



Hilcorp Alaska, LLC

**Soil Management Plan Summary
Boiler Building Feedwater Piping Replacement
Excavation Activities
Swanson River Field Plant Area**

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**Final
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**Soil Management Plan Summary
Swanson River Field Plant Area
Boiler Building Feedwater Piping**

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Acronyms and Abbreviations

°C	degrees Celsius
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
bgs	below ground surface
CFR	Code of Federal Regulations
CoC	chain-of-custody
E&E	Ecology & Environment, Inc.
FD	field duplicate
EPA	United States Environmental Protection Agency
Hilcorp	Hilcorp Alaska, LLC
IDW	investigative derived waste
LOD	level of detection
mg/kg	milligrams per kilogram
ND	non-detect
OBC	Order by Consent
PCB	polychlorinated byphenol
PPE	personal protective equipment
PPM	parts per million
QA/QC	quality assurance/quality control
SGS	SGS Environmental North America Inc.
SRF	Swanson River Field
TSCA	Toxic Substance Control Act
USFWS	United States Fish and Wildlife Service
WM	Waste Management



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1 SCOPE AND APPLICATION

This Soil Management Summary describes the procedure by which Hilcorp Alaska, LLC (Hilcorp) managed the sampling and excavation of soil to replace feedwater piping between the Boiler Building and the HOA Main Office. This project occurred in the Swanson River Field (SRF), adjacent to the facility's compressor plant area (Figure 1). On July 30, 2020, 11 primary and two duplicate surface soil samples were collected along the proposed trench transect for polychlorinated biphenol (PCB) analysis. Concentrations of PCBs were detected in 10 primary and one duplicate sample, with a maximum PCB concentration of 4.87 milligrams per kilogram (mg/kg). The PCB source is from historic road oiling and/or past releases of PCB containing liquids in this area [Ecology & Environment, Inc. (E&E), 1988]. All sample locations are shown on Figure 2. Although originally, the excavation was planned to be dug 24 inches deep and 24 inches wide along a 105-foot route, the trench was ultimately dug to a maximum width of 4 feet wide and 4.5 feet deep to accommodate inspection and replacement of an adjacent line.

2 PROCEDURES

2.1 SURFACE SOIL SAMPLING

Prior to excavation, the soil within the proposed excavation area was characterized to determine the in-situ concentration of PCBs, although past PCB remediation efforts at SRF were extensive and the area of the dig was encompassed in the late 1980's remediation effort governed by a 1985 Order by Consent (OBC) that included PCB remediation in the area to concentrations of 12 mg/kg or lower.

Discreet sample locations were spaced at 10-foot intervals along the length of the trench transect to characterize in-situ soil concentrations (Photo 1). In coordination with the Alaska Department of Environmental Conservation (ADEC), the vertical sample depth interval for each 10-foot section was established at 0-8 inches. The reason being that since PCBs are not readily water soluble, the historic contamination is likely in the surface soil at its highest. Each soil sample was collected from the entire depth interval from 0-8 inches below ground surface (bgs). A small hole was dug at each sample location using a shovel and a breaker bar was used to breakup the surface soil. Using a disposable stainless steel spoon, soil from 0-8 inches bgs was homogenized and then placed into an unpreserved 4-ounce jar provided by SGS Environmental North America Inc. (SGS).

A total of 11 primary and two duplicate samples were collected from the trench transect. The tools used to dig each sampling location were decontaminated in between each sample location as described in Section 2.4.

The sample containers were labeled with the following information to prevent misidentification:

- Project code or number
- Sampling date and time
- Sample number
- Sampler's initials
- Analyses requested

Soil samples were collected by a Qualified Environmental Professional as defined in ADEC Title 18 Alaska Administrative Code (AAC) AAC 75.333 (ADEC, 2020) and in



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accordance with the collection and preservation requirements outlined in the ADEC Field Sampling Guidance (ADEC, 2019) to ensure all chemistry data quality objectives were met, and that all data is defensible and usable for the project. After sample collection, each jar was appropriately labeled and immediately placed into a cooler with sufficient gel ice to maintain sample temperatures of 4 degrees Celsius ($^{\circ}\text{C}$) \pm 2 $^{\circ}\text{C}$. The samples were hand carried to SGS in Anchorage, Alaska, for extraction by Method SW3550 and analysis by Method SW8082 in accordance with 40 Code of Federal Regulations (CFR) 761.292.

2.2 ANALYTICAL SOIL RESULTS

Ten of the eleven sample locations had detectable concentrations of PCBs, ranging from 0.0778 to 4.87 mg/kg. The primary sample (20SR11-105) and duplicate (20SR11-105-9) collected closest to the boiler building had non-detectable PCB concentrations. Sample 20SR07-65 had the highest detected PCB concentration of 4.87 mg/kg, and all remaining sample results were either non-detect or below 1 mg/kg. Selected analytical results are presented in Table 1 and the full laboratory analytical report is included in Attachment 1.

The 1985 OBC was established by the United States Fish and Wildlife Service (USFWS) to provide guidance for cleanup of PCB impacted areas in multiple locations within the SRF (USFWS, 1985). The OBC has been amended five times and a PCB soil cleanup level was established in the second amendment. In 1986, the OBC-Amendment 2 established a PCB soil cleanup level of 12 mg/kg for all PCB impacted soils within the SRF, excluding two areas that are outside of this project area (USFWS, 1986). The cleanup level was established for the protection of Refuge resources and users. The protection of a small number of individual small mammals (red backed voles) was one of the main drivers for the established clean up level. As an example of the protectiveness of this cleanup level, the calculated human health level for PCBs within the roadway (based on human occupancy) was determined to be 96.6 mg/kg.

All sample results are below the established OBC cleanup level of 12 mg/kg, and all but one sample are also below the ADEC 18 AAC 75 cleanup level (1 mg/kg) and the 40 CFR 761.61(a)(4) high and low occupancy criterion (1 mg/kg and 25 mg/kg, respectively).



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Table1: Selected Analytical Results

Sample Identification	PCB Analytes	
	Aroclor 1254 (mg/kg)	Aroclor 1260 (mg/kg)
ADEC criteria ¹	1	1
EPA high occupancy criteria ²	1	1
EPA low occupancy criteria ²	25	25
OBC ³	12	12
20SR01-05	0.256	0.054
20SR01-05-9 (FD)	0.205	0.0479 J
20SR02-15	0.231	0.0490 J
20SR03-25	0.202	0.0341 J
20SR04-35	0.112	ND (0.253)
20SR05-45	0.79	ND (0.254)
20SR06-55	0.783	ND (0.259)
20SR07-65	4.87	ND (0.0254)
20SR08-75	0.0440 J	ND (0.0248)
20SR09-85	0.0778	ND (0.0250)
20SR10-95	0.108	ND (0.0254)
20SR11-105	ND (0.0264)	ND (0.0264)
20SR11-105-9 (FD)	ND (0.0269)	ND (0.0269)

¹ 18 AAC 75 Table B1

² 40 CFR 761.61(a)(4)

³ Order by Consent (OBC)-Amendment 2

(LOD) = limit of detection

AAC = Alaska Administrative Code

CFR = Code of Federal Regulations

FD = field duplicate

J qualified results- the quantitation is an estimation

mg/kg = milligrams per kilogram

ND = non detect

2.3 EXCAVATION AND EX-SITU SAMPLING

Beginning September 13 2020, soil from the trench transect was excavated and placed directly into super sacks. Soil was removed using a small excavator and a vacuum truck, operated by competent staff donning the appropriate levels of personal protective equipment (PPE), as outlined in Section 3 of this document. Initially, the trench was excavated to a width of approximately 18 inches as planned, but was later widened after discovering an adjacent buried steam line in need of inspection and subsequent replacement. The excavation was widened to approximately 48 inches to accommodate this additional work. Although 40 CFR 761.283(b) specifies using a 1.5-meter (~5-foot) grid to select sample locations, a 10-foot interval was selected. At ADEC’s request, the intent was to conduct additional sampling of the super sacks to guide reuse and disposal decisions. The final dimensions of the excavation trench were 105 feet long, 40-48 inches wide, and 4 to 4.5-feet deep, as shown in the attached Figure 2.

Prior to excavation, the trench transect was marked into sections starting in the area closest to the HOA Building (northeast end) (Figure 2). The first section was marked 5-



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feet from the end of the transect and then 10-foot stepouts were marked thereafter. Each section was labeled from 05 to 105 (Photos 1 and 2), which corresponds to sample locations as shown in Figure 2. Soil was first excavated from the trench areas closest to the Boiler Building, corresponding to sample locations 20SR11-105 through 20SR09-85 and placed into super sacks. The excavation activities then moved to the northeast end of the trench and soil was removed from areas corresponding to 20SR01-05 through 20SR05-45 and placed into 1-cubic yard supersacks. All of the soil between 20SR06-55 and 20SR08-75 was removed last, with soil from the 20SR07-65 10-ft interval removed at the very end to reduce potential for cross contamination. Due to rainfall the excavation procedure was repeated twice because the trench sloughed in.

The super sacks were labeled according to the section they were excavated from (Example: a bag labeled “-65-1” indicates it was the first bag filled from section 65, the second bag was labeled as “-65-2”, and so forth). A total of 120 supersacks (approximately 120 cubic yards) were staged on a lined containment area within the facility perimeter fence pending further assessment and/or offsite transport and disposal (Photos 3 and 4).

Throughout the excavation activities there was no evidence of hydrocarbon-impacted soil observed. After the soil was removed and the piping replaced, insulation was placed on the piping and the excavation was backfilled with clean material from a weed-free source.

2.4 DECONTAMINATION

When possible, disposable equipment was used during the sample collection activities. A shovel and a breaker bar, were used to break up the soil at each sample location to the 8-inch sample depth. Non-disposable sampling equipment was decontaminated between sample locations by removing any soil affixed to the equipment with a brush, followed by spraying the equipment down with an Alconox/water solution and wiping it down with paper towels or adsorbent pads. This investigative derived waste (IDW), along with disposable (PPE was placed with the contaminated soil and will be disposed of in the same manner as the contaminated soil above 1 mg/kg. The same decontamination process was used for final decontamination of non-disposable PPE (e.g., boots) and equipment used during the investigation and trenching activities.

Upon the completion of contaminated soil excavation or when switching from the excavation of contaminated soil to clean soil, the excavation bucket was decontaminated by removing any soil with a brush affixed to the bucket above a liner. The bucket was then sprayed with an Alconox/water solution and wiped down with paper towels or adsorbent pads. The decontamination standard and procedure most applicable to the excavator is listed in 40 CFR 761.79(c)(2)(iii) for movable equipment contaminated by PCBs. The decontamination procedures used during project activities were sufficient to decontaminate the non-porous excavator bucket, which only contacted PCB-contaminated soil with concentrations up to 4.87 mg/kg. All of the initial soil samples had a moisture content of < 5%, indicating a media that is easily removed from non-porous surfaces.

Due to the presence of buried utilities, a Hurricane vacuum truck was also used during the excavation activities. Soil from the vacuum truck was also placed into super sacks and numbered as described in Section 2.3. After excavation was completed, the vacuum truck was delivered to US Ecology for decontamination following 40 CFR 761.79(c)(2) and Subpart S – Double Wash/Rinse Method for Decontaminating Non-Porous Surfaces, specifically 761.372 cleaning requirements. Using the performance-based organic



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decontamination fluid (diesel fuel) the vacuum unit was double washed and double rinsed. Diesel rinseate generated during the decontamination process was contained, collected, and disposed of in accordance with 40 CFR 761.79(g)(3).

2.5 WASTE TRANSPORT AND DISPOSAL CONSIDERATIONS

A total of 120 supersacks are staged on a lined containment area within the plant area fence pending further assessment and/or offsite transport and disposal. Pending approval from all stakeholders, below are possible disposal options available for the PCB contaminated soil and all PPE, absorbent pads, and/or rags generated during the decontamination process. Hilcorp will submit for approval a Transport, Treatment, & Disposal Approval Form for Contaminated Media to ADEC before the waste is transported off site.

1. Transport all staged material offsite for disposal as TSCA at the Waste Management's (WM) Chemical Waste Management Landfill in Arlington, Oregon with an assumed PCB-concentration >50 mg/kg in accordance with 40 CFR 761.61(b)(i).
2. Transport all staged material offsite for disposal as non-TSCA at WM Columbia Ridge Landfill in Arlington, Oregon with a PCB-concentration <50 mg/kg in accordance with 40 CRF 761.61(b)(i).
3. Dispose of the supersacks filled with material from the excavation intervals with PCB-concentrations >1 mg/kg but <50 mg/kg as non-TSCA at WM Columbia Ridge Landfill in accordance with 40 CFR 761.61(b)(i). Use rest of supersacked material for in-field excavation backfill.
4. Recharacterize all the soil in the supersacks to verify PCB concentrations. Any supersacks with PCB-concentrations >1 mg/kg but <50 mg/kg can be disposed of as non-TSCA at the Columbia Ridge Landfill, and soil with a PCB-concentration >50 mg/kg can be disposed of at WM Chemical Waste Management Landfill.

If it is decided to dispose of the soil at Columbia Ridge Landfill or Chemical Waste Management Landfill, a qualified company for transport of non-TSCA and/or TSCA-regulated material will provide packaging, manifesting, labeling, placarding, and transportation support. Certificates of disposal will be provided by the landfill upon disposal.

3 HEALTH AND SAFETY

When handling contaminated soil, the onsite personnel used modified level D PPE consisting of hardhats, hi-visibility safety vests, safety toe boots, safety glasses, and gloves appropriate to the task. During excavation activities, dust did not become an issue and Tyvek suits and dust masks were not needed. Personnel whose boots came in contact with contaminated soil were decontaminated as described in Section 2.4 in accordance with 40 CFR 761.79(c)(2)(iii) or disposable boot covers were worn. Any PPE that became potentially contaminated was removed or decontaminated prior to leaving the excavation area. When sampling, disposable nitrile gloves and clean stainless steel sampling spoons were used to prevent exposure to site contaminants and cross-contamination between samples.



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4 REPORTING

Hilcorp is providing this Soil Management Summary to document site activities, in-situ analytical sample results, decontamination procedures, and waste transport and disposal options.



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5 REFERENCES

- Alaska Department of Environmental Conservation (ADEC), 2019. *Field Sampling Guidance for Contaminated Sites and Leaking Underground Storage Tank Sites*. October.
- ADEC, 2018. *18 AAC 75-Oil and Other Hazardous Substances Pollution Control*. October.
- Ecology & Environment, Inc. (E&E), 1988. *1988 PCB Remediation Documentation Report, Swanson River Oil Field, Kenai Peninsula, Alaska*. May.
- United States Fish and Wildlife Service (USFWS), 1985. *Cleanup Order by Consent, Mitigation Plan – Swanson River Oil Field, Kenai National Wildlife Refuge*. July.
- USFWS, 1986. *Cleanup Order by Consent, Mitigation Plan – Swanson River Oil Field, Kenai National Wildlife Refuge, Amendment 2*. August.
- 40 CFR § 761.61 (2009): PCB Remediation Waste.



**Soil Management Plan Summary
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FIGURES

150°56'0"W

150°52'0"W

150°48'0"W

60°48'0"N

60°48'0"N

60°46'0"N

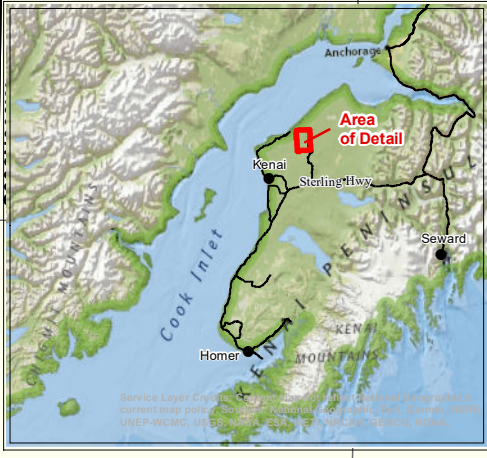
60°46'0"N

60°44'0"N







60°44'0"N

60°42'0"N

60°42'0"N



Legend

-  Project Location
-  Sale Pipelines
-  Major Roads
-  KPB Roads and Trails
-  Existing Well Pads
-  Oil and Gas Unit Boundary

KENAI NATIONAL WILDLIFE REFUGE

SWANSON RIVER FIELD

SWANSON RIVER UNIT

SOLDOTNA CREEK UNIT

Project Location

S008N009W
S007N009W

Swanson River

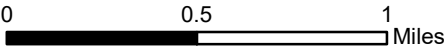
Mink Creek

Swanson River Rd




Swanson River Field Plant Area Proposed Fence Expansion Overview

Map Scale 1:32,000
Alaska State Plane 4 NAD 1983 (feet)



0 0.5 1 Miles



Document Path: D:\Alaska\GIS\cook_inlet\fields\SRF\MXD\SRF_PlantArea_FenceExpansion_Overview_11x17P_v01.mxd

60°43'47"N

150°51'42"W

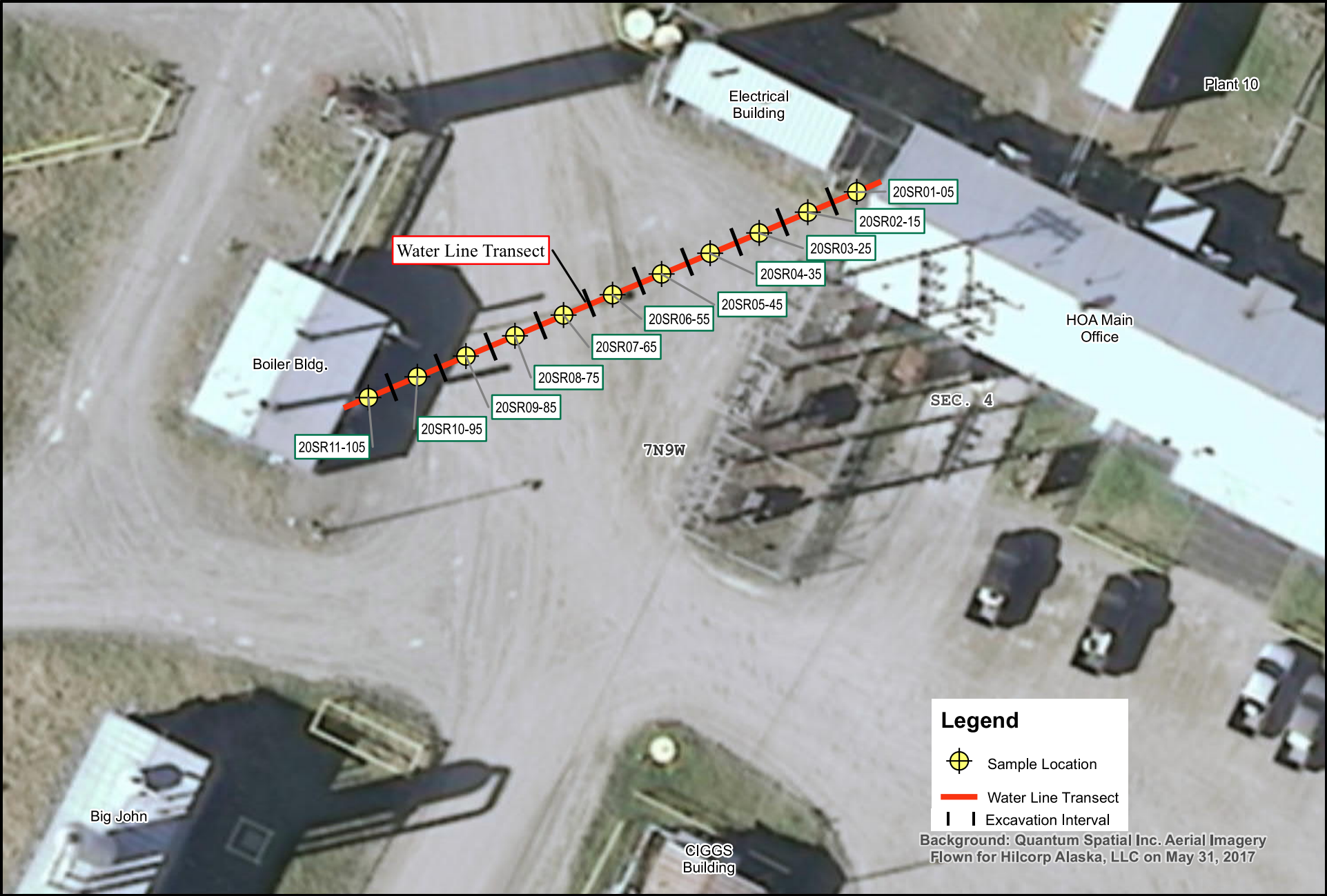
150°51'40"W

60°43'47"N




Document Path: O:\Alaska\GIS\cook_inlet\fields\SRF\IMXD\SRF_Proposed_2021\mxd\SRF_PlantArea_BoilBldg_SMP_Fig2_GRUTKOWSKI_v02.mxd

60°43'46"N

60°43'46"N



Legend

-  Sample Location
-  Water Line Transect
-  Excavation Interval

Background: Quantum Spatial Inc. Aerial Imagery Flown for Hilcorp Alaska, LLC on May 31, 2017



Swanson River Field Plant Area Sample Locations

1 inch = 25 feet

Alaska State Plane 4 NAD 1983 (feet)





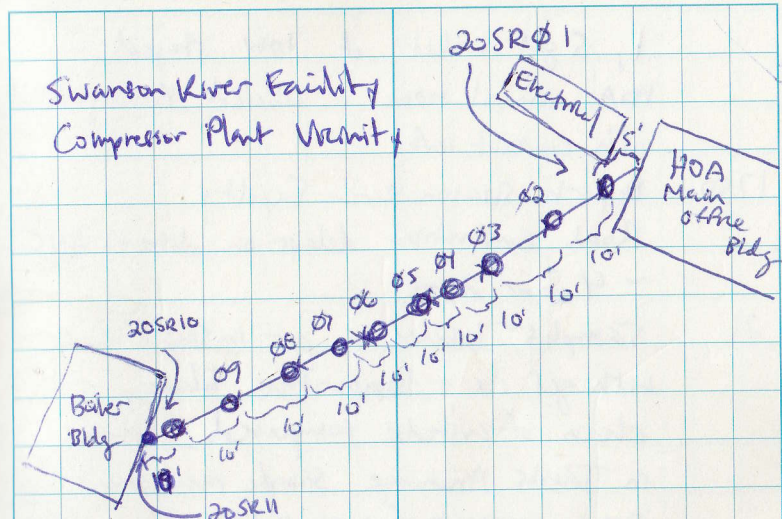
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**ATTACHMENT 1
Field Notes**

Location HOA Main Office (water line) Date 7/30/20
 Project / Client Hilcorp

- 0800 Collect supplies from Jacobs Anchorage office
 0900 Depart Anchorage - vehicle inspection
 1200 Arrive in Sterling - contact Taylor (site lead), Jacobs personnel: Lyndsey Kleppin
 1230 Arrive at Swanson River Facility - mob to HOA Main office w/ Taylor (Hilcorp site manager)
 Safety orientation + work permit
 1330 Dig to 8" bgs with hand tools in gravel driveway (route blocked to site traffic with tape + cones)
 1410 Begin digging @ 20SR04
 1421 Begin digging @ 20SR05
 1433 Begin digging @ 20SR06
 Hard gravel, wx - cloudy, no precip.
 1600 20SR01 → 20SR10 excavated with shovel + rock bar. Equipment dry brushed + wiped down with DI + Alconox to decon between sample locations.
 ~109 feet between daylighted water line at HOA main office and Baker building.
 Will collect primary samples every ~10 ft starting @ HOA main office building (1st sample is 5' from visible water line @ HOA Bldg) 11 primary samples, 2 duplicate samples collected with new stainless steel spoons

Location HOA Main Office (water line) Date 7/30/20
 Project / Client Hilcorp



20SR01 - 05	(-9 DW) 1605	sandy gravel, very dense, dry
20SR02 - 15	1610	silty gravel, very dense, dry
20SR03 - 25	1612	silty gravel, hard
20SR04 - 35	1619	" "
20SR05 - 45	1626	" "
20SR06 - 55	1631	" "
20SR07 - 65	1639	" "
20SR08 - 75	1646	" "
20SR09 - 85	1651	" "
20SR10 - 95	1655	sandy gravel, dense with silt, moist
20SR10 - 105	(-9 DW) 1715	No fuel odor noted
		SW(8082)
1, unpreserved 4oz jar		collected for PCB analysis

Location HDA Main OfficeDate 7/30/20Project / Client Hilcorp

1, 5 gel bucket of 10W staged in
HDA control room + labeled Pending Analysis
with contact info.

1750 Depart Swanson River Facility
Road construction delays on drive to ANC
~ 4 hour drive

21 Samples labeled + put in single cooler
with gel ice + temperature blank,
chain of custody completed - stored
in Tanals Anchorage Sample management
area overnight for submitted to lab in AM.

7/31/20

Sample cooler hand carried to SGS
in Anchorage for 3 day TAT

Location _____ Date _____

Project / Client _____



**Soil Management Plan Summary
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**ATTACHMENT 2
Photographic Log**



Photo 1: Boiler Building Trench Excavation –Trench transect divided into 10-foot sections, facing HOA Building.



Photo 2: Boiler Building Trench Excavation – Section -35 along the trench transect.



Photo 3: Boiler Building Trench Excavation – Liner inside the perimeter fence for supersack storage.



Photo 4: Boiler Building Trench Excavation – Supersacks placed on the liner inside the perimeter fence.



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**ATTACHMENT 3
Analytical Laboratory Data Report**



Laboratory Report of Analysis

To: Hilcorp Alaska, LLC
3800 Centerpoint Dr.
Anchorage, AK 99503
777-8335

Report Number: **1203812**

Client Project: **Swanson River**

Dear Greg Rutkowski,

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 Justin 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.

Justin Nelson
Project Manager
Justin.Nelson@sgs.com

Date

Case Narrative

SGS Client: **Hilcorp Alaska, LLC**
SGS Project: **1203812**
Project Name/Site: **Swanson River**
Project Contact: **Greg Rutkowski**

Refer to sample receipt form for information on sample condition.

1203854021MS (1572747) MS

8082A - PCB Aroclor 1260 MS recovery does not meet QC criteria due to dilution. Refer to the LCS for accuracy requirements.

1203854021MSD (1572748) MSD

8082A - PCB Aroclor 1260 MSD recovery does not meet QC criteria due to dilution. Refer to the LCS for accuracy requirements.

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

Print Date: 08/07/2020 2:32:24PM

Report of Manual Integrations

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analytical Batch</u>	<u>Analyte</u>	<u>Reason</u>
SW8082A				
1203812001	20SR01-05-9	XGC10683	Aroclor-1260	sp
1203812002	20SR01-05	XGC10683	Aroclor-1260	sp
1203812003	20SR02-15	XGC10683	Aroclor-1260	sp
1203812004	20SR03-25	XGC10683	Aroclor-1260	sp
1572746	LCS for HBN 1809817 [XXX/43569	XGC10681	Aroclor-1016	SP
1572747	1203854021MS	XGC10682	Aroclor-1016	SP
1572748	1203854021MSD	XGC10682	Aroclor-1016	SP
1573039	CCV for HBN 1809889 (XGC/10681	XGC10681	Aroclor-1016	SP
1573040	CCV for HBN 1809889 (XGC/10681	XGC10681	Aroclor-1016	SP
1573141	CCV for HBN 1809924 (XGC/10682	XGC10682	Aroclor-1016	SP
1573165	CCV for HBN 1809924 (XGC/10682	XGC10682	Aroclor-1016	SP

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.

Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. 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, indemnification 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 & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. 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	Analytical 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.

Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
20SR01-05-9	1203812001	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR01-05	1203812002	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR02-15	1203812003	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR03-25	1203812004	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR04-35	1203812005	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR05-45	1203812006	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR06-55	1203812007	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR07-65	1203812008	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR08-75	1203812009	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR09-85	1203812010	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR10-95	1203812011	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR11-105	1203812012	07/30/2020	07/31/2020	Soil/Solid (dry weight)
20SR11-105-9	1203812013	07/30/2020	07/31/2020	Soil/Solid (dry weight)

Method

SM21 2540G

SW8082A

Method Description

Percent Solids SM2540G

SW8082 PCB's

Detectable Results Summary

Client Sample ID: **20SR01-05-9**

Lab Sample ID: 1203812001

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	205	ug/Kg
Aroclor-1260	47.9J	ug/Kg

Client Sample ID: **20SR01-05**

Lab Sample ID: 1203812002

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	256	ug/Kg
Aroclor-1260	54.0	ug/Kg

Client Sample ID: **20SR02-15**

Lab Sample ID: 1203812003

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	231	ug/Kg
Aroclor-1260	49.0J	ug/Kg

Client Sample ID: **20SR03-25**

Lab Sample ID: 1203812004

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	202	ug/Kg
Aroclor-1260	34.1J	ug/Kg

Client Sample ID: **20SR04-35**

Lab Sample ID: 1203812005

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	112	ug/Kg

Client Sample ID: **20SR05-45**

Lab Sample ID: 1203812006

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	790	ug/Kg

Client Sample ID: **20SR06-55**

Lab Sample ID: 1203812007

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	783	ug/Kg

Client Sample ID: **20SR07-65**

Lab Sample ID: 1203812008

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	4870	ug/Kg

Client Sample ID: **20SR08-75**

Lab Sample ID: 1203812009

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	44.0J	ug/Kg

Client Sample ID: **20SR09-85**

Lab Sample ID: 1203812010

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	77.8	ug/Kg

Client Sample ID: **20SR10-95**

Lab Sample ID: 1203812011

Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aroclor-1254	108	ug/Kg



Results of 20SR01-05-9

Client Sample ID: **20SR01-05-9**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812001
Lab Project ID: 1203812

Collection Date: 07/30/20 16:05
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):96.2
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.6 U	51.3	12.8	ug/Kg	1		08/06/20 12:36
Aroclor-1221	51.5 U	103	25.7	ug/Kg	1		08/06/20 12:36
Aroclor-1232	25.6 U	51.3	12.8	ug/Kg	1		08/06/20 12:36
Aroclor-1242	25.6 U	51.3	12.8	ug/Kg	1		08/06/20 12:36
Aroclor-1248	25.6 U	51.3	12.8	ug/Kg	1		08/06/20 12:36
Aroclor-1254	205	51.3	12.8	ug/Kg	1		08/06/20 12:36
Aroclor-1260	47.9 J	51.3	12.8	ug/Kg	1		08/06/20 12:36
Surrogates							
Decachlorobiphenyl (surr)	102	60-125		%	1		08/06/20 12:36

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 12:36
Container ID: 1203812001-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.786 g
Prep Extract Vol: 5 mL



Results of 20SR01-05

Client Sample ID: **20SR01-05**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812002
Lab Project ID: 1203812

Collection Date: 07/30/20 16:05
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):96.1
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.9 U	51.9	13.0	ug/Kg	1		08/06/20 12:47
Aroclor-1221	52.0 U	104	25.9	ug/Kg	1		08/06/20 12:47
Aroclor-1232	25.9 U	51.9	13.0	ug/Kg	1		08/06/20 12:47
Aroclor-1242	25.9 U	51.9	13.0	ug/Kg	1		08/06/20 12:47
Aroclor-1248	25.9 U	51.9	13.0	ug/Kg	1		08/06/20 12:47
Aroclor-1254	256	51.9	13.0	ug/Kg	1		08/06/20 12:47
Aroclor-1260	54.0	51.9	13.0	ug/Kg	1		08/06/20 12:47
Surrogates							
Decachlorobiphenyl (surr)	105	60-125		%	1		08/06/20 12:47

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 12:47
Container ID: 1203812002-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.554 g
Prep Extract Vol: 5 mL



Results of **20SR02-15**

Client Sample ID: **20SR02-15**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812003
Lab Project ID: 1203812

Collection Date: 07/30/20 16:10
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location:

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.3 U	52.5	13.1	ug/Kg	1		08/06/20 12:57
Aroclor-1221	52.5 U	105	26.3	ug/Kg	1		08/06/20 12:57
Aroclor-1232	26.3 U	52.5	13.1	ug/Kg	1		08/06/20 12:57
Aroclor-1242	26.3 U	52.5	13.1	ug/Kg	1		08/06/20 12:57
Aroclor-1248	26.3 U	52.5	13.1	ug/Kg	1		08/06/20 12:57
Aroclor-1254	231	52.5	13.1	ug/Kg	1		08/06/20 12:57
Aroclor-1260	49.0 J	52.5	13.1	ug/Kg	1		08/06/20 12:57
Surrogates							
Decachlorobiphenyl (surr)	99.6	60-125		%	1		08/06/20 12:57

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 12:57
Container ID: 1203812003-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.521 g
Prep Extract Vol: 5 mL



Results of 20SR03-25

Client Sample ID: **20SR03-25**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812004
Lab Project ID: 1203812

Collection Date: 07/30/20 16:12
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):97.6
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.6 U	51.1	12.8	ug/Kg	1		08/06/20 13:08
Aroclor-1221	51.0 U	102	25.5	ug/Kg	1		08/06/20 13:08
Aroclor-1232	25.6 U	51.1	12.8	ug/Kg	1		08/06/20 13:08
Aroclor-1242	25.6 U	51.1	12.8	ug/Kg	1		08/06/20 13:08
Aroclor-1248	25.6 U	51.1	12.8	ug/Kg	1		08/06/20 13:08
Aroclor-1254	202	51.1	12.8	ug/Kg	1		08/06/20 13:08
Aroclor-1260	34.1 J	51.1	12.8	ug/Kg	1		08/06/20 13:08
Surrogates							
Decachlorobiphenyl (surr)	108	60-125		%	1		08/06/20 13:08

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 13:08
Container ID: 1203812004-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.555 g
Prep Extract Vol: 5 mL



Results of **20SR04-35**

Client Sample ID: **20SR04-35**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812005
Lab Project ID: 1203812

Collection Date: 07/30/20 16:19
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):97.9
Location:

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.3 U	50.5	12.6	ug/Kg	1		08/06/20 13:18
Aroclor-1221	50.5 U	101	25.2	ug/Kg	1		08/06/20 13:18
Aroclor-1232	25.3 U	50.5	12.6	ug/Kg	1		08/06/20 13:18
Aroclor-1242	25.3 U	50.5	12.6	ug/Kg	1		08/06/20 13:18
Aroclor-1248	25.3 U	50.5	12.6	ug/Kg	1		08/06/20 13:18
Aroclor-1254	112	50.5	12.6	ug/Kg	1		08/06/20 13:18
Aroclor-1260	25.3 U	50.5	12.6	ug/Kg	1		08/06/20 13:18
Surrogates							
Decachlorobiphenyl (surr)	97	60-125		%	1		08/06/20 13:18

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 13:18
Container ID: 1203812005-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.774 g
Prep Extract Vol: 5 mL



Results of **20SR05-45**

Client Sample ID: **20SR05-45**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812006
Lab Project ID: 1203812

Collection Date: 07/30/20 16:26
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):97.6
Location:

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	254 U	508	127	ug/Kg	10		08/06/20 13:28
Aroclor-1221	510 U	1020	254	ug/Kg	10		08/06/20 13:28
Aroclor-1232	254 U	508	127	ug/Kg	10		08/06/20 13:28
Aroclor-1242	254 U	508	127	ug/Kg	10		08/06/20 13:28
Aroclor-1248	254 U	508	127	ug/Kg	10		08/06/20 13:28
Aroclor-1254	790	508	127	ug/Kg	10		08/06/20 13:28
Aroclor-1260	254 U	508	127	ug/Kg	10		08/06/20 13:28
Surrogates							
Decachlorobiphenyl (surr)	100	60-125		%	10		08/06/20 13:28

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 13:28
Container ID: 1203812006-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.694 g
Prep Extract Vol: 5 mL



Results of 20SR06-55

Client Sample ID: **20SR06-55**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812007
Lab Project ID: 1203812

Collection Date: 07/30/20 16:31
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):96.1
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	259 U	518	130	ug/Kg	10		08/06/20 13:39
Aroclor-1221	520 U	1040	259	ug/Kg	10		08/06/20 13:39
Aroclor-1232	259 U	518	130	ug/Kg	10		08/06/20 13:39
Aroclor-1242	259 U	518	130	ug/Kg	10		08/06/20 13:39
Aroclor-1248	259 U	518	130	ug/Kg	10		08/06/20 13:39
Aroclor-1254	783	518	130	ug/Kg	10		08/06/20 13:39
Aroclor-1260	259 U	518	130	ug/Kg	10		08/06/20 13:39
Surrogates							
Decachlorobiphenyl (surr)	100	60-125		%	10		08/06/20 13:39

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 13:39
Container ID: 1203812007-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.596 g
Prep Extract Vol: 5 mL



Results of **20SR07-65**

Client Sample ID: **20SR07-65**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812008
Lab Project ID: 1203812

Collection Date: 07/30/20 16:39
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):98.4
Location:

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	254 U	508	127	ug/Kg	10		08/06/20 14:00
Aroclor-1221	510 U	1020	254	ug/Kg	10		08/06/20 14:00
Aroclor-1232	254 U	508	127	ug/Kg	10		08/06/20 14:00
Aroclor-1242	254 U	508	127	ug/Kg	10		08/06/20 14:00
Aroclor-1248	254 U	508	127	ug/Kg	10		08/06/20 14:00
Aroclor-1254	4870	508	127	ug/Kg	10		08/06/20 14:00
Aroclor-1260	254 U	508	127	ug/Kg	10		08/06/20 14:00
Surrogates							
Decachlorobiphenyl (surr)	103	60-125		%	10		08/06/20 14:00

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 14:00
Container ID: 1203812008-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.527 g
Prep Extract Vol: 5 mL

Results of 20SR08-75

Client Sample ID: **20SR08-75**
 Client Project ID: **Swanson River**
 Lab Sample ID: 1203812009
 Lab Project ID: 1203812

Collection Date: 07/30/20 16:46
 Received Date: 07/31/20 12:48
 Matrix: Soil/Solid (dry weight)
 Solids (%):99.0
 Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	24.8 U	49.5	12.4	ug/Kg	1		08/06/20 14:10
Aroclor-1221	49.5 U	99.1	24.8	ug/Kg	1		08/06/20 14:10
Aroclor-1232	24.8 U	49.5	12.4	ug/Kg	1		08/06/20 14:10
Aroclor-1242	24.8 U	49.5	12.4	ug/Kg	1		08/06/20 14:10
Aroclor-1248	24.8 U	49.5	12.4	ug/Kg	1		08/06/20 14:10
Aroclor-1254	44.0 J	49.5	12.4	ug/Kg	1		08/06/20 14:10
Aroclor-1260	24.8 U	49.5	12.4	ug/Kg	1		08/06/20 14:10
Surrogates							
Decachlorobiphenyl (surr)	101	60-125		%	1		08/06/20 14:10

Batch Information

Analytical Batch: XGC10683
 Analytical Method: SW8082A
 Analyst: DMM
 Analytical Date/Time: 08/06/20 14:10
 Container ID: 1203812009-A

Prep Batch: XXX43569
 Prep Method: SW3550C
 Prep Date/Time: 08/05/20 07:03
 Prep Initial Wt./Vol.: 22.933 g
 Prep Extract Vol: 5 mL



Results of 20SR09-85

Client Sample ID: **20SR09-85**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812010
Lab Project ID: 1203812

Collection Date: 07/30/20 16:51
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):98.1
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.0 U	50.0	12.5	ug/Kg	1		08/06/20 14:21
Aroclor-1221	50.0 U	100	25.0	ug/Kg	1		08/06/20 14:21
Aroclor-1232	25.0 U	50.0	12.5	ug/Kg	1		08/06/20 14:21
Aroclor-1242	25.0 U	50.0	12.5	ug/Kg	1		08/06/20 14:21
Aroclor-1248	25.0 U	50.0	12.5	ug/Kg	1		08/06/20 14:21
Aroclor-1254	77.8	50.0	12.5	ug/Kg	1		08/06/20 14:21
Aroclor-1260	25.0 U	50.0	12.5	ug/Kg	1		08/06/20 14:21
Surrogates							
Decachlorobiphenyl (surr)	107	60-125		%	1		08/06/20 14:21

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 14:21
Container ID: 1203812010-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.944 g
Prep Extract Vol: 5 mL



Results of **20SR10-95**

Client Sample ID: **20SR10-95**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812011
Lab Project ID: 1203812

Collection Date: 07/30/20 16:55
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):97.4
Location:

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.4 U	50.8	12.7	ug/Kg	1		08/06/20 14:31
Aroclor-1221	51.0 U	102	25.4	ug/Kg	1		08/06/20 14:31
Aroclor-1232	25.4 U	50.8	12.7	ug/Kg	1		08/06/20 14:31
Aroclor-1242	25.4 U	50.8	12.7	ug/Kg	1		08/06/20 14:31
Aroclor-1248	25.4 U	50.8	12.7	ug/Kg	1		08/06/20 14:31
Aroclor-1254	108	50.8	12.7	ug/Kg	1		08/06/20 14:31
Aroclor-1260	25.4 U	50.8	12.7	ug/Kg	1		08/06/20 14:31
Surrogates							
Decachlorobiphenyl (surr)	102	60-125		%	1		08/06/20 14:31

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 14:31
Container ID: 1203812011-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.76 g
Prep Extract Vol: 5 mL



Results of 20SR11-105

Client Sample ID: **20SR11-105**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812012
Lab Project ID: 1203812

Collection Date: 07/30/20 17:15
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):92.6
Location:

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.4 U	52.9	13.2	ug/Kg	1		08/06/20 14:42
Aroclor-1221	53.0 U	106	26.4	ug/Kg	1		08/06/20 14:42
Aroclor-1232	26.4 U	52.9	13.2	ug/Kg	1		08/06/20 14:42
Aroclor-1242	26.4 U	52.9	13.2	ug/Kg	1		08/06/20 14:42
Aroclor-1248	26.4 U	52.9	13.2	ug/Kg	1		08/06/20 14:42
Aroclor-1254	26.4 U	52.9	13.2	ug/Kg	1		08/06/20 14:42
Aroclor-1260	26.4 U	52.9	13.2	ug/Kg	1		08/06/20 14:42
Surrogates							
Decachlorobiphenyl (surr)	98	60-125		%	1		08/06/20 14:42

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 14:42
Container ID: 1203812012-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.981 g
Prep Extract Vol: 5 mL



Results of **20SR11-105-9**

Client Sample ID: **20SR11-105-9**
Client Project ID: **Swanson River**
Lab Sample ID: 1203812013
Lab Project ID: 1203812

Collection Date: 07/30/20 17:15
Received Date: 07/31/20 12:48
Matrix: Soil/Solid (dry weight)
Solids (%):92.7
Location:

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.9 U	53.7	13.4	ug/Kg	1		08/06/20 14:52
Aroclor-1221	53.5 U	107	26.9	ug/Kg	1		08/06/20 14:52
Aroclor-1232	26.9 U	53.7	13.4	ug/Kg	1		08/06/20 14:52
Aroclor-1242	26.9 U	53.7	13.4	ug/Kg	1		08/06/20 14:52
Aroclor-1248	26.9 U	53.7	13.4	ug/Kg	1		08/06/20 14:52
Aroclor-1254	26.9 U	53.7	13.4	ug/Kg	1		08/06/20 14:52
Aroclor-1260	26.9 U	53.7	13.4	ug/Kg	1		08/06/20 14:52
Surrogates							
Decachlorobiphenyl (surr)	80	60-125		%	1		08/06/20 14:52

Batch Information

Analytical Batch: XGC10683
Analytical Method: SW8082A
Analyst: DMM
Analytical Date/Time: 08/06/20 14:52
Container ID: 1203812013-A

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 08/05/20 07:03
Prep Initial Wt./Vol.: 22.575 g
Prep Extract Vol: 5 mL



Method Blank

Blank ID: MB for HBN 1809652 [SPT/11092]
Blank Lab ID: 1572012

Matrix: Soil/Solid (dry weight)

QC for Samples:

1203812001, 1203812002, 1203812003, 1203812004, 1203812005, 1203812006, 1203812007, 1203812008, 1203812009, 1203812010, 1203812011, 1203812012, 1203812013

Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	100			%

Batch Information

Analytical Batch: SPT11092
Analytical Method: SM21 2540G
Instrument:
Analyst: AEQ
Analytical Date/Time: 7/31/2020 6:18:00PM

Print Date: 08/07/2020 2:32:32PM

Duplicate Sample Summary

Original Sample ID: 1203659013
Duplicate Sample ID: 1572014
QC for Samples:

Analysis Date: 07/31/2020 18:18
Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	96.7	96.6	%	0.14	(< 15)

Batch Information

Analytical Batch: SPT11092
Analytical Method: SM21 2540G
Instrument:
Analyst: AEQ

Print Date: 08/07/2020 2:32:34PM

Duplicate Sample Summary

Original Sample ID: 1203700004

Analysis Date: 07/31/2020 18:18

Duplicate Sample ID: 1572015

Matrix: Soil/Solid (dry weight)

QC for Samples:

1203812001, 1203812002, 1203812003, 1203812004, 1203812005, 1203812006, 1203812007

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	92.0	91.5	%	0.58	(< 15)

Batch Information

Analytical Batch: SPT11092

Analytical Method: SM21 2540G

Instrument:

Analyst: AEQ

Print Date: 08/07/2020 2:32:34PM

Duplicate Sample Summary

Original Sample ID: 1203812007

Analysis Date: 07/31/2020 18:18

Duplicate Sample ID: 1572016

Matrix: Soil/Solid (dry weight)

QC for Samples:

1203812001, 1203812002, 1203812003, 1203812004, 1203812005, 1203812006, 1203812007, 1203812008, 1203812009, 1203812010, 1203812011, 1203812012, 1203812013

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	96.1	96.1	%	0.02	(< 15)

Batch Information

Analytical Batch: SPT11092

Analytical Method: SM21 2540G

Instrument:

Analyst: AEQ

Print Date: 08/07/2020 2:32:34PM



Method Blank

Blank ID: MB for HBN 1809817 [XXX/43569]
Blank Lab ID: 1572745

Matrix: Soil/Solid (dry weight)

QC for Samples:

1203812001, 1203812002, 1203812003, 1203812004, 1203812005, 1203812006, 1203812007, 1203812008, 1203812009, 1203812010, 1203812011, 1203812012, 1203812013

Results by SW8082A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aroclor-1016	25.0U	50.0	12.5	ug/Kg
Aroclor-1221	50.0U	100	25.0	ug/Kg
Aroclor-1232	25.0U	50.0	12.5	ug/Kg
Aroclor-1242	25.0U	50.0	12.5	ug/Kg
Aroclor-1248	25.0U	50.0	12.5	ug/Kg
Aroclor-1254	25.0U	50.0	12.5	ug/Kg
Aroclor-1260	25.0U	50.0	12.5	ug/Kg
Surrogates				
Decachlorobiphenyl (surr)	111	60-125		%

Batch Information

Analytical Batch: XGC10681
Analytical Method: SW8082A
Instrument: Agilent 7890B/G3440B ECD Rear
Analyst: LAW
Analytical Date/Time: 8/5/2020 4:48:00PM

Prep Batch: XXX43569
Prep Method: SW3550C
Prep Date/Time: 8/5/2020 7:03:00AM
Prep Initial Wt./Vol.: 22.5 g
Prep Extract Vol: 5 mL

Print Date: 08/07/2020 2:32:38PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1203812 [XXX43569]
 Blank Spike Lab ID: 1572746
 Date Analyzed: 08/05/2020 17:00

Matrix: Soil/Solid (dry weight)

QC for Samples: 1203812001, 1203812002, 1203812003, 1203812004, 1203812005, 1203812006, 1203812007,
 1203812008, 1203812009, 1203812010, 1203812011, 1203812012, 1203812013

Results by SW8082A

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Aroclor-1016	222	173	78	(47-134)
Aroclor-1260	222	209	94	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	106	106	(60-125)

Batch Information

Analytical Batch: **XGC10681**
 Analytical Method: **SW8082A**
 Instrument: **Agilent 7890B/G3440B ECD Rear**
 Analyst: **LAW**

Prep Batch: **XXX43569**
 Prep Method: **SW3550C**
 Prep Date/Time: **08/05/2020 07:03**
 Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
 Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1203854021
MS Sample ID: 1572747 MS
MSD Sample ID: 1572748 MSD

Analysis Date: 08/06/2020 13:49
Analysis Date: 08/06/2020 14:29
Analysis Date: 08/06/2020 14:41
Matrix: Soil/Solid (dry weight)

QC for Samples: 1203812001, 1203812002, 1203812003, 1203812004, 1203812005, 1203812006, 1203812007, 1203812008, 1203812009, 1203812010, 1203812011, 1203812012, 1203812013

Results by SW8082A

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aroclor-1016	575U	259	310J	120	260	313J	120	47-134	0.52	(< 30)
Aroclor-1260	9790	259	6522	-1260 *	260	7180	-1000 *	53-140	9.61	(< 30)
Surrogates										
Decachlorobiphenyl (surr)		259	259	100	260	208	80	60-125	21.70	

Batch Information

Analytical Batch: XGC10682
Analytical Method: SW8082A
Instrument: Agilent 7890B/G3440B ECD Rear
Analyst: LAW
Analytical Date/Time: 8/6/2020 2:29:00PM

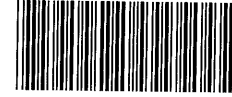
Prep Batch: XXX43569
Prep Method: Sonication Extraction Soil SW8082 PCB
Prep Date/Time: 8/5/2020 7:03:00AM
Prep Initial Wt./Vol.: 22.71g
Prep Extract Vol: 5.00mL

Print Date: 08/07/2020 2:32:41PM



SGS North America Inc. CHAIN OF CUSTODY RECORD

1203812



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CLIENT: <u>Jacobs / Hilcorp Energy LLC</u>		Instructions: Sections 1-5 must be filled out Omissions may delay the onset of analysis.						Page <u>1</u> of <u>2</u>											
Section 1	CONTACT: <u>Greg Rutkowski</u>		PHONE #: <u>907 350 6742</u>		Section 3		Preservative												
	PROJECT NAME: <u>Swanson River</u>		PROJECT/PWSID/PERMIT#: <u>0</u>		# CONTAINER	/													
	REPORTS TO: <u>Greg Rutkowski</u>		E-MAIL: <u>gregory.rutkowski@jacobs.com</u>			Comp Analysis*			NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS										
INVOICE TO: <u>Hilcorp</u>		QUOTE #: <u>p# 360618</u>		MI (Multi-incremental)															
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE														
	<u>(1A)</u>	<u>20SR01-05-9</u>	<u>07/30/20</u>	<u>1605</u>	<u>soil</u>	<u>1</u>		<u>X</u>											
	<u>(2A)</u>	<u>20SR01-05</u>		<u>1605</u>		<u>1</u>		<u>X</u>											
	<u>(3A)</u>	<u>20SR02-15</u>		<u>1610</u>		<u>1</u>		<u>X</u>											
	<u>(4A)</u>	<u>20SR03-25</u>		<u>1612</u>		<u>1</u>		<u>X</u>											
	<u>(5A)</u>	<u>20SR04-35</u>		<u>1619</u>		<u>1</u>		<u>X</u>											
	<u>(6A)</u>	<u>20SR05-45</u>		<u>1626</u>		<u>1</u>		<u>X</u>											
	<u>(7A)</u>	<u>20SR06-55</u>		<u>1631</u>		<u>1</u>		<u>X</u>											
	<u>(8A)</u>	<u>20SR07-65</u>		<u>1639</u>		<u>1</u>		<u>X</u>											
	<u>(9A)</u>	<u>20SR08-75</u>		<u>1646</u>		<u>1</u>		<u>X</u>											
<u>(10A)</u>	<u>20SR09-85</u>		<u>1651</u>		<u>1</u>		<u>X</u>												
Section 5	Relinquished By: (1) <u>[Signature]</u>		Date <u>7/31/20</u>	Time <u>1200</u>	Received By: <u>[Signature]</u>		Section 4	DOD Project? Yes/No <u>No</u>		Data Deliverable Requirements:									
	Relinquished By: (2)		Date	Time	Received By:		Cooler ID:		Requested Turnaround Time and/or Special Instructions: <u>3 day TAT</u>										
	Relinquished By: (3)		Date	Time	Received By:		Temp Blank °C: <u>1.8</u> <u>D57</u>		Chain of Custody Seal: (Circle) <u>INTACT</u> BROKEN ABSENT										
	Relinquished By: (4) <u>[Signature]</u>		Date <u>7.31.20</u>	Time <u>1248</u>	Received For Laboratory By: <u>[Signature]</u>		or Ambient []		Delivery Method: Hand Delivery [X] Commercial Delivery []										

http://www.sgs.com/terms-and-conditions



CLIENT: Hlcorp Energy LLC

CONTACT: Greg Rutkowski **PHONE #:** 907 350 6742

PROJECT NAME: Swanson River **PROJECT/PWSID/PERMIT#:**

REPORTS TO: Greg Rutkowski **E-MAIL:** greg.rutkowski@hlcorp.com **Profile #:** gregory.rutkowski@jwabs.com

INVOICE TO: Hlcorp **QUOTE #:** **P.O. #:** #360618 AD

Instructions: Omissions may delay the onset of analysis.

Section 3 Preservative

Section 1

Section 2

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*	REMARKS/LOC ID
(11A)	20SR10-95	07/30/20	1655	Soil	1	X		
(12A)	20SR11-105	↓	1715	↓	1	X		
(13A)	20SR11-105-9	↓	1715	↓	1	X		

NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 4 DOD Project? Yes No Data Deliverable Requirements:

Section 5

Relinquished By: (1) [Signature] Date: 7/31/20 Time: 1200 Received By: [Signature]

Relinquished By: (2) [Signature] Date: [] Time: [] Received By: []

Relinquished By: (3) [Signature] Date: [] Time: [] Received By: []

Relinquished By: (4) [Signature] Date: 7-31-20 Time: 1248 Received For Laboratory By: [Signature]

Cooler ID: []

Requested Turnaround Time and/or Special Instructions: 3 day TAT

Temp Blank °C: 1.6 D57 or Ambient [] Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [X] Commerical Delivery []



Returned Bottles Inventory

Name of individual returning bottles:

Greg Putkowski

Date Received:

07/31/20

Client Name: Jacobs / Hilltop Energy LLC

Received by:

M.A

Project Name: Swanson River

SGS PM:

JAN

HDPE/Nalgene:	1-L	
	500-ml	
	250-ml or 8-oz	
	125-ml or 4-oz	
	60-ml or 2-oz	
	other	
amber glass:	1-L	
	500-ml	
	250-ml or 8-oz	
	125-ml or 4-oz with or without septa	11
	40-ml VOA vial	^{2ml} 7.31.20
	other	
Subtotal:		11

Note: Returned bottles (regardless of size/pres.) are billed back at \$4/bottle unless otherwise quoted.

Amount to Invoice Client \$:

44

WO#:

1203812



e-Sample Receipt Form

SGS Workorder #:

1203812



1 2 0 3 8 1 2

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements		
Were Custody Seals intact? Note # & location	Yes	Exemption permitted if sampler hand carries/delivers.
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
<input type="checkbox"/> 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 @ 1.8 °C Therm. ID: D57
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		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	
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)?	No	Samples 12 & 13 have sample ID "20SR11-105-9". Proceeded per COC.
Note: If times differ <1hr, record details & login per COC. *Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals))	Yes	
Were proper containers (type/mass/volume/preservative***) used?	Yes	<input type="checkbox"/> N/A ***Exemption permitted for metals (e.g, 200.8/6020A).
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1203812001-A	No Preservative Required	OK			
1203812002-A	No Preservative Required	OK			
1203812003-A	No Preservative Required	OK			
1203812004-A	No Preservative Required	OK			
1203812005-A	No Preservative Required	OK			
1203812006-A	No Preservative Required	OK			
1203812007-A	No Preservative Required	OK			
1203812008-A	No Preservative Required	OK			
1203812009-A	No Preservative Required	OK			
1203812010-A	No Preservative Required	OK			
1203812011-A	No Preservative Required	OK			
1203812012-A	No Preservative Required	OK			
1203812013-A	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.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

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.

QN - Insufficient sample quantity provided.