.3		55-151		%	1		11/12/17 00:24
Toluene-d8 (surr)	99.3		85-116		%	1		11/12/17 00:24

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 00:24
Container ID: 1179607016-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/04/17 13:53
Prep Initial Wt./Vol.: 96.548 g
Prep Extract Vol: 34.6496 mL

Results of **A0C02-008 South Wall 1**

Client Sample ID: **A0C02-008 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607017
Lab Project ID: 1179607

Collection Date: 11/04/17 14:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.9
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	15900		1120	349	mg/Kg	10		11/09/17 17:13
Surrogates								
5a Androstane (surr)	0	*	50-150		%	10		11/09/17 17:13

Batch Information

Analytical Batch: XFC13966
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/09/17 17:13
Container ID: 1179607017-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.35 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 West Wall 2**

Client Sample ID: **A0C02-008 West Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607018
Lab Project ID: 1179607

Collection Date: 11/04/17 14:10
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):89.4
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	173		22.2	6.88	mg/Kg	1		11/08/17 20:40
Surrogates								
5a Androstane (surr)	92.8		50-150		%	1		11/08/17 20:40

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/08/17 20:40
Container ID: 1179607018-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.247 g
Prep Extract Vol: 1 mL

Results of **A0C02-008 East Wall 2**

Client Sample ID: **A0C02-008 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607019
Lab Project ID: 1179607

Collection Date: 11/04/17 14:05
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	6.00		1.12	0.346	mg/Kg	10		11/12/17 17:59
Barium	120		0.335	0.105	mg/Kg	10		11/12/17 17:59
Cadmium	4.65		0.223	0.0691	mg/Kg	10		11/12/17 17:59
Chromium	38.8		0.446	0.145	mg/Kg	10		11/12/17 17:59
Lead	9.75		0.223	0.0691	mg/Kg	10		11/12/17 17:59
Mercury	0.148		0.0446	0.0134	mg/Kg	10		11/12/17 17:59
Nickel	35.9		0.223	0.0691	mg/Kg	10		11/12/17 17:59
Selenium	0.560	U	1.12	0.346	mg/Kg	10		11/12/17 17:59
Silver	0.112	U	0.223	0.0691	mg/Kg	10		11/12/17 17:59
Vanadium	68.5		3.35	1.05	mg/Kg	10		11/12/17 17:59

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 17:59
Container ID: 1179607019-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.054 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 East Wall 2**

Client Sample ID: **A0C02-008 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607019
Lab Project ID: 1179607

Collection Date: 11/04/17 14:05
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
2-Methylnaphthalene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Acenaphthene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Acenaphthylene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Anthracene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Benzo(a)Anthracene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Benzo[a]pyrene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Benzo[b]Fluoranthene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Benzo[g,h,i]perylene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Benzo[k]fluoranthene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Chrysene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Dibenzo[a,h]anthracene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Fluoranthene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Fluorene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Indeno[1,2,3-c,d] pyrene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Naphthalene	585	U	1170	351	ug/Kg	50		11/21/17 06:59
Phenanthrene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Pyrene	730	U	1460	439	ug/Kg	50		11/21/17 06:59
Surrogates								
2-Methylnaphthalene-d10 (surr)	111		50-150		%	50		11/21/17 06:59
Fluoranthene-d10 (surr)	109		50-150		%	50		11/21/17 06:59

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/21/17 06:59
Container ID: 1179607019-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.603 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C02-008 East Wall 2**

Client Sample ID: **A0C02-008 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607019
Lab Project ID: 1179607

Collection Date: 11/04/17 14:05
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
Location:

Results by **Semivolatile Organic Fuels**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	13200		1170	364	mg/Kg	10		11/09/17 17:22
Surrogates								
5a Androstane (surr)	0	*	50-150		%	10		11/09/17 17:22

Batch Information

Analytical Batch: XFC13966
Analytical Method: AK102
Analyst: CMS
Analytical Date/Time: 11/09/17 17:22
Container ID: 1179607019-A

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/08/17 09:39
Prep Initial Wt./Vol.: 30.032 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 East Wall 2**

Client Sample ID: **A0C02-008 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607019
Lab Project ID: 1179607

Collection Date: 11/04/17 14:05
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):85.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	1.03 U		2.06	0.640	ug/Kg	1		11/12/17 00:42
1,1,2-Trichloroethane	0.413 U		0.826	0.258	ug/Kg	1		11/12/17 00:42
1,2,3-Trichloropropane	0.515 U		1.03	0.320	ug/Kg	1		11/12/17 00:42
1,2-Dibromoethane	0.258 U		0.516	0.155	ug/Kg	1		11/12/17 00:42
1,2-Dichloroethane	1.03 U		2.06	0.640	ug/Kg	1		11/12/17 00:42
Bromodichloromethane	1.03 U		2.06	0.640	ug/Kg	1		11/12/17 00:42
Bromomethane	10.3 U		20.6	6.40	ug/Kg	1		11/12/17 00:42
Chloroform	2.84		2.06	0.640	ug/Kg	1		11/12/17 00:42
Dibromochloromethane	1.03 U		2.06	0.640	ug/Kg	1		11/12/17 00:42
Trichloroethene	2.58 U		5.16	1.55	ug/Kg	1		11/12/17 00:42
Vinyl chloride	0.413 U		0.826	0.258	ug/Kg	1		11/12/17 00:42
Surrogates								
1,2-Dichloroethane-D4 (surr)	100		71-136		%	1		11/12/17 00:42
4-Bromofluorobenzene (surr)	98.8		55-151		%	1		11/12/17 00:42
Toluene-d8 (surr)	97.9		85-116		%	1		11/12/17 00:42

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 00:42
Container ID: 1179607019-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/04/17 14:05
Prep Initial Wt./Vol.: 86.319 g
Prep Extract Vol: 37.8892 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 Sod**

Client Sample ID: **A0C06-001 Sod**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607020
Lab Project ID: 1179607

Collection Date: 11/06/17 09:35
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):84.0
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	29.6	U	59.2	17.8	ug/Kg	1		11/15/17 02:38
Aroclor-1221	119	U	237	73.4	ug/Kg	1		11/15/17 02:38
Aroclor-1232	29.6	U	59.2	17.8	ug/Kg	1		11/15/17 02:38
Aroclor-1242	29.6	U	59.2	17.8	ug/Kg	1		11/15/17 02:38
Aroclor-1248	29.6	U	59.2	17.8	ug/Kg	1		11/15/17 02:38
Aroclor-1254	471		59.2	17.8	ug/Kg	1		11/15/17 02:38
Aroclor-1260	29.6	U	59.2	17.8	ug/Kg	1		11/15/17 02:38
Surrogates								
Decachlorobiphenyl (surr)	92		60-125		%	1		11/15/17 02:38

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 02:38
Container ID: 1179607020-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.602 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 Base**

Client Sample ID: **A0C06-001 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607021
Lab Project ID: 1179607

Collection Date: 11/06/17 11:44
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	11.7		1.09	0.338	mg/Kg	10		11/12/17 18:03
Barium	119		0.327	0.102	mg/Kg	10		11/12/17 18:03
Cadmium	0.105	J	0.218	0.0676	mg/Kg	10		11/12/17 18:03
Chromium	53.9		0.436	0.142	mg/Kg	10		11/12/17 18:03
Lead	8.61		0.218	0.0676	mg/Kg	10		11/12/17 18:03
Mercury	0.113		0.0436	0.0131	mg/Kg	10		11/12/17 18:03
Nickel	34.9		0.218	0.0676	mg/Kg	10		11/12/17 18:03
Selenium	0.545	U	1.09	0.338	mg/Kg	10		11/12/17 18:03
Silver	0.109	U	0.218	0.0676	mg/Kg	10		11/12/17 18:03
Vanadium	72.9		3.27	1.02	mg/Kg	10		11/12/17 18:03

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:03
Container ID: 1179607021-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.051 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 Base**

Client Sample ID: **A0C06-001 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607021
Lab Project ID: 1179607

Collection Date: 11/06/17 11:44
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
2-Methylnaphthalene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Acenaphthene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Acenaphthylene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Anthracene	10.9	J	28.1	8.42	ug/Kg	1		11/20/17 22:30
Benzo(a)Anthracene	16.1	J	28.1	8.42	ug/Kg	1		11/20/17 22:30
Benzo[a]pyrene	17.1	J	28.1	8.42	ug/Kg	1		11/20/17 22:30
Benzo[b]Fluoranthene	19.2	J	28.1	8.42	ug/Kg	1		11/20/17 22:30
Benzo[g,h,i]perylene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Benzo[k]fluoranthene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Chrysene	19.4	J	28.1	8.42	ug/Kg	1		11/20/17 22:30
Dibenzo[a,h]anthracene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Fluoranthene	28.5		28.1	8.42	ug/Kg	1		11/20/17 22:30
Fluorene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Indeno[1,2,3-c,d] pyrene	14.1	U	28.1	8.42	ug/Kg	1		11/20/17 22:30
Naphthalene	11.3	U	22.5	6.74	ug/Kg	1		11/20/17 22:30
Phenanthrene	34.0		28.1	8.42	ug/Kg	1		11/20/17 22:30
Pyrene	30.8		28.1	8.42	ug/Kg	1		11/20/17 22:30
Surrogates								
2-Methylnaphthalene-d10 (surr)	78		50-150		%	1		11/20/17 22:30
Fluoranthene-d10 (surr)	79.4		50-150		%	1		11/20/17 22:30

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 22:30
Container ID: 1179607021-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.956 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 Base**

Client Sample ID: **A0C06-001 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607021
Lab Project ID: 1179607

Collection Date: 11/06/17 11:44
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Pentachlorophenol	1.14	U	2.27	0.703	mg/Kg	1		11/14/17 21:08
Surrogates								
2,4,6-Tribromophenol (surr)	68.8		35-125		%	1		11/14/17 21:08
2-Fluorobiphenyl (surr)	70.9		44-115		%	1		11/14/17 21:08
2-Fluorophenol (surr)	51.1		35-115		%	1		11/14/17 21:08
Nitrobenzene-d5 (surr)	55.1		37-122		%	1		11/14/17 21:08
Phenol-d6 (surr)	58.1		33-122		%	1		11/14/17 21:08
Terphenyl-d14 (surr)	91		54-127		%	1		11/14/17 21:08

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 11/14/17 21:08
Container ID: 1179607021-A

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/08/17 14:08
Prep Initial Wt./Vol.: 22.734 g
Prep Extract Vol: 1 mL

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Results of **A0C06-001 Base**

Client Sample ID: **A0C06-001 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607021
Lab Project ID: 1179607

Collection Date: 11/06/17 11:44
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	1.10 U		2.20	0.681	ug/Kg	1		11/12/17 00:59
1,1,2-Trichloroethane	0.439 U		0.878	0.274	ug/Kg	1		11/12/17 00:59
1,2,3-Trichloropropane	0.550 U		1.10	0.340	ug/Kg	1		11/12/17 00:59
1,2-Dibromoethane	0.275 U		0.549	0.165	ug/Kg	1		11/12/17 00:59
1,2-Dichloroethane	1.10 U		2.20	0.681	ug/Kg	1		11/12/17 00:59
Bromodichloromethane	1.10 U		2.20	0.681	ug/Kg	1		11/12/17 00:59
Bromomethane	11.0 U		22.0	6.81	ug/Kg	1		11/12/17 00:59
Chloroform	1.10 U		2.20	0.681	ug/Kg	1		11/12/17 00:59
Dibromochloromethane	1.10 U		2.20	0.681	ug/Kg	1		11/12/17 00:59
Trichloroethene	2.75 U		5.49	1.65	ug/Kg	1		11/12/17 00:59
Vinyl chloride	0.439 U		0.878	0.274	ug/Kg	1		11/12/17 00:59
Surrogates								
1,2-Dichloroethane-D4 (surr)	96.5		71-136		%	1		11/12/17 00:59
4-Bromofluorobenzene (surr)	106		55-151		%	1		11/12/17 00:59
Toluene-d8 (surr)	98.3		85-116		%	1		11/12/17 00:59

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 00:59
Container ID: 1179607021-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/06/17 11:44
Prep Initial Wt./Vol.: 71.021 g
Prep Extract Vol: 34.0314 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 North Wall**

Client Sample ID: **A0C06-001 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607022
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	9.88		1.06	0.328	mg/Kg	10		11/12/17 18:17
Barium	144		0.318	0.0996	mg/Kg	10		11/12/17 18:17
Cadmium	0.0987	J	0.212	0.0657	mg/Kg	10		11/12/17 18:17
Chromium	49.6		0.424	0.138	mg/Kg	10		11/12/17 18:17
Lead	13.9		0.212	0.0657	mg/Kg	10		11/12/17 18:17
Mercury	0.118		0.0424	0.0127	mg/Kg	10		11/12/17 18:17
Nickel	34.1		0.212	0.0657	mg/Kg	10		11/12/17 18:17
Selenium	0.530	U	1.06	0.328	mg/Kg	10		11/12/17 18:17
Silver	0.106	U	0.212	0.0657	mg/Kg	10		11/12/17 18:17
Vanadium	76.9		3.18	0.996	mg/Kg	10		11/12/17 18:17

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:17
Container ID: 1179607022-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.084 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 North Wall**

Client Sample ID: **A0C06-001 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607022
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	16.3	J	28.2	8.47	ug/Kg	1		11/20/17 22:50
2-Methylnaphthalene	19.6	J	28.2	8.47	ug/Kg	1		11/20/17 22:50
Acenaphthene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Acenaphthylene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Anthracene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Benzo(a)Anthracene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Benzo[a]pyrene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Benzo[b]Fluoranthene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Benzo[g,h,i]perylene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Benzo[k]fluoranthene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Chrysene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Dibenzo[a,h]anthracene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Fluoranthene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Fluorene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Indeno[1,2,3-c,d] pyrene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Naphthalene	11.9	J	22.6	6.78	ug/Kg	1		11/20/17 22:50
Phenanthrene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Pyrene	14.1	U	28.2	8.47	ug/Kg	1		11/20/17 22:50
Surrogates								
2-Methylnaphthalene-d10 (surr)	80.9		50-150		%	1		11/20/17 22:50
Fluoranthene-d10 (surr)	80.1		50-150		%	1		11/20/17 22:50

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 22:50
Container ID: 1179607022-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.871 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 North Wall**

Client Sample ID: **A0C06-001 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607022
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Pentachlorophenol	1.14	U	2.27	0.704	mg/Kg	1		11/14/17 21:26
Surrogates								
2,4,6-Tribromophenol (surr)	79.5		35-125		%	1		11/14/17 21:26
2-Fluorobiphenyl (surr)	71.2		44-115		%	1		11/14/17 21:26
2-Fluorophenol (surr)	57.8		35-115		%	1		11/14/17 21:26
Nitrobenzene-d5 (surr)	62		37-122		%	1		11/14/17 21:26
Phenol-d6 (surr)	65.8		33-122		%	1		11/14/17 21:26
Terphenyl-d14 (surr)	95.7		54-127		%	1		11/14/17 21:26

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 11/14/17 21:26
Container ID: 1179607022-A

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/08/17 14:08
Prep Initial Wt./Vol.: 22.751 g
Prep Extract Vol: 1 mL

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Results of **A0C06-001 North Wall**

Client Sample ID: **A0C06-001 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607022
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.1
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	1.18 U		2.35	0.729	ug/Kg	1		11/12/17 01:17
1,1,2-Trichloroethane	0.470 U		0.941	0.294	ug/Kg	1		11/12/17 01:17
1,2,3-Trichloropropane	0.590 U		1.18	0.365	ug/Kg	1		11/12/17 01:17
1,2-Dibromoethane	0.294 U		0.588	0.176	ug/Kg	1		11/12/17 01:17
1,2-Dichloroethane	1.18 U		2.35	0.729	ug/Kg	1		11/12/17 01:17
Bromodichloromethane	1.18 U		2.35	0.729	ug/Kg	1		11/12/17 01:17
Bromomethane	11.8 U		23.5	7.29	ug/Kg	1		11/12/17 01:17
Chloroform	3.23		2.35	0.729	ug/Kg	1		11/12/17 01:17
Dibromochloromethane	1.18 U		2.35	0.729	ug/Kg	1		11/12/17 01:17
Trichloroethene	2.94 U		5.88	1.76	ug/Kg	1		11/12/17 01:17
Vinyl chloride	0.470 U		0.941	0.294	ug/Kg	1		11/12/17 01:17
Surrogates								
1,2-Dichloroethane-D4 (surr)	97.4		71-136		%	1		11/12/17 01:17
4-Bromofluorobenzene (surr)	99.6		55-151		%	1		11/12/17 01:17
Toluene-d8 (surr)	97.5		85-116		%	1		11/12/17 01:17

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 01:17
Container ID: 1179607022-B

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/06/17 12:00
Prep Initial Wt./Vol.: 65.261 g
Prep Extract Vol: 33.424 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 North Wall 2**

Client Sample ID: **A0C06-001 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607023
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.0
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	11.0		1.11	0.345	mg/Kg	10		11/12/17 18:22
Barium	164		0.334	0.105	mg/Kg	10		11/12/17 18:22
Cadmium	0.0785	J	0.223	0.0690	mg/Kg	10		11/12/17 18:22
Chromium	56.4		0.445	0.145	mg/Kg	10		11/12/17 18:22
Lead	15.7		0.223	0.0690	mg/Kg	10		11/12/17 18:22
Mercury	0.118		0.0445	0.0134	mg/Kg	10		11/12/17 18:22
Nickel	34.2		0.223	0.0690	mg/Kg	10		11/12/17 18:22
Selenium	0.555	U	1.11	0.345	mg/Kg	10		11/12/17 18:22
Silver	0.112	U	0.223	0.0690	mg/Kg	10		11/12/17 18:22
Vanadium	86.6		3.34	1.05	mg/Kg	10		11/12/17 18:22

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:22
Container ID: 1179607023-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.021 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 North Wall 2**

Client Sample ID: **A0C06-001 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607023
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.0
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	12.9	J	27.9	8.38	ug/Kg	1		11/20/17 23:10
2-Methylnaphthalene	15.1	J	27.9	8.38	ug/Kg	1		11/20/17 23:10
Acenaphthene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Acenaphthylene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Anthracene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Benzo(a)Anthracene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Benzo[a]pyrene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Benzo[b]Fluoranthene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Benzo[g,h,i]perylene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Benzo[k]fluoranthene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Chrysene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Dibenzo[a,h]anthracene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Fluoranthene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Fluorene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Indeno[1,2,3-c,d] pyrene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Naphthalene	9.85	J	22.3	6.70	ug/Kg	1		11/20/17 23:10
Phenanthrene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Pyrene	13.9	U	27.9	8.38	ug/Kg	1		11/20/17 23:10
Surrogates								
2-Methylnaphthalene-d10 (surr)	83.9		50-150		%	1		11/20/17 23:10
Fluoranthene-d10 (surr)	84		50-150		%	1		11/20/17 23:10

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 23:10
Container ID: 1179607023-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.889 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 North Wall 2**

Client Sample ID: **A0C06-001 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607023
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.0
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Pentachlorophenol	1.12	U	2.23	0.692	mg/Kg	1		11/14/17 21:44
Surrogates								
2,4,6-Tribromophenol (surr)	81.5		35-125		%	1		11/14/17 21:44
2-Fluorobiphenyl (surr)	68.4		44-115		%	1		11/14/17 21:44
2-Fluorophenol (surr)	48.2		35-115		%	1		11/14/17 21:44
Nitrobenzene-d5 (surr)	53.5		37-122		%	1		11/14/17 21:44
Phenol-d6 (surr)	56.6		33-122		%	1		11/14/17 21:44
Terphenyl-d14 (surr)	87.2		54-127		%	1		11/14/17 21:44

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 11/14/17 21:44
Container ID: 1179607023-A

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/08/17 14:08
Prep Initial Wt./Vol.: 22.899 g
Prep Extract Vol: 1 mL

Results of **A0C06-001 North Wall 2**

Client Sample ID: **A0C06-001 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607023
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):88.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	1.34 U		2.67	0.829	ug/Kg	1		11/12/17 01:35
1,1,2-Trichloroethane	0.535 U		1.07	0.334	ug/Kg	1		11/12/17 01:35
1,2,3-Trichloropropane	0.670 U		1.34	0.415	ug/Kg	1		11/12/17 01:35
1,2-Dibromoethane	0.335 U		0.669	0.201	ug/Kg	1		11/12/17 01:35
1,2-Dichloroethane	1.34 U		2.67	0.829	ug/Kg	1		11/12/17 01:35
Bromodichloromethane	1.34 U		2.67	0.829	ug/Kg	1		11/12/17 01:35
Bromomethane	13.4 U		26.7	8.29	ug/Kg	1		11/12/17 01:35
Chloroform	3.68		2.67	0.829	ug/Kg	1		11/12/17 01:35
Dibromochloromethane	1.34 U		2.67	0.829	ug/Kg	1		11/12/17 01:35
Trichloroethene	3.35 U		6.69	2.01	ug/Kg	1		11/12/17 01:35
Vinyl chloride	0.535 U		1.07	0.334	ug/Kg	1		11/12/17 01:35
Surrogates								
1,2-Dichloroethane-D4 (surr)	97.1		71-136		%	1		11/12/17 01:35
4-Bromofluorobenzene (surr)	98.4		55-151		%	1		11/12/17 01:35
Toluene-d8 (surr)	98		85-116		%	1		11/12/17 01:35

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 01:35
Container ID: 1179607023-C

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/06/17 12:00
Prep Initial Wt./Vol.: 53.4 g
Prep Extract Vol: 31.4181 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 West Wall**

Client Sample ID: **A0C06-001 West Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607024
Lab Project ID: 1179607

Collection Date: 11/06/17 12:16
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):78.6
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	58.1		0.254	0.0786	mg/Kg	10		11/12/17 18:26
Mercury	0.557		0.0507	0.0152	mg/Kg	10		11/12/17 18:26

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:26
Container ID: 1179607024-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.004 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 West Wall**

Client Sample ID: **A0C06-001 West Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607024
Lab Project ID: 1179607

Collection Date: 11/06/17 12:16
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):78.6
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Pentachlorophenol	1.26	U	2.53	0.784	mg/Kg	1		11/14/17 22:01
Surrogates								
2,4,6-Tribromophenol (surr)	56.1		35-125		%	1		11/14/17 22:01
2-Fluorobiphenyl (surr)	77.4		44-115		%	1		11/14/17 22:01
2-Fluorophenol (surr)	46		35-115		%	1		11/14/17 22:01
Nitrobenzene-d5 (surr)	64.9		37-122		%	1		11/14/17 22:01
Phenol-d6 (surr)	53.4		33-122		%	1		11/14/17 22:01
Terphenyl-d14 (surr)	98.1		54-127		%	1		11/14/17 22:01

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 11/14/17 22:01
Container ID: 1179607024-A

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/08/17 14:08
Prep Initial Wt./Vol.: 22.651 g
Prep Extract Vol: 1 mL

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Results of **A0C06-001 South Wall**

Client Sample ID: **A0C06-001 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607025
Lab Project ID: 1179607

Collection Date: 11/06/17 12:09
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.2
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	18.7		0.219	0.0678	mg/Kg	10		11/12/17 18:31
Mercury	0.0887		0.0438	0.0131	mg/Kg	10		11/12/17 18:31

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:31
Container ID: 1179607025-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.048 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 South Wall**

Client Sample ID: **A0C06-001 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607025
Lab Project ID: 1179607

Collection Date: 11/06/17 12:09
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.2
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Pentachlorophenol	1.13	U	2.25	0.696	mg/Kg	1		11/14/17 22:19
Surrogates								
2,4,6-Tribromophenol (surr)	76.7		35-125		%	1		11/14/17 22:19
2-Fluorobiphenyl (surr)	87.1		44-115		%	1		11/14/17 22:19
2-Fluorophenol (surr)	63.4		35-115		%	1		11/14/17 22:19
Nitrobenzene-d5 (surr)	69.6		37-122		%	1		11/14/17 22:19
Phenol-d6 (surr)	69.3		33-122		%	1		11/14/17 22:19
Terphenyl-d14 (surr)	111		54-127		%	1		11/14/17 22:19

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 11/14/17 22:19
Container ID: 1179607025-A

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/08/17 14:08
Prep Initial Wt./Vol.: 22.967 g
Prep Extract Vol: 1 mL

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Results of **A0C06-001 East Wall**

Client Sample ID: **A0C06-001 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607026
Lab Project ID: 1179607

Collection Date: 11/06/17 12:13
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.6
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	20.8		0.215	0.0666	mg/Kg	10		11/12/17 18:35
Mercury	0.161		0.0430	0.0129	mg/Kg	10		11/12/17 18:35

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:35
Container ID: 1179607026-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.063 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 East Wall**

Client Sample ID: **A0C06-001 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607026
Lab Project ID: 1179607

Collection Date: 11/06/17 12:13
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):87.6
Location:

Results by **Semivolatile Organics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Pentachlorophenol	1.14	U	2.28	0.706	mg/Kg	1		11/14/17 22:36
Surrogates								
2,4,6-Tribromophenol (surr)	57		35-125		%	1		11/14/17 22:36
2-Fluorobiphenyl (surr)	74.5		44-115		%	1		11/14/17 22:36
2-Fluorophenol (surr)	44.4		35-115		%	1		11/14/17 22:36
Nitrobenzene-d5 (surr)	53.6		37-122		%	1		11/14/17 22:36
Phenol-d6 (surr)	51		33-122		%	1		11/14/17 22:36
Terphenyl-d14 (surr)	81.3		54-127		%	1		11/14/17 22:36

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Analyst: DSH
Analytical Date/Time: 11/14/17 22:36
Container ID: 1179607026-A

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/08/17 14:08
Prep Initial Wt./Vol.: 22.563 g
Prep Extract Vol: 1 mL

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Results of **A0C07-002 Base**

Client Sample ID: **A0C07-002 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607027
Lab Project ID: 1179607

Collection Date: 11/06/17 15:45
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):94.0
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	6.51		1.03	0.318	mg/Kg	10		11/12/17 18:40
Barium	193		0.308	0.0964	mg/Kg	10		11/12/17 18:40
Cadmium	0.129	J	0.205	0.0636	mg/Kg	10		11/12/17 18:40
Chromium	38.2		0.410	0.133	mg/Kg	10		11/12/17 18:40
Lead	5.57		0.205	0.0636	mg/Kg	10		11/12/17 18:40
Mercury	0.169		0.0410	0.0123	mg/Kg	10		11/12/17 18:40
Nickel	38.2		0.205	0.0636	mg/Kg	10		11/12/17 18:40
Selenium	0.359	J	1.03	0.318	mg/Kg	10		11/12/17 18:40
Silver	0.102	U	0.205	0.0636	mg/Kg	10		11/12/17 18:40
Vanadium	63.3		3.08	0.964	mg/Kg	10		11/12/17 18:40

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:40
Container ID: 1179607027-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.038 g
Prep Extract Vol: 50 mL

Results of **A0C07-002 Base**

Client Sample ID: **A0C07-002 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607027
Lab Project ID: 1179607

Collection Date: 11/06/17 15:45
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):94.0
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	246		26.4	7.91	ug/Kg	1		11/20/17 23:31
2-Methylnaphthalene	417		26.4	7.91	ug/Kg	1		11/20/17 23:31
Acenaphthene	91.6		26.4	7.91	ug/Kg	1		11/20/17 23:31
Acenaphthylene	30.9		26.4	7.91	ug/Kg	1		11/20/17 23:31
Anthracene	129		26.4	7.91	ug/Kg	1		11/20/17 23:31
Benzo(a)Anthracene	203		26.4	7.91	ug/Kg	1		11/20/17 23:31
Benzo[a]pyrene	86.4		26.4	7.91	ug/Kg	1		11/20/17 23:31
Benzo[b]Fluoranthene	148		26.4	7.91	ug/Kg	1		11/20/17 23:31
Benzo[g,h,i]perylene	28.4		26.4	7.91	ug/Kg	1		11/20/17 23:31
Benzo[k]fluoranthene	42.5		26.4	7.91	ug/Kg	1		11/20/17 23:31
Chrysene	201		26.4	7.91	ug/Kg	1		11/20/17 23:31
Dibenzo[a,h]anthracene	10.7	J	26.4	7.91	ug/Kg	1		11/20/17 23:31
Fluoranthene	997		264	79.1	ug/Kg	10		11/21/17 20:15
Fluorene	71.7		26.4	7.91	ug/Kg	1		11/20/17 23:31
Indeno[1,2,3-c,d] pyrene	28.5		26.4	7.91	ug/Kg	1		11/20/17 23:31
Naphthalene	2000		211	63.3	ug/Kg	10		11/21/17 20:15
Phenanthrene	446		26.4	7.91	ug/Kg	1		11/20/17 23:31
Pyrene	733		264	79.1	ug/Kg	10		11/21/17 20:15
Surrogates								
2-Methylnaphthalene-d10 (surr)	79.4		50-150		%	1		11/20/17 23:31
Fluoranthene-d10 (surr)	78.8		50-150		%	1		11/20/17 23:31

Batch Information

Analytical Batch: XMS10554
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/21/17 20:15
Container ID: 1179607027-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.711 g
Prep Extract Vol: 5 mL

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 23:31
Container ID: 1179607027-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.711 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 Base**

Client Sample ID: **A0C07-002 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607027
Lab Project ID: 1179607

Collection Date: 11/06/17 15:45
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):94.0
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	0.825	U	1.65	0.512	ug/Kg	1		11/12/17 01:52
1,1,2-Trichloroethane	0.331	U	0.661	0.207	ug/Kg	1		11/12/17 01:52
1,2,3-Trichloropropane	0.413	U	0.826	0.256	ug/Kg	1		11/12/17 01:52
1,2-Dibromoethane	0.206	U	0.413	0.124	ug/Kg	1		11/12/17 01:52
1,2-Dichloroethane	0.825	U	1.65	0.512	ug/Kg	1		11/12/17 01:52
Bromodichloromethane	0.825	U	1.65	0.512	ug/Kg	1		11/12/17 01:52
Bromomethane	8.25	U	16.5	5.12	ug/Kg	1		11/12/17 01:52
Chloroform	0.825	U	1.65	0.512	ug/Kg	1		11/12/17 01:52
Dibromochloromethane	0.825	U	1.65	0.512	ug/Kg	1		11/12/17 01:52
Trichloroethene	2.06	U	4.13	1.24	ug/Kg	1		11/12/17 01:52
Vinyl chloride	0.331	U	0.661	0.207	ug/Kg	1		11/12/17 01:52
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.3		71-136		%	1		11/12/17 01:52
4-Bromofluorobenzene (surr)	102		55-151		%	1		11/12/17 01:52
Toluene-d8 (surr)	98.7		85-116		%	1		11/12/17 01:52

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 01:52
Container ID: 1179607027-C

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/06/17 15:45
Prep Initial Wt./Vol.: 76.237 g
Prep Extract Vol: 29.599 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 North Wall**

Client Sample ID: **A0C07-002 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607028
Lab Project ID: 1179607

Collection Date: 11/06/17 15:48
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):94.7
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Barium	204		0.300	0.0939	mg/Kg	10		11/12/17 18:44

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:44
Container ID: 1179607028-A

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/09/17 08:29
Prep Initial Wt./Vol.: 1.057 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 North Wall 2**

Client Sample ID: **A0C07-002 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607029
Lab Project ID: 1179607

Collection Date: 11/06/17 15:48
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Barium	50.8		1.45	0.455	mg/Kg	50		11/12/17 18:49

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:49
Container ID: 1179607029-A

Prep Batch: MXX31221
Prep Method: SW3050B
Prep Date/Time: 11/10/17 10:03
Prep Initial Wt./Vol.: 1.086 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 East Wall**

Client Sample ID: **A0C07-002 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607030
Lab Project ID: 1179607

Collection Date: 11/06/17 15:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	8.35		1.03	0.318	mg/Kg	10		11/12/17 20:08
Barium	103		0.308	0.0965	mg/Kg	10		11/12/17 20:08
Cadmium	0.101	J	0.205	0.0636	mg/Kg	10		11/12/17 20:08
Chromium	39.2		0.411	0.133	mg/Kg	10		11/12/17 20:08
Lead	6.48		0.205	0.0636	mg/Kg	10		11/12/17 20:08
Mercury	0.269		0.0411	0.0123	mg/Kg	10		11/12/17 20:08
Nickel	55.6		0.205	0.0636	mg/Kg	10		11/12/17 20:08
Selenium	0.596	J	1.03	0.318	mg/Kg	10		11/12/17 20:08
Silver	0.102	U	0.205	0.0636	mg/Kg	10		11/12/17 20:08
Vanadium	67.7		3.08	0.965	mg/Kg	10		11/12/17 20:08

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 20:08
Container ID: 1179607030-A

Prep Batch: MXX31221
Prep Method: SW3050B
Prep Date/Time: 11/10/17 10:03
Prep Initial Wt./Vol.: 1.023 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 East Wall**

Client Sample ID: **A0C07-002 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607030
Lab Project ID: 1179607

Collection Date: 11/06/17 15:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	39.9		26.1	7.83	ug/Kg	1		11/20/17 23:51
2-Methylnaphthalene	69.3		26.1	7.83	ug/Kg	1		11/20/17 23:51
Acenaphthene	9.78	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Acenaphthylene	12.2	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Anthracene	26.6		26.1	7.83	ug/Kg	1		11/20/17 23:51
Benzo(a)Anthracene	13.0	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Benzo[a]pyrene	9.71	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Benzo[b]Fluoranthene	14.8	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Benzo[g,h,i]perylene	13.1	U	26.1	7.83	ug/Kg	1		11/20/17 23:51
Benzo[k]fluoranthene	13.1	U	26.1	7.83	ug/Kg	1		11/20/17 23:51
Chrysene	17.4	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Dibenzo[a,h]anthracene	13.1	U	26.1	7.83	ug/Kg	1		11/20/17 23:51
Fluoranthene	117		26.1	7.83	ug/Kg	1		11/20/17 23:51
Fluorene	11.1	J	26.1	7.83	ug/Kg	1		11/20/17 23:51
Indeno[1,2,3-c,d] pyrene	13.1	U	26.1	7.83	ug/Kg	1		11/20/17 23:51
Naphthalene	396		20.9	6.27	ug/Kg	1		11/20/17 23:51
Phenanthrene	125		26.1	7.83	ug/Kg	1		11/20/17 23:51
Pyrene	87.7		26.1	7.83	ug/Kg	1		11/20/17 23:51
Surrogates								
2-Methylnaphthalene-d10 (surr)	81.7		50-150		%	1		11/20/17 23:51
Fluoranthene-d10 (surr)	81.2		50-150		%	1		11/20/17 23:51

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/20/17 23:51
Container ID: 1179607030-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.621 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 East Wall**

Client Sample ID: **A0C07-002 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607030
Lab Project ID: 1179607

Collection Date: 11/06/17 15:53
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	0.685	U	1.37	0.425	ug/Kg	1		11/12/17 19:01
1,1,2-Trichloroethane	0.275	U	0.549	0.172	ug/Kg	1		11/12/17 19:01
1,2,3-Trichloropropane	0.343	U	0.686	0.213	ug/Kg	1		11/12/17 19:01
1,2-Dibromoethane	0.172	U	0.343	0.103	ug/Kg	1		11/12/17 19:01
1,2-Dichloroethane	0.685	U	1.37	0.425	ug/Kg	1		11/12/17 19:01
Bromodichloromethane	0.685	U	1.37	0.425	ug/Kg	1		11/12/17 19:01
Bromomethane	6.85	U	13.7	4.25	ug/Kg	1		11/12/17 19:01
Chloroform	0.685	U	1.37	0.425	ug/Kg	1		11/12/17 19:01
Dibromochloromethane	0.685	U	1.37	0.425	ug/Kg	1		11/12/17 19:01
Trichloroethene	1.72	U	3.43	1.03	ug/Kg	1		11/12/17 19:01
Vinyl chloride	0.275	U	0.549	0.172	ug/Kg	1		11/12/17 19:01
Surrogates								
1,2-Dichloroethane-D4 (surr)	98.1		71-136		%	1		11/12/17 19:01
4-Bromofluorobenzene (surr)	82.3		55-151		%	1		11/12/17 19:01
Toluene-d8 (surr)	98.7		85-116		%	1		11/12/17 19:01

Batch Information

Analytical Batch: VMS17444
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 19:01
Container ID: 1179607030-B

Prep Batch: VXX31702
Prep Method: SW5035A
Prep Date/Time: 11/06/17 15:53
Prep Initial Wt./Vol.: 89.569 g
Prep Extract Vol: 29.2686 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 South Wall**

Client Sample ID: **A0C07-002 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607031
Lab Project ID: 1179607

Collection Date: 11/06/17 16:01
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Arsenic	6.03		1.03	0.320	mg/Kg	10		11/12/17 19:23
Barium	54.7		0.310	0.0970	mg/Kg	10		11/12/17 19:23
Cadmium	0.0912	J	0.206	0.0640	mg/Kg	10		11/12/17 19:23
Chromium	35.8		0.413	0.134	mg/Kg	10		11/12/17 19:23
Lead	5.76		0.206	0.0640	mg/Kg	10		11/12/17 19:23
Mercury	0.217		0.0413	0.0124	mg/Kg	10		11/12/17 19:23
Nickel	36.6		0.206	0.0640	mg/Kg	10		11/12/17 19:23
Selenium	0.515	U	1.03	0.320	mg/Kg	10		11/12/17 19:23
Silver	0.103	U	0.206	0.0640	mg/Kg	10		11/12/17 19:23
Vanadium	62.2		3.10	0.970	mg/Kg	10		11/12/17 19:23

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 19:23
Container ID: 1179607031-A

Prep Batch: MXX31221
Prep Method: SW3050B
Prep Date/Time: 11/10/17 10:03
Prep Initial Wt./Vol.: 1.018 g
Prep Extract Vol: 50 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 South Wall**

Client Sample ID: **A0C07-002 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607031
Lab Project ID: 1179607

Collection Date: 11/06/17 16:01
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1-Methylnaphthalene	12.9	U	25.8	7.73	ug/Kg	1		11/21/17 00:12
2-Methylnaphthalene	12.7	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Acenaphthene	12.9	U	25.8	7.73	ug/Kg	1		11/21/17 00:12
Acenaphthylene	16.5	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Anthracene	41.8		25.8	7.73	ug/Kg	1		11/21/17 00:12
Benzo(a)Anthracene	9.83	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Benzo[a]pyrene	14.1	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Benzo[b]Fluoranthene	15.0	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Benzo[g,h,i]perylene	13.7	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Benzo[k]fluoranthene	12.9	U	25.8	7.73	ug/Kg	1		11/21/17 00:12
Chrysene	11.5	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Dibenzo[a,h]anthracene	12.9	U	25.8	7.73	ug/Kg	1		11/21/17 00:12
Fluoranthene	56.8		25.8	7.73	ug/Kg	1		11/21/17 00:12
Fluorene	9.03	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Indeno[1,2,3-c,d] pyrene	11.0	J	25.8	7.73	ug/Kg	1		11/21/17 00:12
Naphthalene	46.1		20.6	6.18	ug/Kg	1		11/21/17 00:12
Phenanthrene	93.0		25.8	7.73	ug/Kg	1		11/21/17 00:12
Pyrene	43.0		25.8	7.73	ug/Kg	1		11/21/17 00:12
Surrogates								
2-Methylnaphthalene-d10 (surr)	79.8		50-150		%	1		11/21/17 00:12
Fluoranthene-d10 (surr)	80.3		50-150		%	1		11/21/17 00:12

Batch Information

Analytical Batch: XMS10553
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 11/21/17 00:12
Container ID: 1179607031-A

Prep Batch: XXX38832
Prep Method: SW3550C
Prep Date/Time: 11/09/17 12:02
Prep Initial Wt./Vol.: 22.933 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 South Wall**

Client Sample ID: **A0C07-002 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607031
Lab Project ID: 1179607

Collection Date: 11/06/17 16:01
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.2
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	0.770	U	1.54	0.478	ug/Kg	1		11/12/17 19:19
1,1,2-Trichloroethane	0.309	U	0.617	0.193	ug/Kg	1		11/12/17 19:19
1,2,3-Trichloropropane	0.386	U	0.771	0.239	ug/Kg	1		11/12/17 19:19
1,2-Dibromoethane	0.193	U	0.385	0.116	ug/Kg	1		11/12/17 19:19
1,2-Dichloroethane	0.770	U	1.54	0.478	ug/Kg	1		11/12/17 19:19
Bromodichloromethane	0.770	U	1.54	0.478	ug/Kg	1		11/12/17 19:19
Bromomethane	7.70	U	15.4	4.78	ug/Kg	1		11/12/17 19:19
Chloroform	0.770	U	1.54	0.478	ug/Kg	1		11/12/17 19:19
Dibromochloromethane	0.770	U	1.54	0.478	ug/Kg	1		11/12/17 19:19
Trichloroethene	1.93	U	3.85	1.16	ug/Kg	1		11/12/17 19:19
Vinyl chloride	0.309	U	0.617	0.193	ug/Kg	1		11/12/17 19:19
Surrogates								
1,2-Dichloroethane-D4 (surr)	97.5		71-136		%	1		11/12/17 19:19
4-Bromofluorobenzene (surr)	97.5		55-151		%	1		11/12/17 19:19
Toluene-d8 (surr)	99.4		85-116		%	1		11/12/17 19:19

Batch Information

Analytical Batch: VMS17444
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/12/17 19:19
Container ID: 1179607031-B

Prep Batch: VXX31702
Prep Method: SW5035A
Prep Date/Time: 11/06/17 16:01
Prep Initial Wt./Vol.: 78.458 g
Prep Extract Vol: 28.7769 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C07-002 NW Wall**

Client Sample ID: **A0C07-002 NW Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607032
Lab Project ID: 1179607

Collection Date: 11/06/17 16:05
Received Date: 11/07/17 16:05
Matrix: Soil/Solid (dry weight)
Solids (%):95.4
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Barium	50.2		1.46	0.457	mg/Kg	50		11/12/17 18:53

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:53
Container ID: 1179607032-A

Prep Batch: MXX31221
Prep Method: SW3050B
Prep Date/Time: 11/10/17 10:03
Prep Initial Wt./Vol.: 1.077 g
Prep Extract Vol: 50 mL

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Results of **A0C07-002 West Wall**

Client Sample ID: **A0C07-002 West Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607033
Lab Project ID: 1179607

Collection Date: 11/06/17 15:57
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location:

Results by **Metals by ICP/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Barium	48.1		1.53	0.479	mg/Kg	50		11/12/17 18:58

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 11/12/17 18:58
Container ID: 1179607033-A

Prep Batch: MXX31221
Prep Method: SW3050B
Prep Date/Time: 11/10/17 10:03
Prep Initial Wt./Vol.: 1.022 g
Prep Extract Vol: 50 mL

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Results of **Supersack Composite 1**

Client Sample ID: **Supersack Composite 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607034
Lab Project ID: 1179607

Collection Date: 11/06/17 17:24
Received Date: 11/07/17 17:49
Matrix: Solid/Soil (Wet Weight)
Solids (%):
Location:

Results by **TCLP Constituents Metals**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Lead	0.0501		0.0500	0.0155	mg/L	25	(<5)	11/17/17 18:56

Batch Information

Analytical Batch: MMS10005
Analytical Method: SW6020A TCLP
Analyst: VDL
Analytical Date/Time: 11/17/17 18:56
Container ID: 1179607034-A

Prep Batch: MXT5575
Prep Method: SW3010A
Prep Date/Time: 11/17/17 09:50
Prep Initial Wt./Vol.: 2.5 mL
Prep Extract Vol: 25 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **Trip Blank**

Client Sample ID: **Trip Blank**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607035
Lab Project ID: 1179607

Collection Date: 11/06/17 17:24
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):
Location:

Results by **Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,2,2-Tetrachloroethane	1.02	U	2.05	0.634	ug/Kg	1		11/11/17 20:17
1,1,2-Trichloroethane	0.409	U	0.818	0.256	ug/Kg	1		11/11/17 20:17
1,2,3-Trichloropropane	0.510	U	1.02	0.317	ug/Kg	1		11/11/17 20:17
1,2-Dibromoethane	0.256	U	0.511	0.153	ug/Kg	1		11/11/17 20:17
1,2-Dichloroethane	1.02	U	2.05	0.634	ug/Kg	1		11/11/17 20:17
Bromodichloromethane	1.02	U	2.05	0.634	ug/Kg	1		11/11/17 20:17
Bromomethane	10.3	U	20.5	6.34	ug/Kg	1		11/11/17 20:17
Chloroform	3.58		2.05	0.634	ug/Kg	1		11/11/17 20:17
Dibromochloromethane	1.02	U	2.05	0.634	ug/Kg	1		11/11/17 20:17
Trichloroethene	2.56	U	5.11	1.53	ug/Kg	1		11/11/17 20:17
Vinyl chloride	0.409	U	0.818	0.256	ug/Kg	1		11/11/17 20:17
Surrogates								
1,2-Dichloroethane-D4 (surr)	99.3		71-136		%	1		11/11/17 20:17
4-Bromofluorobenzene (surr)	94.3		55-151		%	1		11/11/17 20:17
Toluene-d8 (surr)	99.9		85-116		%	1		11/11/17 20:17

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Analyst: NRO
Analytical Date/Time: 11/11/17 20:17
Container ID: 1179607035-A

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/06/17 17:24
Prep Initial Wt./Vol.: 48.878 g
Prep Extract Vol: 25 mL

Results of **A0C02-005 Base**

Client Sample ID: **A0C02-005 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607036
Lab Project ID: 1179607

Collection Date: 11/04/17 16:33
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):96.2
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	25.8	U	51.5	15.5	ug/Kg	1		11/15/17 02:52
Aroclor-1221	103	U	206	63.9	ug/Kg	1		11/15/17 02:52
Aroclor-1232	25.8	U	51.5	15.5	ug/Kg	1		11/15/17 02:52
Aroclor-1242	25.8	U	51.5	15.5	ug/Kg	1		11/15/17 02:52
Aroclor-1248	25.8	U	51.5	15.5	ug/Kg	1		11/15/17 02:52
Aroclor-1254	25.8	U	51.5	15.5	ug/Kg	1		11/15/17 02:52
Aroclor-1260	25.8	U	51.5	15.5	ug/Kg	1		11/15/17 02:52
Surrogates								
Decachlorobiphenyl (surr)	88		60-125		%	1		11/15/17 02:52

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 02:52
Container ID: 1179607036-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.689 g
Prep Extract Vol: 5 mL

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Results of **A0C02-005 West Wall 2**

Client Sample ID: **A0C02-005 West Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607037
Lab Project ID: 1179607

Collection Date: 11/04/17 16:37
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.9	U	55.7	16.7	ug/Kg	1		11/15/17 03:21
Aroclor-1221	112	U	223	69.1	ug/Kg	1		11/15/17 03:21
Aroclor-1232	27.9	U	55.7	16.7	ug/Kg	1		11/15/17 03:21
Aroclor-1242	27.9	U	55.7	16.7	ug/Kg	1		11/15/17 03:21
Aroclor-1248	27.9	U	55.7	16.7	ug/Kg	1		11/15/17 03:21
Aroclor-1254	27.9	U	55.7	16.7	ug/Kg	1		11/15/17 03:21
Aroclor-1260	27.9	U	55.7	16.7	ug/Kg	1		11/15/17 03:21
Surrogates								
Decachlorobiphenyl (surr)	88		60-125		%	1		11/15/17 03:21

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 03:21
Container ID: 1179607037-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.717 g
Prep Extract Vol: 5 mL

Results of **A0C02-005 East Wall 2**

Client Sample ID: **A0C02-005 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607038
Lab Project ID: 1179607

Collection Date: 11/04/17 16:20
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):80.5
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	30.8	U	61.6	18.5	ug/Kg	1		11/15/17 03:36
Aroclor-1221	123	U	246	76.3	ug/Kg	1		11/15/17 03:36
Aroclor-1232	30.8	U	61.6	18.5	ug/Kg	1		11/15/17 03:36
Aroclor-1242	30.8	U	61.6	18.5	ug/Kg	1		11/15/17 03:36
Aroclor-1248	30.8	U	61.6	18.5	ug/Kg	1		11/15/17 03:36
Aroclor-1254	30.8	U	61.6	18.5	ug/Kg	1		11/15/17 03:36
Aroclor-1260	618		61.6	18.5	ug/Kg	1		11/15/17 03:36
Surrogates								
Decachlorobiphenyl (surr)	90		60-125		%	1		11/15/17 03:36

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 03:36
Container ID: 1179607038-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.706 g
Prep Extract Vol: 5 mL

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Results of **A0C02-005 North Wall 2**

Client Sample ID: **A0C02-005 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607039
Lab Project ID: 1179607

Collection Date: 11/04/17 16:42
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):90.5
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.4	U	54.9	16.5	ug/Kg	1		11/15/17 03:50
Aroclor-1221	110	U	219	68.0	ug/Kg	1		11/15/17 03:50
Aroclor-1232	27.4	U	54.9	16.5	ug/Kg	1		11/15/17 03:50
Aroclor-1242	27.4	U	54.9	16.5	ug/Kg	1		11/15/17 03:50
Aroclor-1248	27.4	U	54.9	16.5	ug/Kg	1		11/15/17 03:50
Aroclor-1254	27.4	U	54.9	16.5	ug/Kg	1		11/15/17 03:50
Aroclor-1260	26.8	J	54.9	16.5	ug/Kg	1		11/15/17 03:50
Surrogates								
Decachlorobiphenyl (surr)	87		60-125		%	1		11/15/17 03:50

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 03:50
Container ID: 1179607039-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.647 g
Prep Extract Vol: 5 mL

Results of **A0C02-005 South Wall 1**

Client Sample ID: **A0C02-005 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607040
Lab Project ID: 1179607

Collection Date: 11/04/17 16:27
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):86.6
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.7	U	57.4	17.2	ug/Kg	1		11/15/17 04:05
Aroclor-1221	115	U	230	71.2	ug/Kg	1		11/15/17 04:05
Aroclor-1232	28.7	U	57.4	17.2	ug/Kg	1		11/15/17 04:05
Aroclor-1242	28.7	U	57.4	17.2	ug/Kg	1		11/15/17 04:05
Aroclor-1248	28.7	U	57.4	17.2	ug/Kg	1		11/15/17 04:05
Aroclor-1254	28.7	U	57.4	17.2	ug/Kg	1		11/15/17 04:05
Aroclor-1260	28.7	U	57.4	17.2	ug/Kg	1		11/15/17 04:05
Surrogates								
Decachlorobiphenyl (surr)	87		60-125		%	1		11/15/17 04:05

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 04:05
Container ID: 1179607040-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.627 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 North Wall 2**

Client Sample ID: **A0C02-008 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607041
Lab Project ID: 1179607

Collection Date: 11/04/17 14:15
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):88.7
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.9	U	55.9	16.8	ug/Kg	1		11/15/17 19:25
Aroclor-1221	112	U	224	69.4	ug/Kg	1		11/15/17 19:25
Aroclor-1232	27.9	U	55.9	16.8	ug/Kg	1		11/15/17 19:25
Aroclor-1242	27.9	U	55.9	16.8	ug/Kg	1		11/15/17 19:25
Aroclor-1248	27.9	U	55.9	16.8	ug/Kg	1		11/15/17 19:25
Aroclor-1254	27.9	U	55.9	16.8	ug/Kg	1		11/15/17 19:25
Aroclor-1260	706		55.9	16.8	ug/Kg	1		11/15/17 19:25
Surrogates								
Decachlorobiphenyl (surr)	96		60-125		%	1		11/15/17 19:25

Batch Information

Analytical Batch: XGC9955
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 19:25
Container ID: 1179607041-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.684 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

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Results of **A0C02-008 Base NE**

Client Sample ID: **A0C02-008 Base NE**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607042
Lab Project ID: 1179607

Collection Date: 11/04/17 13:53
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):89.5
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.4	U	54.7	16.4	ug/Kg	1		11/15/17 04:34
Aroclor-1221	110	U	219	67.8	ug/Kg	1		11/15/17 04:34
Aroclor-1232	27.4	U	54.7	16.4	ug/Kg	1		11/15/17 04:34
Aroclor-1242	27.4	U	54.7	16.4	ug/Kg	1		11/15/17 04:34
Aroclor-1248	27.4	U	54.7	16.4	ug/Kg	1		11/15/17 04:34
Aroclor-1254	27.4	U	54.7	16.4	ug/Kg	1		11/15/17 04:34
Aroclor-1260	793		54.7	16.4	ug/Kg	1		11/15/17 04:34
Surrogates								
Decachlorobiphenyl (surr)	72		60-125		%	1		11/15/17 04:34

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 04:34
Container ID: 1179607042-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.976 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 South Wall 1**

Client Sample ID: **A0C02-008 South Wall 1**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607043
Lab Project ID: 1179607

Collection Date: 11/04/17 14:00
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):89.3
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 04:49
Aroclor-1221	112	U	224	69.4	ug/Kg	1		11/15/17 04:49
Aroclor-1232	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 04:49
Aroclor-1242	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 04:49
Aroclor-1248	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 04:49
Aroclor-1254	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 04:49
Aroclor-1260	545		56.0	16.8	ug/Kg	1		11/15/17 04:49
Surrogates								
Decachlorobiphenyl (surr)	76		60-125		%	1		11/15/17 04:49

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 04:49
Container ID: 1179607043-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.504 g
Prep Extract Vol: 5 mL

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Results of **A0C02-008 West Wall 2**

Client Sample ID: **A0C02-008 West Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607044
Lab Project ID: 1179607

Collection Date: 11/04/17 14:10
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):87.3
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.5	U	57.0	17.1	ug/Kg	1		11/15/17 19:40
Aroclor-1221	114	U	228	70.7	ug/Kg	1		11/15/17 19:40
Aroclor-1232	28.5	U	57.0	17.1	ug/Kg	1		11/15/17 19:40
Aroclor-1242	28.5	U	57.0	17.1	ug/Kg	1		11/15/17 19:40
Aroclor-1248	28.5	U	57.0	17.1	ug/Kg	1		11/15/17 19:40
Aroclor-1254	28.5	U	57.0	17.1	ug/Kg	1		11/15/17 19:40
Aroclor-1260	1920		57.0	17.1	ug/Kg	1		11/15/17 19:40
Surrogates								
Decachlorobiphenyl (surr)	87		60-125		%	1		11/15/17 19:40

Batch Information

Analytical Batch: XGC9955
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 19:40
Container ID: 1179607044-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.583 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

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Results of **A0C02-008 East Wall 2**

Client Sample ID: **A0C02-008 East Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607045
Lab Project ID: 1179607

Collection Date: 11/04/17 14:05
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):88.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.9	U	55.8	16.7	ug/Kg	1		11/15/17 05:18
Aroclor-1221	112	U	223	69.2	ug/Kg	1		11/15/17 05:18
Aroclor-1232	27.9	U	55.8	16.7	ug/Kg	1		11/15/17 05:18
Aroclor-1242	27.9	U	55.8	16.7	ug/Kg	1		11/15/17 05:18
Aroclor-1248	27.9	U	55.8	16.7	ug/Kg	1		11/15/17 05:18
Aroclor-1254	27.9	U	55.8	16.7	ug/Kg	1		11/15/17 05:18
Aroclor-1260	246		55.8	16.7	ug/Kg	1		11/15/17 05:18
Surrogates								
Decachlorobiphenyl (surr)	79		60-125		%	1		11/15/17 05:18

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 05:18
Container ID: 1179607045-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.708 g
Prep Extract Vol: 5 mL

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Results of **A0C06-001 Base**

Client Sample ID: **A0C06-001 Base**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607046
Lab Project ID: 1179607

Collection Date: 11/06/17 11:44
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):88.0
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.3	U	56.6	17.0	ug/Kg	1		11/15/17 05:32
Aroclor-1221	114	U	227	70.2	ug/Kg	1		11/15/17 05:32
Aroclor-1232	28.3	U	56.6	17.0	ug/Kg	1		11/15/17 05:32
Aroclor-1242	28.3	U	56.6	17.0	ug/Kg	1		11/15/17 05:32
Aroclor-1248	28.3	U	56.6	17.0	ug/Kg	1		11/15/17 05:32
Aroclor-1254	28.3	U	56.6	17.0	ug/Kg	1		11/15/17 05:32
Aroclor-1260	28.3	U	56.6	17.0	ug/Kg	1		11/15/17 05:32
Surrogates								
Decachlorobiphenyl (surr)	89		60-125		%	1		11/15/17 05:32

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 05:32
Container ID: 1179607046-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.563 g
Prep Extract Vol: 5 mL

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Results of **A0C06-001 North Wall**

Client Sample ID: **A0C06-001 North Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607047
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):89.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	27.6	U	55.2	16.6	ug/Kg	1		11/15/17 05:47
Aroclor-1221	111	U	221	68.5	ug/Kg	1		11/15/17 05:47
Aroclor-1232	27.6	U	55.2	16.6	ug/Kg	1		11/15/17 05:47
Aroclor-1242	27.6	U	55.2	16.6	ug/Kg	1		11/15/17 05:47
Aroclor-1248	27.6	U	55.2	16.6	ug/Kg	1		11/15/17 05:47
Aroclor-1254	27.6	U	55.2	16.6	ug/Kg	1		11/15/17 05:47
Aroclor-1260	27.6	U	55.2	16.6	ug/Kg	1		11/15/17 05:47
Surrogates								
Decachlorobiphenyl (surr)	90		60-125		%	1		11/15/17 05:47

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 05:47
Container ID: 1179607047-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.685 g
Prep Extract Vol: 5 mL

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Results of **A0C06-001 North Wall 2**

Client Sample ID: **A0C06-001 North Wall 2**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607048
Lab Project ID: 1179607

Collection Date: 11/06/17 12:00
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):92.4
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	33.0	U	66.0	19.8	ug/Kg	1		11/15/17 06:01
Aroclor-1221	132	U	264	81.9	ug/Kg	1		11/15/17 06:01
Aroclor-1232	33.0	U	66.0	19.8	ug/Kg	1		11/15/17 06:01
Aroclor-1242	33.0	U	66.0	19.8	ug/Kg	1		11/15/17 06:01
Aroclor-1248	33.0	U	66.0	19.8	ug/Kg	1		11/15/17 06:01
Aroclor-1254	33.0	U	66.0	19.8	ug/Kg	1		11/15/17 06:01
Aroclor-1260	33.0	U	66.0	19.8	ug/Kg	1		11/15/17 06:01
Surrogates								
Decachlorobiphenyl (surr)	91		60-125		%	1		11/15/17 06:01

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 06:01
Container ID: 1179607048-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 18.44 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

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Results of **A0C06-001 West Wall**

Client Sample ID: **A0C06-001 West Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607049
Lab Project ID: 1179607

Collection Date: 11/06/17 12:16
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):80.1
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	31.1	U	62.1	18.6	ug/Kg	1		11/15/17 06:16
Aroclor-1221	124	U	248	77.0	ug/Kg	1		11/15/17 06:16
Aroclor-1232	31.1	U	62.1	18.6	ug/Kg	1		11/15/17 06:16
Aroclor-1242	31.1	U	62.1	18.6	ug/Kg	1		11/15/17 06:16
Aroclor-1248	31.1	U	62.1	18.6	ug/Kg	1		11/15/17 06:16
Aroclor-1254	33.1	J	62.1	18.6	ug/Kg	1		11/15/17 06:16
Aroclor-1260	31.1	U	62.1	18.6	ug/Kg	1		11/15/17 06:16
Surrogates								
Decachlorobiphenyl (surr)	90		60-125		%	1		11/15/17 06:16

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 06:16
Container ID: 1179607049-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.604 g
Prep Extract Vol: 5 mL

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Results of **A0C06-001 South Wall**

Client Sample ID: **A0C06-001 South Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607050
Lab Project ID: 1179607

Collection Date: 11/06/17 12:09
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):88.0
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 06:31
Aroclor-1221	112	U	224	69.5	ug/Kg	1		11/15/17 06:31
Aroclor-1232	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 06:31
Aroclor-1242	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 06:31
Aroclor-1248	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 06:31
Aroclor-1254	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 06:31
Aroclor-1260	28.0	U	56.0	16.8	ug/Kg	1		11/15/17 06:31
Surrogates								
Decachlorobiphenyl (surr)	88		60-125		%	1		11/15/17 06:31

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/15/17 06:31
Container ID: 1179607050-A

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/08/17 10:54
Prep Initial Wt./Vol.: 22.819 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Results of **A0C06-001 East Wall**

Client Sample ID: **A0C06-001 East Wall**
Client Project ID: **JBER CHPP DCVR-006 17849**
Lab Sample ID: 1179607051
Lab Project ID: 1179607

Collection Date: 11/06/17 12:13
Received Date: 11/07/17 17:49
Matrix: Soil/Solid (dry weight)
Solids (%):86.8
Location:

Results by **Polychlorinated Biphenyls**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Aroclor-1016	28.6	U	57.2	17.1	ug/Kg	1		11/14/17 22:45
Aroclor-1221	115	U	229	70.9	ug/Kg	1		11/14/17 22:45
Aroclor-1232	28.6	U	57.2	17.1	ug/Kg	1		11/14/17 22:45
Aroclor-1242	28.6	U	57.2	17.1	ug/Kg	1		11/14/17 22:45
Aroclor-1248	28.6	U	57.2	17.1	ug/Kg	1		11/14/17 22:45
Aroclor-1254	40.6	J	57.2	17.1	ug/Kg	1		11/14/17 22:45
Aroclor-1260	28.6	U	57.2	17.1	ug/Kg	1		11/14/17 22:45
Surrogates								
Decachlorobiphenyl (surr)	84		60-125		%	1		11/14/17 22:45

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 11/14/17 22:45
Container ID: 1179607051-A

Prep Batch: XXX38851
Prep Method: SW3550C
Prep Date/Time: 11/14/17 13:11
Prep Initial Wt./Vol.: 22.673 g
Prep Extract Vol: 5 mL

Print Date: 11/28/2017 3:10:21PM

J flagging is activated

Method Blank

Blank ID: LB1 for HBN 1772235 [TCLP/9124
Blank Lab ID: 1426032

Matrix: Solid/Soil (Wet Weight)

QC for Samples:
1179607034

Results by **SW6020A TCLP**

Parameter	Results	LOQ/CL	DL	Units
Lead	0.0250U	0.0500	0.0155	mg/L

Batch Information

Analytical Batch: MMS10005
Analytical Method: SW6020A TCLP
Instrument: Perkin Elmer Nexlon P5
Analyst: VDL
Analytical Date/Time: 11/17/2017 6:07:14PM

Prep Batch: MXT5575
Prep Method: SW3010A
Prep Date/Time: 11/17/2017 9:50:00AM
Prep Initial Wt./Vol.: 2.5 mL
Prep Extract Vol: 25 mL

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Method Blank

Blank ID: LB2 for HBN 1772235 [TCLP/9124
Blank Lab ID: 1426228

Matrix: Solid/Soil (Wet Weight)

QC for Samples:
1179607034

Results by **SW6020A TCLP**

Parameter	Results	LOQ/CL	DL	Units
Lead	0.0250U	0.0500	0.0155	mg/L

Batch Information

Analytical Batch: MMS10005
Analytical Method: SW6020A TCLP
Instrument: Perkin Elmer Nexlon P5
Analyst: VDL
Analytical Date/Time: 11/17/2017 6:11:45PM

Prep Batch: MXT5575
Prep Method: SW3010A
Prep Date/Time: 11/17/2017 9:50:00AM
Prep Initial Wt./Vol.: 2.5 mL
Prep Extract Vol: 25 mL

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Method Blank

Blank ID: MB for HBN 1772338 [MXT/5575]
Blank Lab ID: 1426229

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1179607034

Results by **SW6020A TCLP**

Parameter	Results	LOQ/CL	DL	Units
Lead	0.00250U	0.00500	0.00155	mg/L

Batch Information

Analytical Batch: MMS10005
Analytical Method: SW6020A TCLP
Instrument: Perkin Elmer Nexlon P5
Analyst: VDL
Analytical Date/Time: 11/17/2017 6:16:16PM

Prep Batch: MXT5575
Prep Method: SW3010A
Prep Date/Time: 11/17/2017 9:50:00AM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [MXT5575]
Blank Spike Lab ID: 1426230
Date Analyzed: 11/17/2017 18:20

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1179607034

Results by **SW6020A TCLP**

Blank Spike (mg/L)

Parameter	Spike	Result	Rec (%)	CL
Lead	1	1.03	103	(88-115)

Batch Information

Analytical Batch: **MMS10005**
Analytical Method: **SW6020A TCLP**
Instrument: **Perkin Elmer Nexion P5**
Analyst: **VDL**

Prep Batch: **MXT5575**
Prep Method: **SW3010A**
Prep Date/Time: **11/17/2017 09:50**
Spike Init Wt./Vol.: 1 mg/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1426231
MS Sample ID: 1426233 MS
MSD Sample ID: 1426234 MSD

QC for Samples: 1179607034

Analysis Date: 11/17/2017 18:25
Analysis Date: 11/17/2017 18:29
Analysis Date: 11/17/2017 18:34
Matrix: Solid/Soil (Wet Weight)

Results by **SW6020A TCLP**

		Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Lead	0.0250U	10.0	10.6	106	10.0	10.3	103	88-115	3.08	(< 20)

Batch Information

Analytical Batch: MMS10005
Analytical Method: SW6020A TCLP
Instrument: Perkin Elmer Nexlon P5
Analyst: VDL
Analytical Date/Time: 11/17/2017 6:29:49PM

Prep Batch: MXT5575
Prep Method: Waters Digest for Metals by ICP-MS(TCLP)
Prep Date/Time: 11/17/2017 9:50:00AM
Prep Initial Wt./Vol.: 2.50mL
Prep Extract Vol: 25.00mL

Print Date: 11/28/2017 3:10:32PM

Method Blank

Blank ID: MB for HBN 1771824 [MXX/31216]
Blank Lab ID: 1424936

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607002, 1179607003, 1179607004, 1179607005, 1179607006, 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027, 1179607028

Results by **SW6020A**

Parameter	Results	LOQ/CL	DL	Units
Arsenic	0.500U	1.00	0.310	mg/Kg
Barium	0.150U	0.300	0.0940	mg/Kg
Cadmium	0.100U	0.200	0.0620	mg/Kg
Chromium	0.200U	0.400	0.130	mg/Kg
Lead	0.100U	0.200	0.0620	mg/Kg
Mercury	0.0200U	0.0400	0.0120	mg/Kg
Nickel	0.100U	0.200	0.0620	mg/Kg
Selenium	0.500U	1.00	0.310	mg/Kg
Silver	0.0705J	0.200	0.0620	mg/Kg
Vanadium	1.50U	3.00	0.940	mg/Kg

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 11/12/2017 4:29:10PM

Prep Batch: MXX31216
Prep Method: SW3050B
Prep Date/Time: 11/9/2017 8:29:38AM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [MXX31216]
Blank Spike Lab ID: 1424937
Date Analyzed: 11/12/2017 16:33

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607002, 1179607003, 1179607004, 1179607005, 1179607006, 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027, 1179607028

Results by **SW6020A**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Arsenic	50	50.8	102	(82-118)
Barium	50	48.2	96	(86-116)
Cadmium	5	4.87	98	(84-116)
Chromium	20	19.6	98	(83-119)
Lead	50	47.6	95	(84-118)
Mercury	0.5	0.499	100	(74-126)
Nickel	50	49.7	99	(84-119)
Selenium	50	51.8	104	(80-119)
Silver	5	5.32	106	(83-118)
Vanadium	10	9.42	94	(82-116)

Batch Information

Analytical Batch: **MMS10000**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexlon P5**
Analyst: **ACF**

Prep Batch: **MXX31216**
Prep Method: **SW3050B**
Prep Date/Time: **11/09/2017 08:29**
Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1424938
MS Sample ID: 1424941 MS
MSD Sample ID: 1424942 MSD

Analysis Date: 11/12/2017 16:38
Analysis Date: 11/12/2017 16:42
Analysis Date: 11/12/2017 16:47
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1179607002, 1179607003, 1179607004, 1179607005, 1179607006, 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027, 1179607028

Results by **SW6020A**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	4.32	47.7	52.9	102	46.3	51.5	102	82-118	2.79	(< 20)
Barium	41.9	47.7	119	162 *	46.3	102	129 *	86-116	15.90	(< 20)
Cadmium	0.0706J	4.77	4.79	99	4.63	4.52	96	84-116	5.70	(< 20)
Chromium	24.4	19.1	51.2	140 *	18.5	49.2	134 *	83-119	3.87	(< 20)
Lead	4.10	47.7	48.2	92	46.3	46.0	91	84-118	4.65	(< 20)
Mercury	0.0330J	0.477	.509	100	0.463	0.460	92	74-126	10.10	(< 20)
Nickel	20.0	47.7	69.9	105	46.3	72.7	114	84-119	3.99	(< 20)
Selenium	0.497U	47.7	50.1	105	46.3	45.2	98	80-119	10.20	(< 20)
Silver	0.0995U	4.77	4.67	98	4.63	4.45	96	83-118	4.93	(< 20)
Vanadium	34.0	9.53	53.2	201 *	9.25	52.5	200 *	82-116	1.35	(< 20)

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 11/12/2017 4:42:47PM

Prep Batch: MXX31216
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 11/9/2017 8:29:38AM
Prep Initial Wt./Vol.: 1.05g
Prep Extract Vol: 50.00mL

Print Date: 11/28/2017 3:10:37PM

Bench Spike Summary

Original Sample ID: 1424938
MS Sample ID: 1424939 BND
MSD Sample ID:

Analysis Date: 11/12/2017 16:38
Analysis Date: 11/12/2017 16:51
Analysis Date:
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1179607002, 1179607003, 1179607004, 1179607005, 1179607006, 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027, 1179607028

Results by **SW6020A**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Barium	41.9	248	296	102				80-120		
Chromium	24.4	124	145	97				80-120		
Vanadium	34.0	124	159	101				80-120		

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Instrument: Perkin Elmer NexIon P5
Analyst: ACF
Analytical Date/Time: 11/12/2017 4:51:43PM

Prep Batch: MXX31216
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 11/9/2017 8:29:38AM
Prep Initial Wt./Vol.: 1.01g
Prep Extract Vol: 50.00mL

Print Date: 11/28/2017 3:10:37PM

Method Blank

Blank ID: MB for HBN 1771929 [MXX/31221]
Blank Lab ID: 1425217

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607029, 1179607030, 1179607031, 1179607032, 1179607033

Results by **SW6020A**

Parameter	Results	LOQ/CL	DL	Units
Arsenic	0.500U	1.00	0.310	mg/Kg
Barium	0.150U	0.300	0.0940	mg/Kg
Cadmium	0.100U	0.200	0.0620	mg/Kg
Chromium	0.431*	0.400	0.130	mg/Kg
Lead	0.100U	0.200	0.0620	mg/Kg
Mercury	0.0200U	0.0400	0.0120	mg/Kg
Nickel	0.100U	0.200	0.0620	mg/Kg
Selenium	0.500U	1.00	0.310	mg/Kg
Silver	0.100U	0.200	0.0620	mg/Kg
Vanadium	1.50U	3.00	0.940	mg/Kg

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 11/12/2017 9:42:32PM

Prep Batch: MXX31221
Prep Method: SW3050B
Prep Date/Time: 11/10/2017 10:03:33AM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [MXX31221]
Blank Spike Lab ID: 1425218
Date Analyzed: 11/12/2017 19:19

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607029, 1179607030, 1179607031, 1179607032, 1179607033

Results by **SW6020A**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Arsenic	50	51.6	103	(82-118)
Barium	50	49.2	98	(86-116)
Cadmium	5	5.04	101	(84-116)
Chromium	20	21.3	107	(83-119)
Lead	50	47.6	95	(84-118)
Mercury	0.5	0.506	101	(74-126)
Nickel	50	52.3	105	(84-119)
Selenium	50	53.4	107	(80-119)
Silver	5	5.11	102	(83-118)
Vanadium	10	10.1	101	(82-116)

Batch Information

Analytical Batch: **MMS10000**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexion P5**
Analyst: **ACF**

Prep Batch: **MXX31221**
Prep Method: **SW3050B**
Prep Date/Time: **11/10/2017 10:03**
Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1425219
MS Sample ID: 1425221 MS
MSD Sample ID: 1425222 MSD

Analysis Date: 11/12/2017 19:23
Analysis Date: 11/12/2017 19:28
Analysis Date: 11/12/2017 19:32
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1179607029, 1179607030, 1179607031, 1179607032, 1179607033

Results by **SW6020A**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Arsenic	5.74	49.2	53.9	98	49.3	55.5	101	82-118	3.01	(< 20)
Barium	52.1	49.2	109	116	49.3	117	131 *	86-116	6.83	(< 20)
Cadmium	0.0869J	4.92	4.76	95	4.93	4.92	98	84-116	3.31	(< 20)
Chromium	34.1	19.7	57.7	120 *	19.7	54.3	102	83-119	6.17	(< 20)
Lead	5.48	49.2	50.6	92	49.3	50.6	92	84-118	0.05	(< 20)
Mercury	0.206	0.492	.692	99	0.493	0.704	101	74-126	1.65	(< 20)
Nickel	34.8	49.2	85.7	103	49.3	87.9	108	84-119	2.51	(< 20)
Selenium	0.491U	49.2	48.5	99	49.3	49.7	101	80-119	2.60	(< 20)
Silver	0.0980U	4.92	4.58	93	4.93	4.79	97	83-118	4.50	(< 20)
Vanadium	59.2	9.84	72	130 *	9.85	71.2	122 *	82-116	1.08	(< 20)

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: ACF
Analytical Date/Time: 11/12/2017 7:28:07PM

Prep Batch: MXX31221
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 11/10/2017 10:03:33AM
Prep Initial Wt./Vol.: 1.02g
Prep Extract Vol: 50.00mL

Print Date: 11/28/2017 3:10:40PM

Bench Spike Summary

Original Sample ID: 1425219
MS Sample ID: 1425220 BND
MSD Sample ID:

Analysis Date: 11/12/2017 19:23
Analysis Date: 11/12/2017 19:37
Analysis Date:
Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1179607029, 1179607030, 1179607031, 1179607032, 1179607033

Results by **SW6020A**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Barium	52.1	246	306	103				80-120		
Chromium	34.1	123	154	98				80-120		
Vanadium	59.2	123	179	97				80-120		

Batch Information

Analytical Batch: MMS10000
Analytical Method: SW6020A
Instrument: Perkin Elmer NexIon P5
Analyst: ACF
Analytical Date/Time: 11/12/2017 7:37:04PM

Prep Batch: MXX31221
Prep Method: Soils/Solids Digest for Metals by ICP-MS
Prep Date/Time: 11/10/2017 10:03:33AM
Prep Initial Wt./Vol.: 1.02g
Prep Extract Vol: 50.00mL

Print Date: 11/28/2017 3:10:40PM

Method Blank

Blank ID: MB for HBN 1771823 [SPT/10365]
Blank Lab ID: 1424930

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607001, 1179607002, 1179607003, 1179607004, 1179607005, 1179607006, 1179607007, 1179607008, 1179607009, 1179607010, 1179607011, 1179607012, 1179607013, 1179607014, 1179607015, 1179607016, 1179607017, 1179607018, 1179607019, 1179607020, 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027,

Results by **SM21 2540G**

Parameter	Results	LOQ/CL	DL	Units
Total Solids	100			%

Batch Information

Analytical Batch: SPT10365
Analytical Method: SM21 2540G
Instrument:
Analyst: CNB
Analytical Date/Time: 11/8/2017 3:55:00PM

Print Date: 11/28/2017 3:10:41PM

Duplicate Sample Summary

Original Sample ID: 1179607003
Duplicate Sample ID: 1424931

Analysis Date: 11/08/2017 15:55
Matrix: Soil/Solid (dry weight)

QC for Samples:

1179607001, 1179607002, 1179607003, 1179607004, 1179607005, 1179607006, 1179607007, 1179607008, 1179607009, 1179607010, 1179607011, 1179607012, 1179607013, 1179607014, 1179607015

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	95.0	95.8	%	0.78	(< 15)

Batch Information

Analytical Batch: SPT10365
Analytical Method: SM21 2540G
Instrument:
Analyst: CNB

Print Date: 11/28/2017 3:10:42PM

Duplicate Sample Summary

Original Sample ID: 1179607015
Duplicate Sample ID: 1424932

Analysis Date: 11/08/2017 15:55
Matrix: Soil/Solid (dry weight)

QC for Samples:

1179607004, 1179607005, 1179607006, 1179607007, 1179607008, 1179607009, 1179607010, 1179607011, 1179607012, 1179607013, 1179607014, 1179607015, 1179607016, 1179607017, 1179607018, 1179607019,

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	88.6	88.1	%	0.56	(< 15)

Batch Information

Analytical Batch: SPT10365
Analytical Method: SM21 2540G
Instrument:
Analyst: CNB

Print Date: 11/28/2017 3:10:42PM

Duplicate Sample Summary

Original Sample ID: 1179607021
Duplicate Sample ID: 1424933

Analysis Date: 11/08/2017 15:55
Matrix: Soil/Solid (dry weight)

QC for Samples:

1179607016, 1179607017, 1179607018, 1179607019, 1179607020, 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027, 1179607028, 1179607029, 1179607030, 1179607031,

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	87.3	87.5	%	0.21	(< 15)

Batch Information

Analytical Batch: SPT10365
Analytical Method: SM21 2540G
Instrument:
Analyst: CNB

Print Date: 11/28/2017 3:10:42PM

Duplicate Sample Summary

Original Sample ID: 1179607042
Duplicate Sample ID: 1424934

Analysis Date: 11/08/2017 15:55
Matrix: Soil/Solid (dry weight)

QC for Samples:

1179607022, 1179607023, 1179607024, 1179607025, 1179607026, 1179607027, 1179607028, 1179607029, 1179607030, 1179607031, 1179607032, 1179607033, 1179607036, 1179607037, 1179607038, 1179607039,

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	89.5	89.5	%	0.03	(< 15)

Batch Information

Analytical Batch: SPT10365
Analytical Method: SM21 2540G
Instrument:
Analyst: CNB

Print Date: 11/28/2017 3:10:42PM

Duplicate Sample Summary

Original Sample ID: 1179638001
Duplicate Sample ID: 1424935

Analysis Date: 11/08/2017 15:55
Matrix: Soil/Solid (dry weight)

QC for Samples:

1179607043, 1179607044, 1179607045, 1179607046, 1179607047, 1179607048, 1179607049, 1179607050, 1179607051

Results by **SM21 2540G**

NAME	Original	Duplicate	Units	RPD (%)	RPD CL
Total Solids	78.4	78.7	%	0.30	(< 15)

Batch Information

Analytical Batch: SPT10365
Analytical Method: SM21 2540G
Instrument:
Analyst: CNB

Print Date: 11/28/2017 3:10:42PM

Method Blank

Blank ID: MB for HBN 1772032 [VXX/31701]
Blank Lab ID: 1425422

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607027, 1179607035

Results by **SW8260C LL w/MeOH**

Parameter	Results	LOQ/CL	DL	Units
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	ug/Kg
1,1,2-Trichloroethane	0.400U	0.800	0.250	ug/Kg
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/Kg
1,2-Dibromoethane	0.250U	0.500	0.150	ug/Kg
1,2-Dichloroethane	1.00U	2.00	0.620	ug/Kg
Bromodichloromethane	1.00U	2.00	0.620	ug/Kg
Bromomethane	10.0U	20.0	6.20	ug/Kg
Chloroform	1.00U	2.00	0.620	ug/Kg
Dibromochloromethane	1.00U	2.00	0.620	ug/Kg
Vinyl chloride	0.400U	0.800	0.250	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	101	71-136		%
4-Bromofluorobenzene (surr)	93.2	55-151		%
Toluene-d8 (surr)	96.9	85-116		%

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 11/11/2017 5:55:00PM

Prep Batch: VXX31701
Prep Method: SW5035A
Prep Date/Time: 11/11/2017 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [VXX31701]
Blank Spike Lab ID: 1425423
Date Analyzed: 11/11/2017 18:40

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607027, 1179607035

Results by **SW8260C LL w/MeOH**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,2,2-Tetrachloroethane	750	610	81	(70-124)
1,1,2-Trichloroethane	750	708	94	(78-121)
1,2,3-Trichloropropane	750	626	83	(73-125)
1,2-Dibromoethane	750	724	97	(78-122)
1,2-Dichloroethane	750	682	91	(73-128)
Bromodichloromethane	750	796	106	(75-127)
Bromomethane	750	825	110	(53-143)
Chloroform	750	758	101	(78-123)
Dibromochloromethane	750	787	105	(74-126)
Vinyl chloride	750	833	111	(56-135)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	95.7	96	(71-136)
4-Bromofluorobenzene (surr)	750	92.1	92	(55-151)
Toluene-d8 (surr)	750	100	100	(85-116)

Batch Information

Analytical Batch: **VMS17435**
Analytical Method: **SW8260C LL w/MeOH**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **NRO**

Prep Batch: **VXX31701**
Prep Method: **SW5035A**
Prep Date/Time: **11/11/2017 06:00**
Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 11/28/2017 3:10:46PM

Matrix Spike Summary

Original Sample ID: 1179437020
MS Sample ID: 1425424 MS
MSD Sample ID: 1425425 MSD

Analysis Date: 11/11/2017 20:35
Analysis Date: 11/11/2017 19:06
Analysis Date: 11/11/2017 19:24
Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607027, 1179607035

Results by **SW8260C LL w/MeOH**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,2-Dibromoethane	0.178U	534	515	96	534	538	101	78-122	4.50	(< 20)
1,2-Dichloroethane	0.535J	534	488	91	534	500	94	73-128	2.50	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		534	513	96	534	525	98	71-136	2.20	
4-Bromofluorobenzene (surr)		591	328	56	591	309	52 *	55-151	5.80	
Toluene-d8 (surr)		534	524	98	534	528	99	85-116	0.71	

Batch Information

Analytical Batch: VMS17435
Analytical Method: SW8260C LL w/MeOH
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 11/11/2017 7:06:00PM

Prep Batch: VXX31701
Prep Method: Vol. Extraction SW8260 LL w/MeOH
Prep Date/Time: 11/11/2017 6:00:00AM
Prep Initial Wt./Vol.: 118.58g
Prep Extract Vol: 37.77mL

Print Date: 11/28/2017 3:10:47PM

Method Blank

Blank ID: MB for HBN 1772033 [VXX/31702]
Blank Lab ID: 1425426

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607030, 1179607031

Results by **SW8260C LL w/MeOH**

Parameter	Results	LOQ/CL	DL	Units
1,1,2,2-Tetrachloroethane	1.00U	2.00	0.620	ug/Kg
1,1,2-Trichloroethane	0.400U	0.800	0.250	ug/Kg
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/Kg
1,2-Dibromoethane	0.250U	0.500	0.150	ug/Kg
1,2-Dichloroethane	1.00U	2.00	0.620	ug/Kg
Bromodichloromethane	1.00U	2.00	0.620	ug/Kg
Bromomethane	10.0U	20.0	6.20	ug/Kg
Chloroform	1.00U	2.00	0.620	ug/Kg
Dibromochloromethane	1.00U	2.00	0.620	ug/Kg
Vinyl chloride	0.400U	0.800	0.250	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	101	71-136		%
4-Bromofluorobenzene (surr)	92.2	55-151		%
Toluene-d8 (surr)	98	85-116		%

Batch Information

Analytical Batch: VMS17444
Analytical Method: SW8260C LL w/MeOH
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 11/12/2017 3:26:00PM

Prep Batch: VXX31702
Prep Method: SW5035A
Prep Date/Time: 11/12/2017 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [VXX31702]
Blank Spike Lab ID: 1425427
Date Analyzed: 11/12/2017 15:44

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607030, 1179607031

Results by **SW8260C LL w/MeOH**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1,1,2,2-Tetrachloroethane	750	623	83	(70-124)
1,1,2-Trichloroethane	750	730	97	(78-121)
1,2,3-Trichloropropane	750	630	84	(73-125)
1,2-Dibromoethane	750	744	99	(78-122)
1,2-Dichloroethane	750	702	94	(73-128)
Bromodichloromethane	750	816	109	(75-127)
Bromomethane	750	892	119	(53-143)
Chloroform	750	774	103	(78-123)
Dibromochloromethane	750	802	107	(74-126)
Vinyl chloride	750	839	112	(56-135)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	98.7	99	(71-136)
4-Bromofluorobenzene (surr)	750	91.4	91	(55-151)
Toluene-d8 (surr)	750	98.8	99	(85-116)

Batch Information

Analytical Batch: **VMS17444**
Analytical Method: **SW8260C LL w/MeOH**
Instrument: **VRA Agilent GC/MS 7890B/5977A**
Analyst: **NRO**

Prep Batch: **VXX31702**
Prep Method: **SW5035A**
Prep Date/Time: **11/12/2017 06:00**
Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1179639003
MS Sample ID: 1425428 MS
MSD Sample ID: 1425429 MSD

QC for Samples: 1179607030, 1179607031

Analysis Date: 11/12/2017 18:43
Analysis Date: 11/12/2017 17:15
Analysis Date: 11/12/2017 17:33
Matrix: Soil/Solid (dry weight)

Results by **SW8260C LL w/MeOH**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1,1,2,2-Tetrachloroethane	0.720U	540	459	85	540	516	96	70-124	11.50	(< 20)
1,1,2-Trichloroethane	0.288U	540	466	86	540	488	90	78-121	4.50	(< 20)
1,2,3-Trichloropropane	0.360U	540	472	87	540	511	95	73-125	8.00	(< 20)
1,2-Dibromoethane	0.180U	540	475	88	540	501	93	78-122	5.30	(< 20)
1,2-Dichloroethane	0.720U	540	456	85	540	471	87	73-128	3.00	(< 20)
Bromodichloromethane	0.720U	540	539	100	540	538	100	75-127	0.17	(< 20)
Bromomethane	7.20U	540	618	115	540	639	118	53-143	3.20	(< 20)
Chloroform	1.26J	540	524	97	540	514	95	78-123	1.90	(< 20)
Dibromochloromethane	0.720U	540	521	97	540	536	99	74-126	2.90	(< 20)
Vinyl chloride	0.288U	540	609	113	540	539	100	56-135	12.30	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		540	497	92	540	529	98	71-136	6.30	
4-Bromofluorobenzene (surr)		766	816	106	766	746	97	55-151	8.90	
Toluene-d8 (surr)		540	538	100	540	532	99	85-116	1.10	

Batch Information

Analytical Batch: VMS17444
Analytical Method: SW8260C LL w/MeOH
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 11/12/2017 5:15:00PM

Prep Batch: VXX31702
Prep Method: Vol. Extraction SW8260 LL w/MeOH
Prep Date/Time: 11/12/2017 6:00:00AM
Prep Initial Wt./Vol.: 85.84g
Prep Extract Vol: 29.33mL

Print Date: 11/28/2017 3:10:50PM

Method Blank

Blank ID: MB for HBN 1771780 [XXX/38823]
Blank Lab ID: 1424750

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607008, 1179607009, 1179607010, 1179607011, 1179607012, 1179607014, 1179607015, 1179607016, 1179607017, 1179607018, 1179607019

Results by **AK102**

Parameter	Results	LOQ/CL	DL	Units
Diesel Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
5a Androstane (surr)	82.9	60-120		%

Batch Information

Analytical Batch: XFC13963
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: CMS
Analytical Date/Time: 11/8/2017 6:58:00PM

Prep Batch: XXX38823
Prep Method: SW3550C
Prep Date/Time: 11/8/2017 9:39:12AM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 1 mL

Print Date: 11/28/2017 3:10:52PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [XXX38823]
Blank Spike Lab ID: 1424751
Date Analyzed: 11/08/2017 19:08

Spike Duplicate ID: LCSD for HBN 1179607 [XXX38823]
Spike Duplicate Lab ID: 1424752
Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607008, 1179607009, 1179607010, 1179607011, 1179607012, 1179607014, 1179607015, 1179607016, 1179607017, 1179607018, 1179607019

Results by **AK102**

	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Diesel Range Organics	167	153	92	167	159	95	(75-125)	4.00	(< 20)
Surrogates									
5a Androstane (surr)	3.33	92.6	93	3.33	96.7	97	(60-120)	4.40	

Batch Information

Analytical Batch: **XFC13963**
Analytical Method: **AK102**
Instrument: **Agilent 7890B F**
Analyst: **CMS**

Prep Batch: **XXX38823**
Prep Method: **SW3550C**
Prep Date/Time: **11/08/2017 09:39**
Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
Dupe Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

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Method Blank

Blank ID: MB for HBN 1771787 [XXX/38824]
Blank Lab ID: 1424774

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607001, 1179607007, 1179607013, 1179607016, 1179607020, 1179607036, 1179607037, 1179607038, 1179607039, 1179607040, 1179607041, 1179607042, 1179607043, 1179607044, 1179607045, 1179607046, 1179607047, 1179607048, 1179607049, 1179607050

Results by **SW8082A**

Parameter	Results	LOQ/CL	DL	Units
Aroclor-1016	25.0U	50.0	15.0	ug/Kg
Aroclor-1221	100U	200	62.0	ug/Kg
Aroclor-1232	25.0U	50.0	15.0	ug/Kg
Aroclor-1242	25.0U	50.0	15.0	ug/Kg
Aroclor-1248	25.0U	50.0	15.0	ug/Kg
Aroclor-1254	25.0U	50.0	15.0	ug/Kg
Aroclor-1260	25.0U	50.0	15.0	ug/Kg
Surrogates				
Decachlorobiphenyl (surr)	84	60-125		%

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV L R
Analyst: BMZ
Analytical Date/Time: 11/15/2017 12:41:00AM

Prep Batch: XXX38824
Prep Method: SW3550C
Prep Date/Time: 11/8/2017 10:54:46AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [XXX38824]
Blank Spike Lab ID: 1424775
Date Analyzed: 11/15/2017 00:56

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607001, 1179607007, 1179607013, 1179607016, 1179607020, 1179607036, 1179607037, 1179607038, 1179607039, 1179607040, 1179607041, 1179607042, 1179607043, 1179607044, 1179607045, 1179607046, 1179607047, 1179607048, 1179607049, 1179607050

Results by **SW8082A**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Aroclor-1016	222	104	47	(47-134)
Aroclor-1260	222	156	70	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	86	86	(60-125)

Batch Information

Analytical Batch: **XGC9954**
Analytical Method: **SW8082A**
Instrument: **HP 6890 Series II ECD SV L R**
Analyst: **BMZ**

Prep Batch: **XXX38824**
Prep Method: **SW3550C**
Prep Date/Time: **11/08/2017 10:54**
Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1179607016
MS Sample ID: 1424776 MS
MSD Sample ID: 1424777 MSD

Analysis Date: 11/15/2017 17:57
Analysis Date: 11/15/2017 18:26
Analysis Date: 11/15/2017 18:56
Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607001, 1179607007, 1179607013, 1179607016, 1179607020, 1179607036, 1179607037, 1179607038, 1179607039, 1179607040, 1179607041, 1179607042, 1179607043, 1179607044, 1179607045, 1179607046, 1179607047, 1179607048, 1179607049, 1179607050

Results by **SW8082A**

		Matrix Spike (ug/Kg)				Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)		Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aroclor-1016	27.2U	243	223	92		247	221	90	47-134	0.85	(< 30)
Aroclor-1260	638	243	987	143	*	247	966	133	53-140	2.16	(< 30)
Surrogates											
Decachlorobiphenyl (surr)		243	129	53	*	247	81.2	33	* 60-125	45.20	

Batch Information

Analytical Batch: XGC9955
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV L R
Analyst: BMZ
Analytical Date/Time: 11/15/2017 6:26:00PM

Prep Batch: XXX38824
Prep Method: Sonication Extraction Soil SW8080 PCB
Prep Date/Time: 11/8/2017 10:54:46AM
Prep Initial Wt./Vol.: 22.87g
Prep Extract Vol: 5.00mL

Print Date: 11/28/2017 3:10:56PM

Method Blank

Blank ID: MB for HBN 1771805 [XXX/38826]
Blank Lab ID: 1424851

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026

Results by **SW8270D**

Parameter	Results	LOQ/CL	DL	Units
Pentachlorophenol	1.00U	2.00	0.620	mg/Kg
Surrogates				
2,4,6-Tribromophenol (surr)	85.6	35-125		%
2-Fluorobiphenyl (surr)	79.1	44-115		%
2-Fluorophenol (surr)	62.3	35-115		%
Nitrobenzene-d5 (surr)	67.4	37-122		%
Phenol-d6 (surr)	69.2	33-122		%
Terphenyl-d14 (surr)	96.1	54-127		%

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: DSH
Analytical Date/Time: 11/14/2017 1:29:00PM

Prep Batch: XXX38826
Prep Method: SW3550C
Prep Date/Time: 11/8/2017 2:08:20PM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 1 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [XXX38826]
Blank Spike Lab ID: 1424852
Date Analyzed: 11/14/2017 14:22

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026

Results by **SW8270D**

Blank Spike (mg/Kg)

Parameter	Spike	Result	Rec (%)	CL
Pentachlorophenol	6.22	5.93	95	(25-133)
Surrogates				
2,4,6-Tribromophenol (surr)	8.89	91.4	91	(35-125)
2-Fluorobiphenyl (surr)	4.44	79.8	80	(44-115)
2-Fluorophenol (surr)	8.89	62.5	63	(35-115)
Nitrobenzene-d5 (surr)	4.44	69.9	70	(37-122)
Phenol-d6 (surr)	8.89	67.9	68	(33-122)
Terphenyl-d14 (surr)	4.44	84.5	85	(54-127)

Batch Information

Analytical Batch: **XMS10547**
Analytical Method: **SW8270D**
Instrument: **HP 6890/5973 SSA**
Analyst: **DSH**

Prep Batch: **XXX38826**
Prep Method: **SW3550C**
Prep Date/Time: **11/08/2017 14:08**
Spike Init Wt./Vol.: 6.22 mg/Kg Extract Vol: 1 mL
Dupe Init Wt./Vol.: Extract Vol:

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Matrix Spike Summary

Original Sample ID: 1179567004
MS Sample ID: 1424853 MS
MSD Sample ID: 1424854 MSD

Analysis Date: 11/14/2017 19:58
Analysis Date: 11/14/2017 20:16
Analysis Date: 11/14/2017 20:33
Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607021, 1179607022, 1179607023, 1179607024, 1179607025, 1179607026

Results by **SW8270D**

		Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Pentachlorophenol	1.32U	8.06	5.75	71	8.15	5.94	73	25-133	3.30	(< 20)
Surrogates										
2,4,6-Tribromophenol (surr)		11.5	9.54	83	11.7	9.93	85	35-125	4.10	
2-Fluorobiphenyl (surr)		5.76	4.02	70	5.83	4.40	76	44-115	9.20	
2-Fluorophenol (surr)		11.5	5.50	48	11.7	6.21	53	35-115	12.30	
Nitrobenzene-d5 (surr)		5.76	3.17	55	5.83	3.46	59	37-122	8.70	
Phenol-d6 (surr)		11.5	6.53	57	11.7	7.01	60	33-122	7.30	
Terphenyl-d14 (surr)		5.76	4.81	83	5.83	5.18	89	54-127	7.60	

Batch Information

Analytical Batch: XMS10547
Analytical Method: SW8270D
Instrument: HP 6890/5973 SSA
Analyst: DSH
Analytical Date/Time: 11/14/2017 8:16:00PM

Prep Batch: XXX38826
Prep Method: Sonication Extraction Soil SW8270
Prep Date/Time: 11/8/2017 2:08:20PM
Prep Initial Wt./Vol.: 22.95g
Prep Extract Vol: 1.00mL

Print Date: 11/28/2017 3:11:00PM

Method Blank

Blank ID: MB for HBN 1771805 [XXX/388326 Matrix: Soil/Solid (dry weight)
Blank] aL ID: 102b420

QC for Samples:
1179547443, 1179547440, 1179547448, 1179547412, 117954741b, 1179547415, 1179547419, 1179547421, 1179547422, 1179547423, 1179547427, 1179547434, 1179547431

Results Ly **8270D SIM (PAH)**

Parameter	Results	] OQ/C]	D]	Units
1dMethylnaphthalene	12.bU	2b.4	7.b4	ug/Kg
2dMethylnaphthalene	12.bU	2b.4	7.b4	ug/Kg
- Tenaphthene	12.bU	2b.4	7.b4	ug/Kg
- Tenaphthylene	12.bU	2b.4	7.b4	ug/Kg
- nthraTene	12.bU	2b.4	7.b4	ug/Kg
Ben%o(a)- nthraTene	12.bU	2b.4	7.b4	ug/Kg
Ben%o[a6pyrene	12.bU	2b.4	7.b4	ug/Kg
Ben%o[L6Fluoranthene	12.bU	2b.4	7.b4	ug/Kg
Ben%o[g,h,i6perylene	12.bU	2b.4	7.b4	ug/Kg
Ben%o[k6fluoranthene	12.bU	2b.4	7.b4	ug/Kg
Chrysene	12.bU	2b.4	7.b4	ug/Kg
DiLen%o[a,h6anthraTene	12.bU	2b.4	7.b4	ug/Kg
Fluoranthene	12.bU	2b.4	7.b4	ug/Kg
Fluorene	12.bU	2b.4	7.b4	ug/Kg
Indeno[1,2,3cT,d6pyrene	12.bU	2b.4	7.b4	ug/Kg
Naphthalene	14.4U	24.4	5.44	ug/Kg
Phenanthrene	12.bU	2b.4	7.b4	ug/Kg
Pyrene	12.bU	2b.4	7.b4	ug/Kg
Surrogates				
2dMethylnaphthalenecd14 (surr)	81.9	b4c1b4		z
Fluoranthenecd14 (surr)	80.b	b4c1b4		z

Batch Information

- nalytiTal BatTh: XMS14bb1
- nalytiTal Method: 8274D SIM (P- H)
Instrument: - gilent A C 7894B/b977- SW-
- nalyst: NRB
- nalytiTal Date/Vime: 11/24/2417 b:b9:44- M

Prep BatTh: XXX38832
Prep Method: SW3bb4C
Prep Date/Vime: 11/9/2417 12:42:b3PM
Prep Initial Wt./Eol.: 22.b g
Prep GxtraTt Eol: b m]

Print Date: 11/28/2417 3:11:44PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [XXX38832]
Blank Spike Lab ID: 1425025
Date Analyzed: 11/20/2017 06:19

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607003, 1179607004, 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607027, 1179607030, 1179607031

Results by **8270D SIM (PAH)**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1.Methylnaphthalene	111	95-7	86	(43.111)
2.Methylnaphthalene	111	87-9	79	(39.114)
Acenaphthene	111	91-8	83	(44.111)
Acenaphthylene	111	97-1	87	(39.116)
Anthracene	111	99-3	89	(50.114)
Benzo(a)Anthracene	111	102	92	(54.122)
Benzo[a]pyrene	111	93-7	84	(50.125)
Benzo[b]Tluoranthene	111	102	92	(53.128)
Benzo[g,h,i]perylene	111	98-0	88	(49.127)
Benzo[k]fluoranthene	111	98-9	89	(56.123)
Chrysene	111	102	92	(57.118)
Dibenzo[a,h]anthracene	111	104	93	(50.129)
Tluoranthene	111	99-7	90	(55.119)
Tluorene	111	98-2	88	(47.114)
Indeno[1,2,3.c,d] pyrene	111	99-8	90	(49.130)
Naphthalene	111	85-5	77	(38.111)
Phenanthrene	111	98-5	89	(49.113)
Pyrene	111	105	94	(55.117)
Surrogates				
2.Methylnaphthalene.d10 (surr)	111	76-1	76	(50.150)
Tluoranthene.d10 (surr)	111	79-1	79	(50.150)

Batch Information

Analytical Batch: **XMS10551**
Analytical Method: **8270D SIM (PAH)**
Instrument: **Agilent GC 7890B/5977A SWA**
Analyst: **NRB**

Prep Batch: **XXX38832**
Prep Method: **SW3550C**
Prep Date/Fime: **11/09/2017 12:02**
Spike Init Wt-/Vol-: 111 ug/Kg Extract Vol: 5 mL
Dupe Init Wt-/Vol-: Extract Vol:

SGS North America Inc-
200 West Potter Drive Anchorage, AK 95518
t 907-562-2343 f 907-561-5301 www-us-sgs-com

Matrix Spike Summary

Original Sample ID: 1179607012
MS Sample ID: 1425026 MS
MSD Sample ID: 1425027 MSD

Analysis Date: 11/20/2017 6:39
Analysis Date: 11/20/2017 7:00
Analysis Date: 11/20/2017 7:20
Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607003, 1179607004, 1179607008, 1179607012, 1179607015, 1179607016, 1179607019, 1179607021, 1179607022, 1179607023, 1179607027, 1179607030, 1179607031

Results by **8270D SIM (PAH)**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
1-Methylnaphthalene	12.0J	123	136	110	124	136	109	43-111	0.21	(< 20)
2-Methylnaphthalene	17.3J	123	135	109	124	132	107	39-114	1.60	(< 20)
Acenaphthene	13.9U	123	112	91	124	117	94	44-111	3.30	(< 20)
Acenaphthylene	13.9U	123	122	99	124	124	100	39-116	2.40	(< 20)
Anthracene	13.9U	123	117	95	124	121	98	50-114	3.40	(< 20)
Benzo(a)Anthracene	13.9U	123	112	91	124	117	94	54-122	3.90	(< 20)
Benzo[a]pyrene	13.9U	123	105	85	124	107	87	50-125	2.20	(< 20)
Benzo[b]Fluoranthene	13.9U	123	111	90	124	113	91	53-128	2.00	(< 20)
Benzo[g,h,i]perylene	13.9U	123	99.8	81	124	104	83	49-127	3.70	(< 20)
Benzo[k]fluoranthene	13.9U	123	108	88	124	112	90	56-123	3.10	(< 20)
Chrysene	13.9U	123	114	93	124	117	94	57-118	2.40	(< 20)
Dibenzo[a,h]anthracene	13.9U	123	106	86	124	111	90	50-129	5.20	(< 20)
Fluoranthene	13.9U	123	113	92	124	115	93	55-119	1.50	(< 20)
Fluorene	13.9U	123	119	96	124	122	98	47-114	2.80	(< 20)
Indeno[1,2,3-c,d] pyrene	13.9U	123	101	82	124	106	85	49-130	4.90	(< 20)
Naphthalene	9.06J	123	121	98	124	122	98	38-111	0.47	(< 20)
Phenanthrene	13.9U	123	120	97	124	122	98	49-113	1.70	(< 20)
Pyrene	13.9U	123	121	98	124	121	97	55-117	0.07	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		123	104	85	124	105	85	50-150	0.92	
Fluoranthene-d10 (surr)		123	102	83	124	102	82	50-150	0.24	

Batch Information

Analytical Batch: XMS10551
Analytical Method: 8270D SIM (PAH)
Instrument: Agilent GC 7890B/5977A SWA
Analyst: NRB
Analytical Date/Time: 11/20/2017 7:00:00AM

Prep Batch: XXX38832
Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
Prep Date/Time: 11/9/2017 12:02:53PM
Prep Initial Wt./Vol.: 22.72g
Prep Extract Vol: 5.00mL

Print Date: 11/28/2017 3:11:05PM

Method Blank

Blank ID: MB for HBN 1772143 [XXX/38851]
Blank Lab ID: 1425647

Matrix: Soil/Solid (dry weight)

QC for Samples:
1179607051

Results by **SW8082A**

Parameter	Results	LOQ/CL	DL	Units
Aroclor-1016	25.0U	50.0	15.0	ug/Kg
Aroclor-1221	100U	200	62.0	ug/Kg
Aroclor-1232	25.0U	50.0	15.0	ug/Kg
Aroclor-1242	25.0U	50.0	15.0	ug/Kg
Aroclor-1248	25.0U	50.0	15.0	ug/Kg
Aroclor-1254	25.0U	50.0	15.0	ug/Kg
Aroclor-1260	25.0U	50.0	15.0	ug/Kg
Surrogates				
Decachlorobiphenyl (surr)	90	60-125		%

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV L R
Analyst: BMZ
Analytical Date/Time: 11/14/2017 10:16:00PM

Prep Batch: XXX38851
Prep Method: SW3550C
Prep Date/Time: 11/14/2017 1:11:22PM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1179607 [XXX38851]
Blank Spike Lab ID: 1425648
Date Analyzed: 11/14/2017 22:30

Matrix: Soil/Solid (dry weight)

QC for Samples: 1179607051

Results by **SW8082A**

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
Aroclor-1016	222	144	65	(47-134)
Aroclor-1260	222	178	80	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	88	88	(60-125)

Batch Information

Analytical Batch: **XGC9954**
Analytical Method: **SW8082A**
Instrument: **HP 6890 Series II ECD SV L R**
Analyst: **BMZ**

Prep Batch: **XXX38851**
Prep Method: **SW3550C**
Prep Date/Time: **11/14/2017 13:11**
Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 11/28/2017 3:11:07PM

Matrix Spike Summary

Original Sample ID: 1179640001
MS Sample ID: 1425649 MS
MSD Sample ID: 1425650 MSD

QC for Samples: 1179607051

Analysis Date: 11/15/2017 0:12
Analysis Date: 11/14/2017 22:59
Analysis Date: 11/14/2017 23:14
Matrix: Soil/Solid (dry weight)

Results by **SW8082A**

		Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)					
Parameter	Sample	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Aroclor-1016	27.1U	243	185	76	243	163	67	47-134	12.60	(< 30)
Aroclor-1260	27.1U	243	187	77	243	175	72	53-140	6.76	(< 30)
Surrogates										
Decachlorobiphenyl (surr)		243	214	88	243	207	85	60-125	3.52	

Batch Information

Analytical Batch: XGC9954
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV L R
Analyst: BMZ
Analytical Date/Time: 11/14/2017 10:59:00PM

Prep Batch: XXX38851
Prep Method: Sonication Extraction Soil SW8080 PCB
Prep Date/Time: 11/14/2017 1:11:22PM
Prep Initial Wt./Vol.: 22.62g
Prep Extract Vol: 5.00mL

Print Date: 11/28/2017 3:11:09PM

Deeney, Hannah (Anchorage)

From: Nelson, Justin (Anchorage)
Sent: Wednesday, November 08, 2017 8:27 AM
To: Env.Alaska.RcvgLogin
Cc: Vlahovich, Jillian (Anchorage)
Subject: FW: 1179607 - 17849 JBER CHPP DCVR-006

See change order below re: 1176907. The sample that did NOT include VOC containers, but did request the analysis will have a new container delivered today, and the analysis will be logged in. The sample for which a container was supplied, but no analysis was requested will not be analysed for VOC, but we will keep the container in storage.

Thanks!

Justin A. Nelson
Environment, Health, and Safety
Project Manager

Phone: +00 1 907 550-3205

From: Coulson, Andy [mailto:acoulson@emi-alaska.com]
Sent: Wednesday, November 08, 2017 8:15 AM
To: Nelson, Justin (Anchorage) <Justin.Nelson@sgs.com>
Cc: Helgeson, Larry <lhelgeson@emi-alaska.com>; Hasburgh, Glenn <ghasburgh@emi-alaska.com>
Subject: RE: 1179607 - 17849 JBER CHPP DCVR-006

Hi Justin,

Looks like we included the wrong jar. We have the VOC jar for "AOC02-005 base" in a cooler on ice here, can I bring it by this morning?

The COC is correct that we do not need VOC analysis for "AOC08-005 base", but we would like to retain that sample container for now.

Andy

From: Helgeson, Larry
Sent: Wednesday, November 08, 2017 7:25 AM
To: Coulson, Andy; Hasburgh, Glenn
Subject: FW: 1179607 - 17849 JBER CHPP DCVR-006

Andy/Glenn,

Any idea on the discrepancy noted?

Larry

From: Nelson, Justin (Anchorage) [mailto:Justin.Nelson@sgs.com]
Sent: Tuesday, November 07, 2017 5:26 PM
To: Helgeson, Larry
Subject: 1179607 - 17849 JBER CHPP DCVR-006

Larry,

There was a small discrepancy between the sample containers and the COC for this workorder:

- Sample "AOC08-005 base, sampled 11/3/17 at 15:00, does not request VOC analysis, but has a soil VOC container.
- Sample "AOC02-005 base, sampled 11/4/17 at 16:33, requests VOC analysis, but does not have a soil VOC container.

I'm currently logging the samples in per the jars I received, so let me know if that needs to change.

Please note that starting October 23, we will revert to our Winter Hours of 8:00 A.M. to 5:00 P.M. Please plan accordingly.

Justin A. Nelson
Environment, Health, and Safety
Project Manager
SGS – North America Inc.
200 W. Potter Drive
Anchorage, AK 99518
Phone: +00 1 907 550-3205
E-mail: Justin.Nelson@sgs.com
my LinkedIn profile
Feedback? env.alaska.feedback@sgs.com

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Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: EMI

CONTACT: Larry Helgeson — PHONE #: 907-272-9336

PROJECT NAME: JBER CHPP DCVR-006 — Project/ PWSID/ PERMIT#: 17849

REPORTS TO: Larry Helgeson — E-MAIL:

INVOICE TO: EMI — QUOTE #: — P.O. #: 17849

Section 3 — Preservative

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	MeOH+BFB: VOC LL MEOH SW8260	SVOC SW 8270 (PCP)	DRO AK102	PCB SW8082A	PAH 8270D SIM	Metals SW6020A (RCRA plus Ni, V)	Metals SW6020A (Hg, Pb only)	Metals SW6020A (Ba only)	Metals SW6020A (As, Pb, Hg only)	Pb TCLP	REMARKS/ LOC ID
(1) A	AOC04-005 sod	11/03/17	12:47	soil	1	grab				X							
(2) A	AOC04-005 North Wall	11/03/17	15:04	soil	1	grab									X		
(3) A	AOC04-005 South Wall	11/03/17	14:57	soil	1	grab					X	X					
(4) A-B	AOC04-005 base	11/03/17	15:00	soil	1	grab					X	X					
(5) A	AOC04-005 West Wall	11/03/17	15:05	soil	1	grab									X		
(6) A	AOC04-005 East Wall	11/03/17	15:10	soil	1	grab									X		
(7) A	AOC02-005 sod	11/04/17	09:28	soil	1	grab				X							
(8) A-B	AOC02-005 base	11/04/17	16:33	soil	3	grab	X		X	X	X	X					(36) A
(9) A-B	AOC02-005 west wall 2	11/04/17	16:37	soil	2	grab			X	X							(37) A
(10) A-B	AOC02-005 East Wall 2	11/04/17	16:20	soil	2	grab			X	X							(38) A

DOD 11/7/17

Section 5

	Date	Time	
Relinquished By: (1)			Received By:
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	11/7/17	16:05	Received For Laboratory By:

Section 4 — DOD Project? Yes No

Cooler ID: Cooler #1

Data Deliverable Requirements: Level II

Requested Turnaround Time and/or Special Instructions:
Use Sample ID from labels
Dedicated containers for PCB analyses.

Temp Blank °C: -0.1 #1026 or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

NCW

Hand Delivered

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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F083-Blank_COC_Templates_2015-03-19

Revised Report

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Page 2 of 4

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: EMI

CONTACT: Larry Helgeson — PHONE #: 907-272-9336

PROJECT NAME: JBER CHPP DCVR-006 — Project/ PWSID/ PERMIT#: 17849

REPORTS TO: Larry Helgeson — E-MAIL:

INVOICE TO: EMI — QUOTE #: — P.O. #: 17849

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	MeOH+BFB: VOC LL MEOH SW8260	SVOC SW 8270 (PCP)	DRO AK102	PCB SW8082A	PAH 8270D SIM	Metals SW6020A (RCRA plus Ni, V)	Metals SW6020A (Hg, Pb only)	Metals SW6020A (Ba only)	Metals SW6020A (As, Pb, Hg only)	Pb TCLP	REMARKS/ LOC ID
(11) A-~~B~~	AOC02-005 North Wall 2	11/04/17	16:42	soil	2	grab			X	X							(39) A
(12) A-B	AOC02-005 South Wall 1	11/04/17	16:27	soil	3	grab	X		X	X	X	X					(40) A
(13) A	AOC02-008 Sod	11/04/17	09:46	Soil	1	grab				X							
(14) A-~~B~~	AOC02-008 North Wall 2	11/04/17	15:15	soil	2	grab			X	X							(41) A
(15) A-B	AOC02-008 Base NE	11/04/17	13:53	soil	3	grab	X		X	X	X	X					(42) A
(16) A-B	AOC02-008 Base NE2	11/04/17	13:53	Soil	2	grab	X		X	X	X	X					Use soil from DRO/PAH/Metals container for PCB
(17) A-~~B~~	AOC02-008 South wall 1	11/04/17	14:00	soil	2	grab			X	X							(43) A
(18) A-~~B~~	AOC02-008 west wall 2	11/04/17	19:10	Soil	2	grab			X	X							(44) A
(19) A-B	AOC02-008 East wall 2	11/04/17	14:05	soil	3	grab	X		X	X	X	X					(45) A
(20) A	AOC06-001 sod	11/06/17	09:35	soil	1	grab				X							

DHD 11/7/17

Revised Report

Section 5

	Date	Time	Received By:
Relinquished By: (1)			
Relinquished By: (2)			
Relinquished By: (3)			
Relinquished By: (4)	11/7/17	16:05	Received For Laboratory By:

Section 4

DOD Project? (Yes) No

Cooler ID: Cooler #1

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:
use sample ID from labels.
Dedicated container for PCB analyses.

Temp Blank °C: _____ or Ambient [ ] (See attached Sample Receipt Form)

Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT (See attached Sample Receipt Form)

NCW

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

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F083-Blank_COC_Templates_2015-03-19

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Instructions: Sections 1 - 5 must be filled out.
Omissions may delay the onset of analysis.

Section 1

CLIENT: EMI

CONTACT: Larry Helgeson — PHONE #: 907-272-9336

PROJECT NAME: JBER CHPP DCVR-006 — Project/ PWSID/ PERMIT#: 17849

REPORTS TO: Larry Helgeson — E-MAIL:

INVOICE TO: EMI — QUOTE #: — P.O. #: 17849

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	MeOH+BFB: VOC LL MEOH SW8260	SVOC SW 8270 (PCP)	DRO AK102	PCB SW8082A	PAH 8270D SIM	Metals SW6020A (RCRA plus Ni, V)	Metals SW6020A (Hg, Pb only)	Metals SW6020A (Ba only)	Metals SW6020A (As, Pb, Hg only)	Pb TCLP	REMARKS/ LOC ID
(21) A ~~DC~~	AOC 06-001 base	11/06/17	11:44	soil	4	grab	X	X		X	X	X					(46) A
(22) A ~~DC~~	AOC 06-001 North wall	11/06/17	12:00	soil	4	grab	X	X		X	X	X					(47) A
(23) A ~~DC~~	AOC 06-001 North wall 2	11/06/17	12:00	soil	4	grab	X	X		X	X	X					(48) A
(24) A-B	AOC 06-001 West wall	11/06/17	12:16	soil	3*	grab		X		X			X				(49) A
(25) A-B	AOC 06-001 South wall	11/06/17	12:09	soil	3	grab		X		X			X				(50) A
(26) A-B	AOC 06-001 East wall	11/06/17	12:13	soil	3	grab		X		X			X				(51) A
(27) A-B	AOC 07-002 base	11/06/17	15:45	soil	2	grab	X				X	X					
(28) A	AOC 07-002 North wall	11/06/17	15:48	soil	1	grab								X			
(29) A	AOC 07-002 North wall 2	11/06/17	15:48	soil	1	grab								X			
(30) A-B	AOC 07-002 East wall	11/06/17	15:53	soil	2	grab	X				X	X					

QAPP 11/7/17

Section 3 — Preservative

Section 4

DOD Project? (Yes) No

Cooler ID: Cooler #1

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:
PCB analyses from dedicated containers
use sample ID from labels.

Temp Blank °C: ____ or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

Section 5

Relinquished By:	Date	Time	Received By:
(1)			
(2)			
(3)			
(4)	11/7/17	16.05	Received For Laboratory By:

NCW

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

Revised Report

SGS

SGS North America Inc.
CHAIN OF CUSTODY RECORD

1179607

ons Nationwide
Maryland
New York
Indiana
Kentucky
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Page 4 of 4

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Section 1

CLIENT: EMI

CONTACT: Larry Helgeson — PHONE #: 907-272-9336

PROJECT NAME: JBER CHPP DCVR-006 — Project/ PWSID/ PERMIT#: 17849

REPORTS TO: Larry Helgeson — E-MAIL:

INVOICE TO: EMI — QUOTE #: — P.O. #: 17849

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	# CONTAINERS	Pres: Type: Comp Grab MI (Multi-incremental)	MeOH+BFB: VOC LL MEOH SW8260	SVOC SW 8270 (PCP)	DRO AK102	PCB SW8082A	PAH 8270D SIM	Metals SW6020A (RCRA plus Ni, V)	Metals SW6020A (Hg, Pb only)	Metals SW6020A (Ba only)	Metals SW6020A (As, Pb, Hg only)	Pb TCLP	REMARKS/ LOC ID
(31) A-B	ADC07-B02 South wall	11/06/17	16:01	soil	2	grab	X				X	X					
(32) A	ADC 07-002 NW wall	11/06/17	16:05	soil	1	grab								X			
(33) A	ADC 07-002 West wall	11/06/17	15:57	soil	1	grab								X			
(34) A	Supersack Composite 1	11/06/17	17:24	soil	1	comp										X	
(35) A																	

Section 5

	Date	Time	
Relinquished By: (1)			Received By:
Relinquished By: (2)			Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)	11/7/17	16:05	Received For Laboratory By:

Section 4

DOD Project? Yes (No)

Cooler ID: Cooler #1

Data Deliverable Requirements:

Requested Turnaround Time and/or Special Instructions:
PCB analyses from dedicated sample containers.
Use sample ID from labels

Temp Blank °C: _____ or Ambient [ ]
(See attached Sample Receipt Form)

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT
(See attached Sample Receipt Form)

[ ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

NCW

http://www.sgs.com/terms-and-conditions

F083-Blank_COC_Templates_2015-03-19

Revised Report

e-Sample Receipt Form

Revised Report

SGS Workorder #: 1179607

1 1 7 9 6 0 7

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements	Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	Absent
COC accompanied samples?	Yes	
N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ -0.1 °C Therm. ID: D26
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
	N/A	Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	N/A	
If <0°C, were sample containers ice free?	N/A	
If samples received without a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "**COOLER TEMP**" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples **match COC**** (i.e.,sample IDs,dates/times collected)?	Yes	
**Note: If times differ <1hr, record details & login per COC.		
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	No	**Sample 4 had a VOA jar & no VOC analyses marked on the COC sample 8 was missing a VOA jar & had VOC marked on COC.**
	N/A	***Exemption permitted for metals (e.g,200.8/6020A).
Were proper containers (type/mass/volume/preservative***)used?	Yes	
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	Yes	

Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

Additional notes (if applicable):

PCBs put on their own sample when possible per JAN.

Volatile jar for sample 8 received on 11/8/17 at 1403 TB:5.3 D21 by ARC.

Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1179607001-A	No Preservative Required	OK	1179607027-A	No Preservative Required	OK
1179607002-A	No Preservative Required	OK	1179607027-C	Methanol field pres. 4 C	OK
1179607003-A	No Preservative Required	OK	1179607028-A	No Preservative Required	OK
1179607004-A	No Preservative Required	OK	1179607029-A	No Preservative Required	OK
1179607004-B	Methanol field pres. 4 C	OK	1179607030-A	No Preservative Required	OK
1179607005-A	No Preservative Required	OK	1179607030-B	Methanol field pres. 4 C	OK
1179607006-A	No Preservative Required	OK	1179607031-A	No Preservative Required	OK
1179607007-A	No Preservative Required	OK	1179607031-B	Methanol field pres. 4 C	OK
1179607008-A	No Preservative Required	OK	1179607032-A	No Preservative Required	OK
1179607008-B	Methanol field pres. 4 C	OK	1179607033-A	No Preservative Required	OK
1179607009-A	No Preservative Required	OK	1179607034-A	No Preservative Required	OK
1179607010-A	No Preservative Required	OK	1179607035-A	Methanol field pres. 4 C	OK
1179607011-A	No Preservative Required	OK	1179607036-A	No Preservative Required	OK
1179607012-A	No Preservative Required	OK	1179607037-A	No Preservative Required	OK
1179607012-B	Methanol field pres. 4 C	OK	1179607038-A	No Preservative Required	OK
1179607013-A	No Preservative Required	OK	1179607039-A	No Preservative Required	OK
1179607014-A	No Preservative Required	OK	1179607040-A	No Preservative Required	OK
1179607015-A	No Preservative Required	OK	1179607041-A	No Preservative Required	OK
1179607015-B	Methanol field pres. 4 C	OK	1179607042-A	No Preservative Required	OK
1179607016-A	No Preservative Required	OK	1179607043-A	No Preservative Required	OK
1179607016-B	Methanol field pres. 4 C	OK	1179607044-A	No Preservative Required	OK
1179607017-A	No Preservative Required	OK	1179607045-A	No Preservative Required	OK
1179607018-A	No Preservative Required	OK	1179607046-A	No Preservative Required	OK
1179607019-A	No Preservative Required	OK	1179607047-A	No Preservative Required	OK
1179607019-B	Methanol field pres. 4 C	OK	1179607048-A	No Preservative Required	OK
1179607020-A	No Preservative Required	OK	1179607049-A	No Preservative Required	OK
1179607021-A	No Preservative Required	OK	1179607050-A	No Preservative Required	OK
1179607021-B	Methanol field pres. 4 C	OK	1179607051-A	No Preservative Required	OK
1179607021-C	No Preservative Required	OK			
1179607022-A	No Preservative Required	OK			
1179607022-B	Methanol field pres. 4 C	OK			
1179607022-C	No Preservative Required	OK			
1179607023-A	No Preservative Required	OK			
1179607023-B	No Preservative Required	OK			
1179607023-C	Methanol field pres. 4 C	OK			
1179607023-C	No Preservative Required	OK			
1179607024-A	No Preservative Required	OK			
1179607024-B	No Preservative Required	OK			
1179607025-A	No Preservative Required	OK			
1179607025-B	No Preservative Required	OK			
1179607026-A	No Preservative Required	OK			
1179607026-B	No Preservative Required	OK			

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.
BU - The container was received with headspace greater than 6mm.
DM - The container was received damaged.
FR - The container was received frozen and not usable for Bacteria or BOD analyses.
IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.
PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.
PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

Laboratory Data Review Checklist

Completed by:

Larry Helgeson

Title:

Environmental Engineer

Date:

November 27, 2017

CS Report Name:

Report Date:

January 1, 2018

Consultant Firm:

Environmental Management, Inc.

Laboratory Name:

SGS -North America

Laboratory Report Number:

1179607

ADEC File Number:

2102.26.032

Hazard Identification Number:

1485

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

      (•) Yes ( ) No Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

      ( ) Yes ( ) No Comments:

      Samples were not transferred.

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?

      (•) Yes ( ) No Comments:

   b. Correct analyses requested?

      (•) Yes ( ) No Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

      ( ) Yes (•) No Comments:

      Cooler temperature was -0.1°C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

      (•) Yes ( ) No Comments:

   c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

      (•) Yes ( ) No Comments:

      None were broken or leaking.

   d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

      (•) Yes ( ) No Comments:

      One wrong sample was placed in the cooler. EMI was called and the correct sample which was still in EMI's refrigerator was brought to the laboratory for analysis. since to was under the control of A. Coulson the whole time a new COC was not required.

e. Data quality or usability affected?

Comments:

No, there is not anything to indicate data quality or usablity has been affected.

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

(•) Yes ( ) No Comments:

c. Were all corrective actions documented?

(•) Yes ( ) No Comments:

d. What is the effect on data quality/usability according to the case narrative?

Comments:

None, all listed sample QC failures were due to dilution. MS/MSD failures were due to matrix interference.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

(•) Yes ( ) No Comments:

b. All applicable holding times met?

(•) Yes ( ) No Comments:

c. All soils reported on a dry weight basis?

(•) Yes ( ) No Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

(•) Yes ( ) No Comments:

1-methylnaphthalene, 2-methylnaphthalene, benzo(a)anthracene, benzo(a) pyrene and napthalene had LOQs above the action level in samples accociated with lcoation AOC02-008. Each of these samples had DRO concentrations well above the action level so additional charaterization will be needed in this area. For this reason the high LOQs do not have much affect.

Pentachlorophenol (PCP) LOQs were above the action level in each sample in which it was analyzed from area AOC06-001. PCP was not detected above the LOQ in any sample.

LOQ for 1,2,3-Trichloropropane, and 1,2-Dibromoethane in several of the samples. In some cases, where there was other contaminaiton present requiring dilution, other compounds had LOD's above the cleanup level

e. Data quality or usability affected?

Comments:

The data does not confirm that the pentachlorophenol detected at site AOC06 was all removed down to the cleanup level.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

There was a detection for chromium above the LOQ

ii. All method blank results less than limit of quantitation (LOQ)?

( ) Yes (•) No Comments:

There was a detection for chromium above the LOQ

iii. If above LOQ, what samples are affected?

Comments:

None are affected because the associated sample concentrations are 10 x greater than the MB.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

(•) Yes ( ) No Comments:

v. Data quality or usability affected?

Comments:

No. Data qaulity or usablity is not affected by the choromium detection in the MB.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

(●) Yes ( ) No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

(●) Yes ( ) No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

(●) Yes ( ) No Comments:

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

(●) Yes ( ) No Comments:

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

( ) Yes ( ) No Comments:

NA, there were no affected samples.

vii. Data quality or usability affected?

Comments:

There is nothing to indicate data quality or usablity has been affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

(●) Yes ( ) No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

○ Yes ◉ No Comments:

There were multiple failed recoveries due to dilution or matrix interference

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

○ Yes ◉ No Comments:

Failed surrogates are marked with an "*" but the data itself does not have a separate data flag.

iv. Data quality or usability affected?

Comments:

No, in all cases the sample was contamainted with other compounds requiring dilution.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

◉ Yes ○ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

○ Yes ○ No Comments:

iii. All results less than LOQ?

○ Yes ◉ No Comments:

Chloroform was detected in the trip blank above the LOQ but at approximately 1/2 the project cleanup level.

iv. If above LOQ, what samples are affected?

Comments:

Seven of the 11 VOC samples also detected Cloroform, but none were significantly above the TB.

v. Data quality or usability affected?

Comments:

This data can not be used to show Chloroform is contaminant present at the site.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

(●) Yes ( ) No Comments:

ii. Submitted blind to lab?

(●) Yes ( ) No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

( ) Yes (●) No Comments:

RPD on Cd was 113%. All other RPDs were within the above limits.

iv. Data quality or usability affected?

Comments:

No. Cd was not a contaminate of concern

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

( ) Yes (●) No ( ) Not Applicable

i. All results less than LOQ?

( ) Yes (●) No Comments:

Only disposible tools were used to collect the samples.

ii. If above LOQ, what samples are affected?

Comments:

iii. Data quality or usability affected?

Comments:

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

   a. Defined and appropriate?

      (•) Yes ( ) No Comments:

Appendix C

Field Notes

JBER CHPP # 11/3/17

Soil spot Removal weather 20°F fog

- EMT Glenn Hesburg

0945 - EMT arrives on site to begin Field work

- mike weidel-(?) is project Superintendent and Paul wier is the equipment operator

- David Cerna - EMC is also onsite to witness the field work

1015

- Site work At the Ash tower Began

- The Asphalt slab was pre scored prior to EMT's Arrival.

- CFI Removed the slab. Soils beneath had no odor or other indications of contamination.

- at ~10-12" Bgs a rail road tie was uncovered. and Below the tie ~~#~~ timbers were present.

Scale: 1 square = ______

11/3/17 JBER CHPP 6H

Kathleen Hook was at the ACL. Office and came over and also looked at the site. Stuart Jacques was contacted as well.

- It was decided to temp. suspend excavation to Re evaluate the situation.

- DRIP LINE AOC08-005

- 11:20 am - operations moved to the drip line excavation.

- The center point was previously identified and a small 1x1 Square Removed for the center so the soil underneath could be accessed. on sampling.

- A disposable syringe was used to collect ~~the~~ A PCB sample from the soil

Scale: 1 square = ______

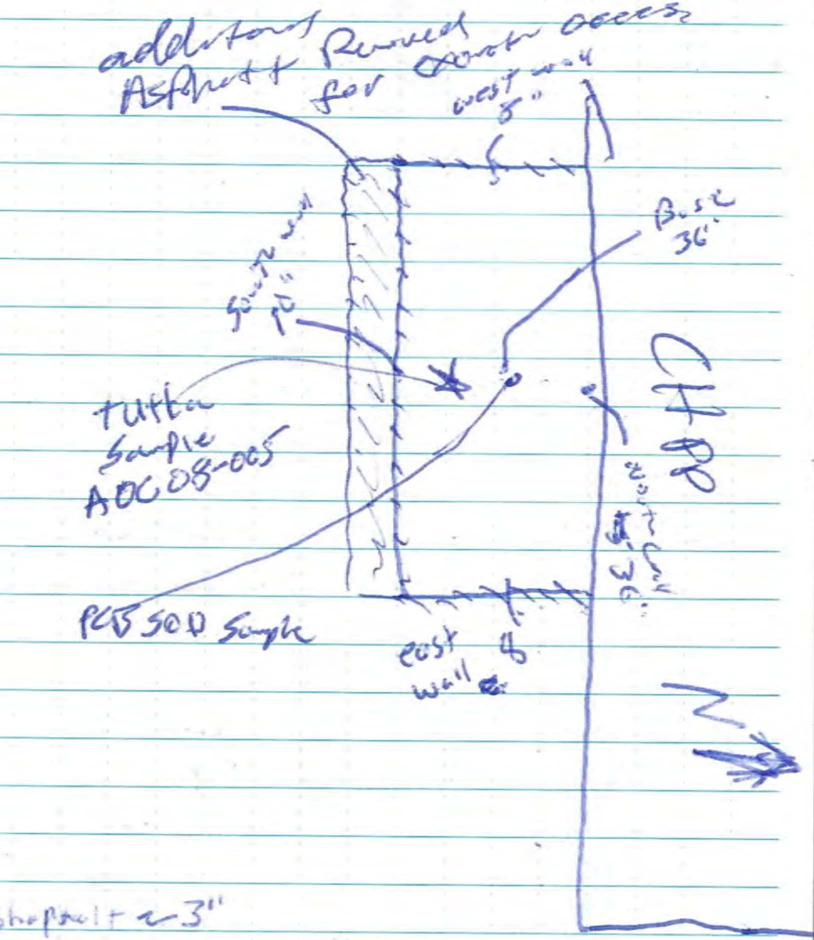
4 11/3/17 JBER CHPP 8A

- The plunger was placed 2.5" deep. ε
- Tutka's previous sample location was 36" from the building and 7' from the corner. This is where the SOD sample was initially collected. However this sample was voided because the WP stated the sample is to be from the center of the ex.
- A second sample was collected at the SOD, this one from the center of the planned ex
- Ex began at the dropline Soils this strongest from organic top soil to sand ~~to~~ gravel to filter material coal. at 2' bgs large cobble were encountered

Scale: 1 square = ______

11/3/17 JBER CHPP 6 ~~14~~ 5

Dropline same location



Ashphalt ~3"
Soil & organic ~3'.
@ 6" trans from to sandy gravel
@ 12" coal layer encountered - intermittent

Scale: 1 square = ______

Rite in the Rain

11/3/17 JBER CHPP 6th

Pipeline AOC08-005 Cont.

- No suspect soils were encountered during the ex.
- No coal was observed beyond 2' and none was present in the walls of excavation
- The excavation proceeded to a depth of 36" below the Asphalt.
- Base sample for metals Sample ID: AOC08-005 Base was collected at a depth of 36"
- Sample AOC08-005 - North wall was collected at the base of the Excavation wall at 36"
- Sidewalls samples were collected between 8-10" below the asphalt, this was assumed to be the most likely contaminated due to it being denser than the sandy soil below and more likely to contain contaminants.

Scale: 1 square = _____ — Cont Pg 8

11/3/17 JBER CHPP 6th

Sample Log

AOC08-005 - PCB Soil - 1243

Scale: 1 square = _____

11/3/17 JBER CHPP 6H

- Following sample collection the ex was lined with 6 mil poly and backfilled
- 6 Super sacks were generated

6H

11/4/17 JBER CHPP 6H

OLD transformers

- 0920 - EMI Arrives on site
  - The crew has marked out the old transformer sites AOC02-005 and 008

- EMI collected the surface PCB samples from each location.
- Location 005 had no SOD, But a PCB sample was collected with the same methods.
- 008 did have SOD.

- 10:04 - Excavation Began at AOC02-008.
  - The SOD and top 1-2" of surface soils were placed into a separate supersack and segregated from the other soils

- The excavation was moved 2' closer to the building due to the [illegible] concrete slab being in the [illegible] [illegible] planned ex)

11-4-17 - weather 25° F clear wind 0-5 mph CH

Excavation PID - 97.0

- An unknown line or grounds wire for the transformer was encountered at 13"
- at 2' a communication line was uncovered at the edge of the building.

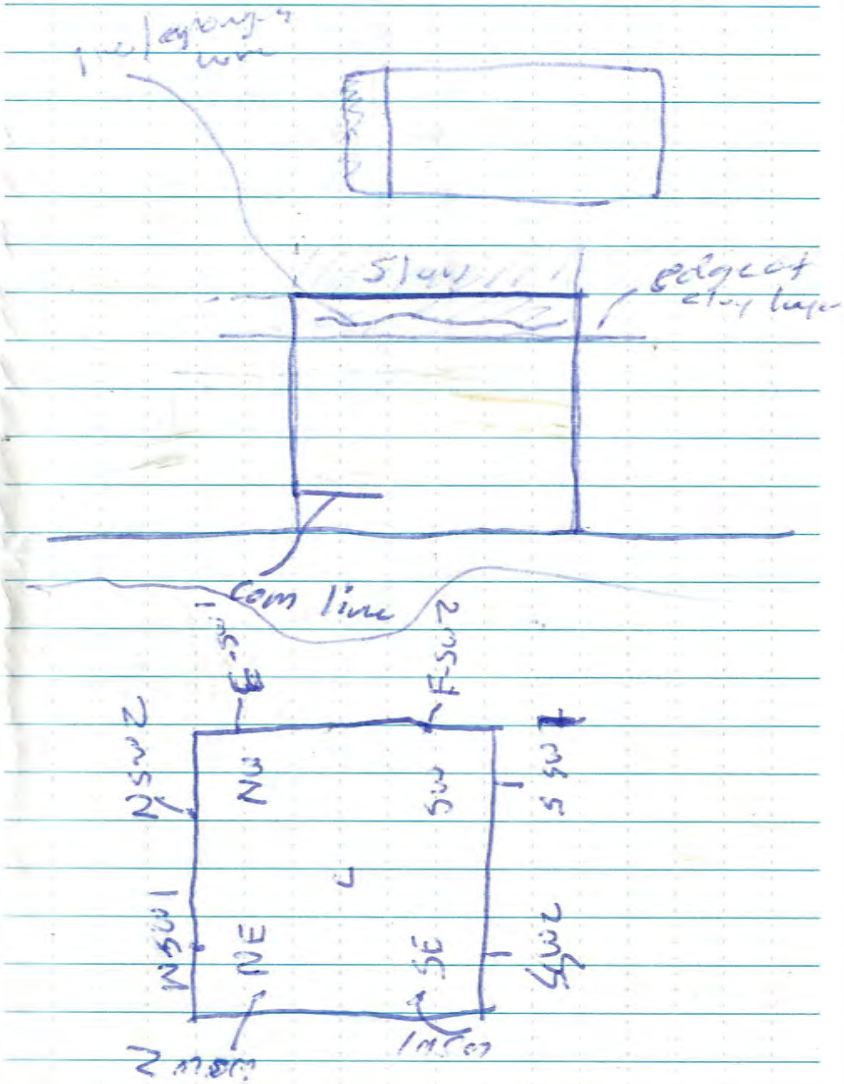
- The Remainder of the ex was slowly excavated with hand shovels and limited use of the excavator.
- At no time was odor or other indicators of contamination observed

- due to the movement of the ex due the concrete slab The ex ended up being close with the wall of the Building

- The PCB SOP sample is Therefore off center due to being unknown the ex would have to be moved

Scale: 1 square = _____

CH JBER CHPP ← N



Scale: 1 square = _____

Rite in the Rain

 JBER CHPP 11/4/17 6W

AOC02-008 Field screen

Locate	Dept	Time	Time Rec	Reading	
Base NE	3	1230	1317	63.8	1353 * Sample + Dup
" NW	3	1231	1317	3.8	
" C	3	1231	1318	10.8	
" SW	3	1232	1319	3.7	
" SE	3	1233	1319	54.7	
~~+~~	~~3~~	~~1234~~	~~13~~		
North sidewall 1	1.5	1234	1320	5.3	
North sidewall 2	1.5	1235	1321	6.5	
South side wall 1	1.5	1236	1321	9.8	
" 2	1.5	1236	1322	6.8	
* West side wall 1	~~1.5~~ 3	1237	1323	7.1	from Base
" 2	~~1.5~~ 3	1238	1324	8.8	from Base
East side wall 1	1.5	1238	1325	9.8	
2	1.5	1239	1326	45.7	Sampled @ 1405

Base NE2 - Dup of Base NE

* west side wall samples from Base due to foundation wall

Scale: 1 square = ______

AOC02-008 JBER CHPP 11/4/17 28°F Clear

AOC02-008 Cont. PID: 97.0

- a clay layer is present beneath the slab (slab extends 15" bgs). This layer is not present near the Building. It is theorized that a vertical excavation was made when constructing the building, and that the clay layer is native material and the soil nearest the building is fill

1230 - The excavation was completed field screening samples collected

- All field screening samples collected from the side wall were collected at 1.5' which is also the depth of the clay layer

- once the samples were removed the ones from the east side of the ex had a noticeable fuel odor. elevated PID were observed in some samples

Scale: 1 square = ______ Rite in the Rain

- Lab samples were collected Per the WP
- A dup of Base NE was collected for VOC and PAH metals, DRO. Base NE-2

- CEF Decon'ed the ex bucket Before moving to AOC02-005
- A PCB wipe sample was collected from the Bucket
(Area wiped ~ 3'x 1.5' front of Bucket)
AOC02-005 GH 11/20/17

1440 Ex Began on AOC02-005
Excavation proceeded smoothly

- @ 18" Bgs a concrete pad with a grounding wire was encountered on the east side of the exc. This does not affect the ex.

Soils were similar to other areas. Soils sandy gravel with large cobbles.

~~The top soil layer extends down ~10". Soils in the ex had a horse manure color. This was not observed in other locations.~~ GH

- A clay layer extends from 1-2" below the SOD for up to 16" in areas. This clay is light Brown in color, which is different than the gray color observed in AOC02-008

- No odor besides a manure odor was observed

H

ID	Depth	ftw		Rconc	Mess
Bosc NE	3	1528	1610	4.6	
NW	|	1529	1610	2.0	1637 VOC/met
SE	|	1530	1611	(8.5)	
SW	|	1531	1612	6.7	
Cent	|	1532	1613	2.3	
W-SW-1	105	1532	1613	4.7	
-2	|	1533	1614	(8.3)	1637
E SW-1		1533	1615	4.2	@1622 met VOC/PAH
2		1534	1615	(8.9)	
N-SW-1		1535	1616	2.5	
2		1536	1616	(4.3)	-1642
S-SW-1		1537	1616	(12.3)	VOC met PAH
2		1537	1617	4.7	1627

AOC02-005 - Headspace log

10 NOV 2017 20° F

JBER CHPP - AOC06-001

0910 EMI (Andy Coulson) arrives on site

CEI [illegible] - excavator operator confirmed excavation to be 4 feet out from discharge point 4 ft to either side

0920 Began removing concrete slab w/ excavator, CEI measured directly

0935 - Collected sample AOC06-001-Sed using syringe for PCB sed core 2 feet out from AOC06-001.

0940 - Began excavating.

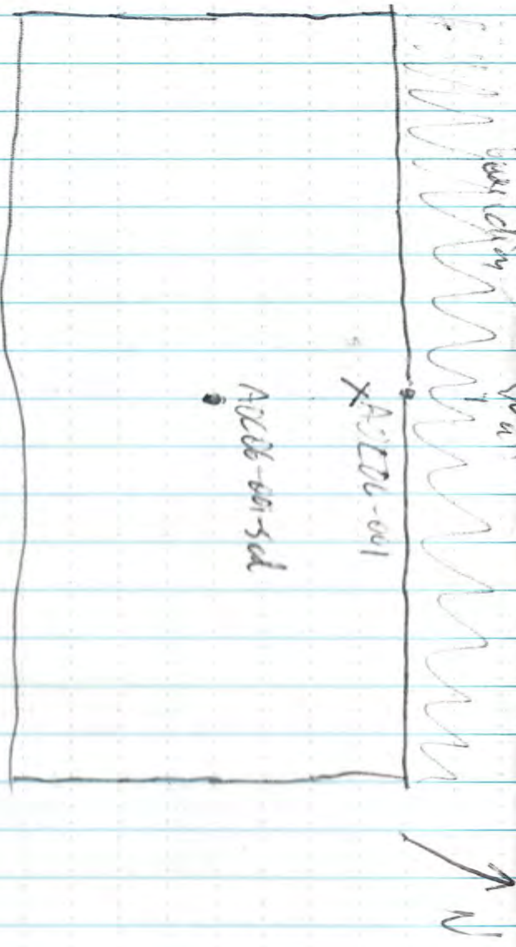
1005 - observed coal in excavation - black layers
No unusual odors observed.

1015 - EMC (David [illegible]) observed site

11:00 - Excavation has reached 3 feet depth. Observed concrete pipe [illegible] in poor condition [illegible] distance from wall

AOC 06-001 6 Nov 2017

Planned Excavation limits



11:10 Glenn Hasbugh (EMI) arrive on site;

1135 Begin Sampling. Excavation dimension 8ft x 6ft

1144 Glenn Hasbugh (EMI) collected

9 containers AOC 06-001 ~~sample~~ base samples 37" south of AOC 06-001

· Preserved VOC w/ Methanol, 25 ml

12:00 - collected AOC 06-001 North wall

4 containers and AOC 06-001 North Wall 2

9 containers where foundation wall meets base, 37" below ground surface

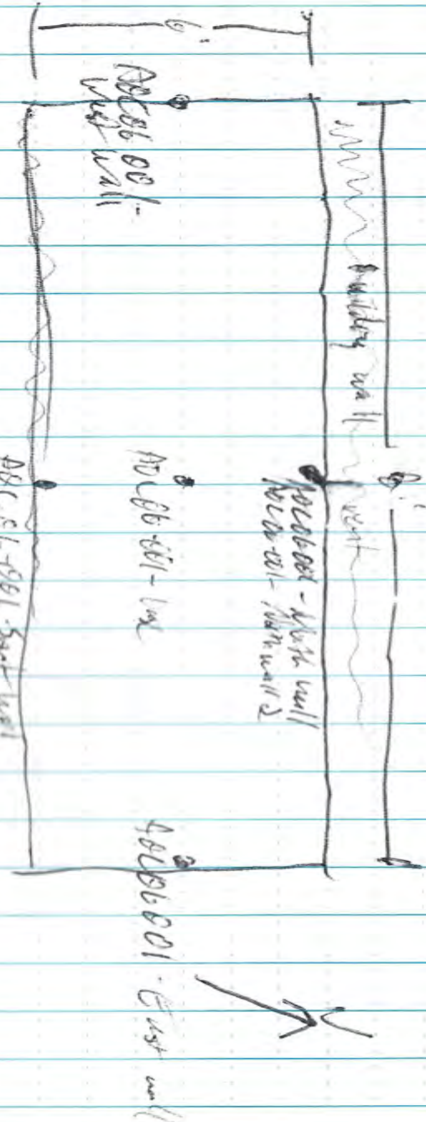
Preserved VOC container with 25 ml methanol. collected by Glenn Hasbugh

12:09: collected AOC-06-001 south wall by Glenn Hasbugh. 12 inches bgs. 3 containers - one of core for PCBs

12:17 collected AOC-06-001 East wall by Glenn Hasbugh. Use a core for PCB - 3 containers

6 Nov 2017
AOC 06-001

Wipe samples were collected over the entire bottom inside surface of each excavator bucket
-AC 11/20/17



12:16 Glenn Hasbrook collected AOC 06-001 west wall, 3 containers, one of core in PCBs.

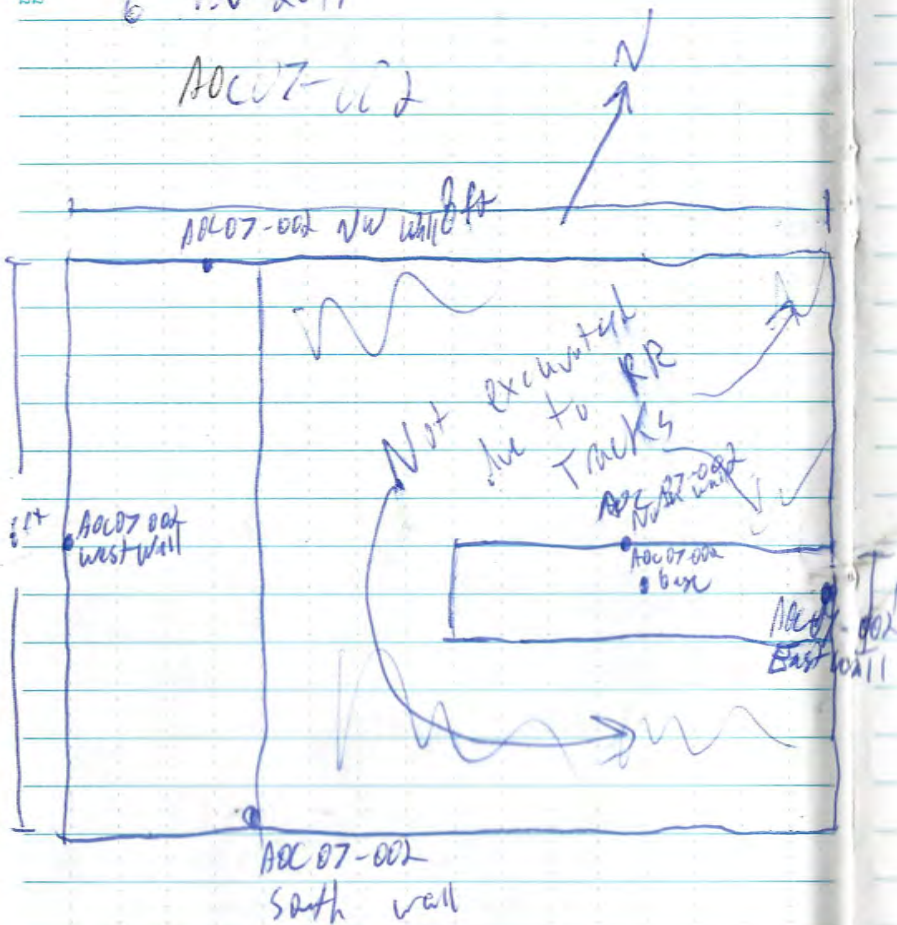
13:10 Collected wipe samples of ~~both~~ ~~buckets~~ large bucket AOC 06 001 - Large bucket. After Cody (CEI) deconned large bucket 6.5 supersacks generated.

13:15 Collected wipe sample of smaller bucket AOC 06-001 Small bucket after Cody (CEI) deconned small bucket.

13:45 began excavating AOC 07-002 ~~within limits already marked from~~ 11/3 reopening excavation from 11/3 observed coal starting 6" deep. In order to sample around railroad tracks the excavation will be widened to either side of the tracks and dug down to depth.

6 Nov 2017

AOC07-002



Scale: 1 square = _____

Excavation Completed around 3:30
3.5 supersacks generated.
Consulted by phone with Larry Helgeson (EMI).
Planned to collect sample points in 1st Existing excavation without excavating west side of tracks

15:45 Glenn Holbrough collected AOC07-002 base 2 containers 1 w/ MeOH for VOCs. Mixed a few inches to side to avoid coal dust

15:46 Glenn Holbrough collected AOC07-002 North wall 4 inches below the 2 containers, 1 w/ MeOH for VOCs. Also collect AOC07-002 North wall 2 as a duplicate.

15:53 Glenn Holbrough collect AOC07-002 East wall 2 containers 1 w/ MeOH for VOCs

Scale: 1 square = _____

Rite in the Rain

6 Nov 2017

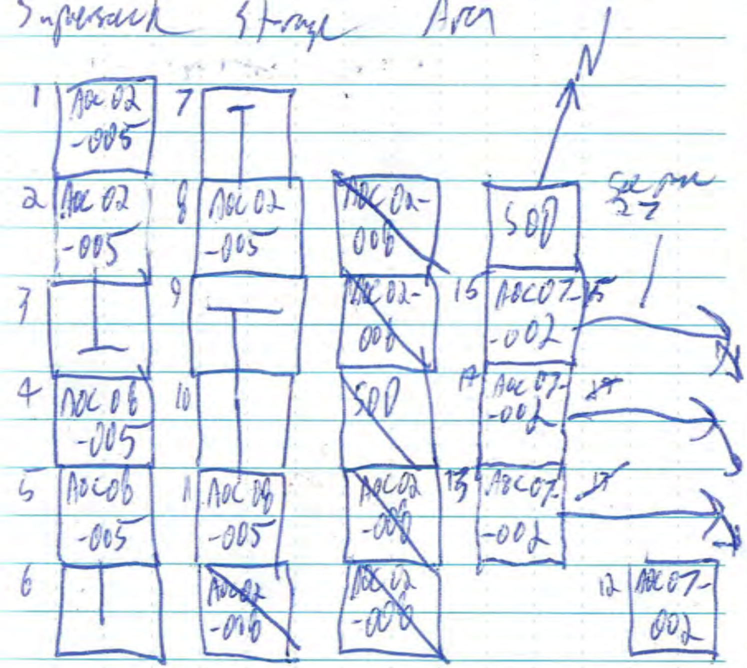
15:57 Glenn Hosburgh Collected
AOC 07-002 west wall, 2
containers 1 with ~~VOC~~ MeOH
for VOC 26 inches below asphalt
8 inches below coal.

16:01 Glenn Hosburgh Collected
AOC 07-002 - South wall
2 containers, 1 with MeOH
for VOCs. 26 inches below asphalt
10 inches below coal. 3 inches
below railroad tie.

16:05 Glenn Hosburgh collected
AOC07-002 NW wall. 2 containers,
1 with MeOH for VOC, 25 inches
below asphalt. 9 inches below coal.

16:20 Done at AOC 07-002.
CEI bagged and began backfill.

Superstack Storage Area



Using random number table in
Appendix B, NIST.gov.

Haphazardly guessed 3 and 6
6th entry, 3rd digit. Last
page line column
~~49~~ 49563

Page 4
Line 5
Column 3

 6 Nov 2017

Page 8-4 Continuing on →

Line 5, Column 3 = 77541 57675 70153

Counting through supersacks, stopping ~~at each~~ after next random digit is passed. At the end, will start at the beginning.

So the first supersack sampled will be #7 then 14, then counting up from ~~15~~14 and starting again at one when I reach the end after 15

The 8 random supersacks to be sampled are:

#7
#14
#4
#8
#9
#14 - Already sampled, will keep counting
#6
#12

6 Nov 2017

#4 - Already sampled, continuing to count

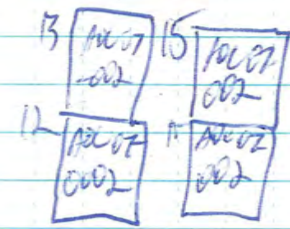
#9 - Already sampled

#1

bags to be composite sampled are
1, 4, 6, 7, 8, 9, 12, 14 ✓

Filling syringes to 40 ml mark

#8 contained plastic sheeting @ top of soil



Collected Pb TCLP at 15:22
Added IDW used to supersack # from AOC 02-008.
off site 15:30

Appendix D

Resumes of EMI's Qualified Personnel

ENVIRONMENTAL MANAGEMENT, INC.
Consulting, Engineering & Training

GLENN C. HASBURGH email: ghasburgh@emi-alaska.com
Environmental Scientist

EDUCATION
SUNY College of Environmental Science and Forestry, 2006, Batchelor of Science Degree in Environmental Biology
Syracuse, New York
North Country Community College, 2003, Associate of Science Degree in Liberal Arts (Math & Science)
Saranac Lake, New York

PROFESSIONAL CERTIFICATIONS:
ADEC Qualified Person
40 Hour HAZWOPER Certification
Alaska Certified Erosion & Sediment Control Lead
EPA / AHERA Inspector
Alaska Asbestos Supervisor and Work Certification
EPA Approved Asbestos Abatement Instructor
EPA Lead Supervisor Certification

RESPONSIBILITIES AND AUTHORITY:
Mr. Hasburgh has the authority and responsibility to conduct environmental site assessments for areas of contamination, such as UST's or POL spills. Mr. Hasburgh is also responsible for other duties which include sampling, classifying, consolidating and organizing various wastes for disposal operations. Mr. Hasburgh also has the responsibility of collecting various environmentally sensitive samples including, but not limited to, soil, water, air, asbestos, and lead.

EXPERIENCE AND QUALIFICATIONS:
Mr. Hasburgh has over five years of experience in the environmental field. His experiences include, but are not limited to; performing soil sampling and screening, cleaning up dangerous materials sites, and performing clearance sampling for PCB and asbestos abatements. Before working with EMI, Mr. Hasburgh was employed by Atlantic Testing Laboratories, *Limited* where he worked as an Engineer Assistant and Environmental Scientist and provided sampling and analysis services for various New York State Agencies. Sampling and analysis was preformed on a variety building materials including asphalt, concrete, in addition to sampling of water, air, soil, and other materials on numerous environmental projects. Mr. Hasburgh is proficient in the use of PID's, multigas meters, PetroFLAG analyzers, XRF, and other field screening equipment.

ENVIRONMENTAL PROJECT EXPERIENCE:
Contaminated Soils Investigation (Gambell, AK - 2012)
Mr. Hasburgh acted as the qualified person during the investigation of contaminated soils associated with an old clinic in the remote village or Gambell, Alaska. Mr. Hasburgh collected performed PID field screening and laboratory confirmation sampling to obtain site closure from the ADEC. Mr. Hasburgh also oversaw the demolition and disposal of two above ground storage tanks that were associated with the suspect soils.

Demolition of Various Storage Tanks (McGrath, AK - 2010)
Mr. Hasburgh oversaw all underground storage tank excavations and performed PID field screening on all excavated soils to identify contaminated material and to select laboratory sample locations. Mr. Hasburgh also conducted atmospheric monitoring of the tanks prior to demolition to ensure worker safety. Mr. Hasburgh also worked on the development of various documents for this project, including the Work Plan and Final Report. This was a Bureau of Land Management Project.

Feather River Dumpsite Cleanup (Near Nome, AK - 2011)
Mr. Hasburgh operated as the onsite ADEC "qualified person" during the Feather River Dumpsite Cleanup. This project involved the excavation and removal of several tons of debris associated with an old road camp and also involved screening and sampling soils for various contaminants including heavy metals and POL. Mr. Hasburgh incorporated various field screening devices including, PID, PetroFlag, and XRF into this project. Additionally, Mr. Hasburgh collected various types of samples throughout this project including grab samples, multi-increment samples, and TCLP samples.

ENVIRONMENTAL MANAGEMENT, INC.
Consulting, Engineering & Training

Andy Coulson email: acoulson@emi-alaska.com
Environmental Scientist

EDUCATION:
Whitman College, 2009, Bachelor of Arts in Biology
University of Manitoba, 2015, Master of Science in Biological Sciences

PROFESSIONAL CERTIFICATIONS:

- AHERA Inspector
- 40 Hour HAZWOPER Certification
- Alaska Certified Erosion & Sediment Control Lead

EXPERIENCE AND QUALIFICATIONS:
Mr. Coulson has seven years of experience collecting samples and scientific data in remote locations, including two years as in the environmental consulting field. His education for his Bachelors degree included collecting soil samples for an ecology class, and collecting water samples as part of an environmental chemistry class.

Mr. Coulson is an ADEC Qualified Sampler per 18 AAC 75.390(c).

SELECTED ENVIRONMENTAL SAMPLE COLLECTION PROJECT EXPERIENCE:

Motion and Flow Control Products (Wasilla, AK) Contaminated Soil Removal (May-June 2017) Under the supervision of EMI's qualified environmental professionals, Mr. Coulson screened and collected samples of stockpiled soil for characterization.

Neighborworks Alaska (Anchorage, AK) W29th Groundwater Sampling (June 2017-Present) Under the supervision of EMI's qualified environmental professionals, Mr. Coulson collected groundwater samples and prepared reports of groundwater contamination status and trends.

Watterson Construction (Anchorage, AK) ANTHC Fuel Release (August 2017) Under the supervision of EMI's qualified environmental professionals, Mr. Coulson screened soil samples to confirm the effectiveness of spill response activities. No soils above the project action level requiring sampling were encountered.