

global environmental solutions

Soil and Groundwater Assessment and Remediation Report Red Salmon Facility, Naknek, Alaska

SLR Ref: 105.00151.15005

November 2015



Soil and Groundwater Assessment and Remediation Report Red Salmon Facility, Naknek, Alaska

Prepared for:

NORTH PACIFIC SEAFOODS INCORPORATED

4 Nickerson Street, Suite 400 Seattle, WA 98109

This document has been prepared by SLR International Corporation. The material and data in this report were prepared under the supervision and direction of the undersigned.

Ben Siwiec Project Geologist

Stan Flagel Principal Scientist

ACR	ONYMS	i	ii
EXE	CUTIVE	SUMMARY	1
1.	INTROD 1.1 F 1.2 F 1.3 C	DUCTION Project Background Physical Setting Objectives and Scope of Work	3 3 4 4
2.	REGUL	ATORY CRITERIA	5
3.	FIELD A 3.1 3 3.2 7 3.3 0 3.4 0 3.5 3 3.6 3 3.7 1 3.8 0 3.9 7 3.10 H 3.11 1	ACTIVITIES	6 6778899011112
4.	RESUL 4.1 5 4.2 0 4.3 1 4.4 5 4.5 0	TS 1 Soil Excavation 1 Groundwater Sampling 1 Test Pit Results 1 Seep Sampling 1 Quality Assurance and Quality Control 1	3 3 4 5 5
5.	DISCUS 5.1 N 5.2 N 5.3 0	SSION	7 7 7 8
6.	CONCL	USIONS1	9
7.	REFERI	ENCES2	:1
LIMI	TATIONS	S2	22

CONTENTS

TABLES

- Table 12015 Field Screening and Analytical Sampling Summary
- Table 22015 Soil Sampling Results
- Table 32015 Groundwater Sampling Results
- Table 42015 Seep Water Sampling Results

FIGURES

- Figure 1 Site Location Map
- Figure 2 Site Layout Map
- Figure 3 Excavation Area and Soil Sampling Results
- Figure 4 Test Pits, Groundwater, and Seep Sampling Results
- Figure 5 Estimate Extent of Hydrocarbon Impacts

Appendices

- Appendix A Photograph Log
- Appendix B Field Forms and Field Notes
- Appendix C Transport, Treatment, and Disposal Documentation
- Appendix D SGS Laboratory Data Reports
- Appendix E Data Quality Assessment and ADEC Laboratory Checklist
- Appendix F ADEC Conceptual Site Model Worksheet and Graphic

ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
COC	chain of custody
CSM	conceptual site model
CY	cubic yard
DQA	Data Quality Assessment
DRO	diesel-range organics
GAC	granulated activated carbon
GRO	gasoline-range organics
HAZWOPER	Hazardous Waste Operations and Emergency Response
HSEP	Health, Safety, and Environmental Plan
LOD	limit of detection
LOQ	limit of quantitation
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NPSI	North Pacific Seafoods Incorporated
PAH	polycyclic aromatic hydrocarbons
PID	photoionization detector
ppm	parts per million
QA	quality assurance
QC	quality control
RPD	relative percent difference
RRO	residual-range organics
SIM	Selective Ion Monitoring
SLR	SLR International Corporation
ТАН	total aromatic hydrocarbons
TAqH	total aqueous hydrocarbons
USCS	Unified Soil Classification System

EXECUTIVE SUMMARY

SLR International Corporation was requested by North Pacific Seafoods Incorporated (NPSI) to remove petroleum hydrocarbon-impacted soil that was identified during a 2014 field investigation and to further delineate the extent of potential petroleum related contamination in soil and groundwater at the Red Salmon Facility located in Naknek, Alaska. The work was completed in accordance the Alaska Department of Environmental Quality (ADEC) approved *Soil and Groundwater Assessment and Remediation, Red Salmon Facility, Naknek, Alaska, Work Plan* (Work Plan) (SLR, 2015).

Field activities were completed on June 12, 2015, and between July 29 and August 3, 2015. Activities included: inspection of areas downslope of the Fisherman's Gear Storage Building to identify seeps and potential discharges to the Naknek River; excavation and removal of approximately 50 cubic yard (CY) of hydrocarbon impacted soil from the west side of the Fisherman's Gear Storage Building; collection and analysis of confirmation samples from the excavation floor and side walls; completion and sampling of two step-out test pits north-northwest of the excavation area; and groundwater and seep water sampling and analysis.

All soil and water samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), as well as gasoline-range organics (GRO), diesel-range organics (DRO), and residual range organics (RRO). One groundwater and two seep water samples were also analyzed for polycyclic aromatic hydrocarbons (PAHs).

Results of soil confirmation samples collected from the floor and sidewalls of the excavation pit showed DRO concentration remained above the most stringent ADEC Method Two soil cleanup level (i.e., migration to groundwater) after the excavation work was completed. Expansion of the excavation was halted once 50 CY of impacted soil had been removed due to limitations with storage and transportation, and in accordance with the Work Plan. Excavated soil was transported to Seattle, Washington via Alaska Marine Lines and then transported to CEMEX in Everett, Washington for final disposal.

Analytical results from the two test pits showed no hydrocarbon impacts approximately 50 to 160 feet north-northwest of the excavation. To the east-southeast, soil screening and analytical testing completed in 2014 delineated the extent of soil impacts to approximately 20-feet to 25-feet southeast of the Fisherman's Gear Storage Building.

During excavation activities, vertical digging below the depth of the water table was not considered practical for source removal. Hydrocarbon impacts below the water table were assessed by groundwater and seep water sampling. Regenesis ORC[®], an oxygenate compound engineered to accelerate the biological attenuation of remaining petroleum hydrocarbon concentrations in groundwater, was spread across the floor of the excavation prior to backfilling as a treatment for impacted groundwater.

Three of four groundwater samples contained dissolved phase DRO concentrations exceeding ADEC groundwater cleanup levels. Analytical results from one of the seep water samples collected showed that in addition to dissolved phase DRO, RRO and benzene also exceeded

ADEC groundwater cleanup levels. The occurrence of dissolved phase benzene and RRO in the seep water was in contrast to the impacts reported in groundwater. No seeps were observed discharging to the Naknek River.

SLR International Corporation (SLR) was requested by North Pacific Seafoods Incorporated (NPSI) to remove petroleum hydrocarbon-impacted soil that was identified during a 2014 field investigation and to further delineate the extent of potential petroleum related contamination in soil and groundwater at the Red Salmon Facility (Site) located in Naknek, Alaska (Figure 1). This report summarizes the field activities completed at the Site during 2015.

1.1 PROJECT BACKGROUND

Petroleum hydrocarbon-impacted soil was observed in the spring of 2014 near a valve box connected by above ground piping to inactive above-ground Bunker C storage tanks (Figures 2 and 3). In response, onsite NPSI personnel excavated the visibly stained soil from around the valve box and placed the impacted soil in fish totes for disposal at an offsite disposal facility.

To evaluate the extent of petroleum impacts to soil and groundwater in the vicinity of the former valve box, NPSI contracted SLR to complete a subsurface investigation in September 2014 (SLR, 2014). As part of the investigation activities, one test pit, TP1, was excavated to a depth of approximately 8 feet below ground surface (bgs) and 17 soil borings, SB-1 to SB-17, were advanced to approximately 1 to 4 feet bgs (at least 0.5-foot below the groundwater table) (SLR, 2014).

Concurrent with the 2014 excavation, soil samples were collected at approximately 1-foot depth interval. Soil types were classified in accordance with the Unified Soil Classification System (USCS) and were generally identified as sand and silt (SM). Soil samples were screened for the presence of petroleum hydrocarbons by using visual observation of staining, hydrocarbon odor, and heated headspace analyses with a photoionization detector (PID).

Field evidence indicated the presence of petroleum hydrocarbons in test pit TP1 and all of the soil borings. Hydrocarbon sheen was observed in TP1, SB-1, SB-12, and SB-13. The soil samples exhibiting the greatest evidence of contamination from the test pit TP1, and borings, SB-1, SB-3, SB-4, SB-5, SB-6, SB-8, SB-9, and SB-10, were submitted to SGS Environmental Services (SGS) in Anchorage, Alaska, for laboratory analyses. Each sample was analyzed for diesel-range organics (DRO) by Alaska Method 102 (AK 102) and residual-range organics (RRO) by AK103. The samples from test pit TP1 and soil boring SB-9 were also analyzed for polycyclic aromatic hydrocarbons (PAHs) by United States Environmental Protection Agency (USEPA) Method 8270D-Selective Ion Monitoring (SIM).

The analytical results showed that soil from test pit TP1 and borings SB-1, SB-3, and SB-10 contained DRO concentrations of 18,800 milligrams per kilograms (mg/kg), 63,100 mg/kg, 400 mg/kg, and 898 mg/kg, respectively, and exceeded the most stringent Alaska Department of Environmental Conservation (ADEC) Method Two soil cleanup level¹ of 250 mg/kg. No soil sample contained RRO or PAH concentrations greater than their respective ADEC Method Two soil cleanup levels.

¹ ADEC Method Two cleanup levels for Under 40 Inch Zone, with potential to migrate to groundwater, January 2009.

The 2014 soil screening PID readings and DRO analytical results are provided in Subsurface Investigation Report, Red Salmon Facility, Naknek, Alaska.

1.2 PHYSICAL SETTING

The Site is located in Naknek, Alaska, between the Alaska Peninsula Highway and the Naknek River (Figure 1). The facility is built on a southeast facing slope which descends towards the Naknek River. The depth to groundwater in the investigation area ranges from 0.5 feet (near the old valve box) to 8 feet bgs in areas farther upslope. The soil in the area consisted mostly of coarse brown sand.

1.3 OBJECTIVES AND SCOPE OF WORK

The objectives for the 2015 field investigation were to remove impacted soil identified during the September 2014 field investigation (up to 50 cubic yards [CY]), monitor for the presence or absence of surface water seeps during spring breakup downslope of the former valve box area, and evaluate petroleum hydrocarbon-impacts to groundwater. To achieve these objectives, the following scope of work was completed in accordance with the approved Work Plan:

- Inspected the area downslope of the Fisherman's Gear Storage Building (Figure 3);
- Analyzed water samples from seeps identified by NPSI personnel;
- Removed approximately 50 CY of impacted soil in the vicinity for TP1 on the west side of the Fisherman's Gear Storage Building (Figure 3);
- Collected confirmation soil samples from the floor and sidewalls of the excavation;
- Sampled soil from two test pits completed northwest of the Fisherman's Gear Storage Building (Figure 4); and
- Collected groundwater samples from four newly installed monitoring wells, one upslope, two downslope, and one within the area of contamination delineated in 2014 (Figure 4).

2. REGULATORY CRITERIA

According to the Department of Commerce, Community, and Economic Development Community and Regional Affairs, Naknek, Alaska receives an average of 19.5 inches of precipitation annually. ADEC Method Two soil and groundwater cleanup levels are specified in Title 18 of the Alaska Administrative Code (AAC), Chapter 75 (18 AAC 75) *Oil and Other Hazardous Substances Pollution Control* as amended through June 2014 (ADEC, 2015).

The soil cleanup levels in Tables B1 and B2 in 18 AAC 75.341 are applicable to the Site. The soil cleanup levels for the compounds analyzed are as follows:

- Benzene: 0.02 mg/kg
- Toluene: 5.4 mg/kg
- Ethylbenzene: 5.5 mg/kg
- Total xylenes: 78 mg/kg
- Gasoline-range organics (GRO): 300 mg/kg
- DRO: 250 mg/kg
- RRO: 10,000 mg/kg

The groundwater cleanup levels in Table C of 18 AAC 75.345 are applicable to the Site. The groundwater cleanup levels for the compounds analyzed are as follows:

- Benzene: 0.005 milligrams per liter (mg/L)
- Toluene: 1.0 mg/L
- Ethylbenzene: 0.7 mg/L
- Total xylenes: 10 mg/L
- GRO: 2.2 mg/L
- DRO: 1.5 mg/L
- RRO: 1.1 mg/L

The Alaska Water Quality Standards for Designated Uses [18 AAC 70.020(b)] are applicable to the Site. The water quality standards for the applicable compounds analyzed are as follows:

- Total aromatic hydrocarbons (TAH): 10 μg/L
- Total aqueous hydrocarbons (TAqH): 15 μg/L

Field activities were completed on June 12, 2015, and between July 29 and August 3, 2015. Activities performed included: seep inspection and monitoring; excavation of hydrocarbon-impacted soil in the vicinity of the former valve box; excavation and soil sampling at two test pits; installation of four groundwater monitoring wells; and groundwater sampling.

Field activities were conducted by NPSI and SLR field staff. The SLR field staff met the criteria for "qualified environmental professional" under 18 AAC 75.333(c).

3.1 SOIL EXCAVATION

The extent of the proposed excavation area, 55-feet by 25-feet, was delineated and gridded based on the results from the 2014 investigation (SLR, 2014). The excavation grid was oriented parallel to the northwest wall of the Fisherman's Gear Storage Building (Figure 3). Pin flags and surveyors lath were used to mark the corners (nodes) of each 5-foot by 5-foot grid cell in accordance with the Work Plan. NPSI personnel, with 24-hour HAZWOPER certification, operated excavation equipment under the direction of an SLR field geologist.

NPSI onsite personnel were consulted regarding the potential for active utilities in the area prior to excavation work. Once it was determined that there were no active utilities in the area, soil excavation proceeded as planned. An NPSI owned Case 580 Series backhoe and loader was used. The final excavated area was approximately 650 square feet, the average depth of the excavation was approximately 2-feet below ground surface (bgs), with a maximum excavation depth 5.5-feet bgs.

Excavated soil was containerized into 1 - CY Super Sacks at the excavation site. Super Sacks were filled over the open excavation to prevent spillage into clean areas (see photographs in Appendix A). The Super Sacks were labeled with an excavation grid cell identification number and then sequentially by order in which they were filled (e.g., A3-1 is the first sack filled from cell A3; A3-2 is the second sack filled from grid cell A3, etc.). A list of all Super Sack identification numbers is provided on the Super Sack Log in Appendix B. Once filled, the Super Sacks were placed, transferred to the temporary staging area near the facility office building (Figure 2), and placed on pallets arranged on a plastic liner. A total of 45 Super Sacks were filled.

Samples for field screening were collected within the gridded area at a frequency of roughly one sidewall sample per 5-linear feet and three floor samples for every 25-square feet. A total of 22 soil samples were collected for field screening, six from the sidewalls and 16 from the floor. All screening samples were collected in accordance with the Section 4.2 of the Work Plan and the ADEC *Field Sampling Guidance* (ADEC, 2010). Soil screening locations are shown on Figure 3.

All 22 samples were screened by heated headspace analyses using a PID, and nine samples were also screened using a PetroFLAG analyzer to measure total petroleum hydrocarbon. Heated headspace and PetroFLAG analyses were completed in accordance with ADEC *Field Sampling Guidance*, the PetroFLAG manufacturer's instruction manual (Dexsil Corporation, 2009), and Section 4.2 of the Work Plan.

Screening results were used as the basis for expanding the excavation area laterally and vertically. To the extent practical, excavation boundaries were extended in areas where PID screening results exceeded 30 parts per million (ppm). The excavation was not expanded beneath the existing building. The depth of the excavation floor extended to the top of the water table. Excavation activities were halted once approximately 50 CY of soil had been removed in accordance with Section 3.4.2 of the Work Plan.

Field results were recorded on PID and PetroFLAG field forms provided in Appendix B.

3.1.1 CONFIRMATION SAMPLING

SLR field personnel field screened potential confirmation sidewall and floor samples. Six floor samples were collected once the maximum vertical extent was achieved (i.e., the top of the water table). Three sidewall confirmation samples were collected at locations with the highest headspace or/and PetroFLAG result. Sidewall samples were collected at a frequency of approximately one sample per 20 linear feet, and floor samples at a frequency of approximately one per 25 square feet based on recommendations in ADEC *Field Sampling Guidance*.

Soil samples were collected directly from the surface of the excavations using disposable stainless steel spoons. Samples were placed directly into laboratory provided sample containers in accordance with Section 4.3 of the Work Plan. Confirmation sample locations were marked on a scaled grid and swing ties were completed as needed. The field grid and swing tie measurements are provided in Field Notes in Appendix B.

Floor and sidewall soil samples were submitted to SGS in Anchorage, Alaska for the following analyses:

- Petroleum Hydrocarbons
 - GRO by AK101
 - DRO by AK102
 - RRO by AK103
- Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by USEPA Method 8021

3.1.2 BACKFILLING AND TREATMENT

The excavation was backfilled to grade with clean soil obtained onsite. Prior to backfilling, approximately 330 pounds of Regenesis ORC[®], an oxygenate compound engineered to accelerate the biological attenuation of remaining petroleum hydrocarbon concentrations in groundwater, was spread across the floor of the excavation.

Based on a 10% by weight oxygen, as indicated in the product specifications, the quantity of ORC[®] added was sufficient to remove approximately 10-pounds of hydrocarbon (applying a general rule of thumb of 3-pounds of oxygen required to degrade 1-pound of hydrocarbon).

ORC[®] was applied in accordance with the manufacturer's Application Instructions and the Work Plan Addendum (NPSI, 2015). Shipping, handling, storage, and disposal of the product were consistent with the product Safety Data Sheet.

3.2 TEST PITS

Because the extent of impacted soil exceeded the area estimated in the Work Plan, SLR advanced two "step-out" test pits, TP3 and TP2, approximately 50-feet and 160-feet northwest of the excavation area, respectively (Figure 4). The test pits were completed to depths of approximately 7-feet (TP3) and 8-feet (TP2) bgs, with the bottom of each being near or slightly below the water table.

SLR field personnel collected soil samples for heated headspace field screening at each stepout test pit on approximately 2-foot intervals, from the surface to just above the soil/groundwater interface. One soil sample from each test pit was selected based on potential hydrocarbon impacts (i.e., visual and olfactory observations, and PID measurements) for PetroFLAG screening and analytical testing.

Because of the depth of the test pits, soil samples were collected from the center of the backhoe bucket. Samples were collected using clean disposable stainless spoons as described in Section 4.3 of the Work Plan.

Field results were recorded on PID and PetroFLAG field forms provided in Appendix B

3.3 GROUNDWATER MONITORING WELL INSTALLATION

Following the excavation of impacted soil, SLR installed one upslope groundwater monitoring well, MW-3, two downslope monitoring wells, MW-2 and MW-4, and one well, MW-1, within the excavated area (Figure 4). Wells were installed in accordance with Section 3.7 of the Work Plan. The upgradient and downgradient monitoring wells were completed approximately 50-feet and 30-feet beyond the perimeter of the excavation, respectively. Monitoring well MW-1 was installed near TP1 (the location of the highest reported DRO and RRO concentrations during the September 2014 investigation).

Monitoring wells were installed in accordance with ADEC *Monitoring Well Guidance* (ADEC, 2013) using an excavator to dig well pits to a depth at least three feet below the water table. Soil samples were collected from each monitoring well test pit and logged by the onsite SLR geologist and classified using the Unified Soil Classification System.

Well screens were placed into the excavations inside eight-inch-diameter PVC piping (outer casing) that extended from the bottom of the screen to approximately two feet above the ground surface (see photographs in Appendix A). The well pits were then backfilled around the outer casing. After the well pits had been backfilled, the annular space between the pre-packed well screen and the casing was filled with a 10x20 silica sand filter pack that was placed concurrently with the removal of the outer casing. The filter pack was brought up to approximately 2-feet bgs. A bentonite seal was placed above the filter pack to a depth of 1-feet bgs. An above-ground well monument was installed in a concrete surface seal placed above the bentonite seal to the ground surface. Well construction details were documented on Well Installation Logs provided in Appendix B.

After each groundwater monitoring well was installed, the wells were developed to ensure hydraulic connectivity with the surrounding aquifer. The well materials were allowed to cure and settle for at least 24 hours before development. Well development was completed using surging

and pumping methods. A surge block that closely fits the inside diameter of the well casing was swept across the well screen in 2-feet intervals to settle the filter pack and to pull fine sediments into the well. After the entire screened interval had been surged, the well was pumped to remove the accumulated sediments. This process was repeated until the water discharging from the well was visibly clear. Well development is documented in the field notes from August 3, 2015 in Appendix B. Following well development, groundwater samples were collected.

3.4 GROUNDWATER SAMPLING

SLR conducted groundwater sampling activities at monitoring wells MW-1 though MW-4 on August 3, 2015.

Prior to sampling, groundwater gauging was conducted using an electronic water level indicator. The depth to water was measured to the nearest 0.01 feet and recorded.

Prior to purging, depth to water and total casing depth measurements were recorded and the well casing volume was calculated.

Water was purged from each well using a peristaltic pump, new Teflon[®]-lined polyethylene tubing, and in-line water quality monitoring equipment. Field measurements of temperature, pH, specific conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity were collected during the purging process. The purging process was considered complete once a minimum of three casing volumes had been purged.

Water quality parameters and other sampling information were recorded on Groundwater Sampling Forms and are provided in Appendix B.

The groundwater samples were submitted to SGS for analysis of:

- BTEX by USEPA Method 8260;
- GRO by Alaska Method AK101;
- DRO by Alaska Method AK102; and
- RRO by Alaska Method AK103.

One groundwater sample from MW-4 was also submitted for analysis of PAHs by USEPA Method 8270 Selective Ion Monitoring (SIM) Method.

3.5 SEEP MONITORING

Following the spring 2015 breakup, NPSI personnel inspected the hillslope to the east and southeast of the Fisherman's Gear Storage Building, beneath the Cold Storage Building (Figures 2 and 4), and the adjacent river bank for evidence of seeps and/or sheens. Two seeps, identified as Seep-1 and Seep-2, were observed on the northwest side of the Cold Storage Building (Figure 4). No seeps were observed beneath the Cold Storage Building, and no seep water was observed discharging to the Naknek River.

Seep water samples were collected by NPSI personnel on June 12, 2015. NPSI personnel drove 3-foot long, decontaminated, stainless steel, temporary well points horizontally into the

hillslope where the seeps emerged. However, no water was produced from either temporary well point, and as a result a small reservoir was dug just below each seep to collect water for sampling. Water was allowed to accumulate in the reservoirs until the sediment generated during digging settled out. Once the water appeared clear, surface water samples were collected by dipping a clean transfer bottle with no preservative, into the reservoir. The water collected in the transfer bottle was poured directly into an appropriate laboratory provided sample container, with preservatives if required by the analytical method.

Seep water samples were submitted to SGS for analyses of the following constituents:

- Petroleum Hydrocarbons
 - GRO by AK101
 - DRO by AK102
 - RRO by AK103
- BTEX by USEPA Method 8021
- PAHs by USEPA Method 8270 SIM.

SLR personnel resampled Seep-1 on August 3, 2015. The August sample was collected as described above and analyzed for BTEX and PAHs.

3.6 SAMPLE HANDLING

Procedures used to maintain the integrity of soil and groundwater samples collected for laboratory analysis began at the time of collection and continued until analysis. All samples were packaged and shipped in accordance with Section 4.6 of the Work Plan.

A bound field logbook, sample collection forms, and field logs were maintained to document the 2015 soil removal and sampling activities. Samples were assigned a unique identifier using project specific nomenclature. Field notes written in ink provided a record of information such as field staff, sample locations, field screening results, site observations, and work directives.

At the time of collection, sample containers appropriate for the specified analysis were filled and sealed. A blind sample designation was assigned to replicate samples and the collection time for these samples corresponded with the collection time of the primary sample. A trip blank was included in each cooler that contained samples to be analyzed for volatiles (i.e. GRO and BTEX). Labels indicating sample identification, date, time and the sampler's initials were affixed to the sample containers.

Chain of custody (COC) forms were completed as the samples were packaged into coolers for transport to the laboratory. Trip blanks, temperature blanks, and frozen gel ice packs were added to each cooler as required. The samples were maintained at a temperature of approximately 4 degrees Celsius (°C) from the time of collection until arrival at the laboratory. The samples were stored in a chilled cooler under NPSI's or SLR's custody or sealed with custody seals at all times. Samples were shipped or delivered by SLR personnel directly to SGS with sufficient time to allow for sample extraction within the holding time requirements of the test methods.

3.7 DECONTAMINATION AND WASTE MANAGEMENT

All soil samples were collected with either new or decontaminated stainless steel sampling equipment (i.e. spoons or hand augers). Sampling and monitoring equipment were decontaminated in accordance with the procedure described in Section 4.4 of the Work Plan. Disposable sampling materials were disposed of using a garbage bag and were placed in an appropriate receptacle at the Site. No hazardous waste was generated during this field effort.

Data from SLR's 2014 subsurface investigation (SLR, 2014) was used to characterize the excavated soil for disposal purposes. The manifested containers of excavated soil were transported by NPSI to CEMEX in Everett, Washington, a permitted soil treatment, storage, and disposal facility. Clean soil from test pits and/or hand auger borings was placed back into the test pits in the order in which it was removed. Purge water generated during well development and sampling was treated with a granulated activated carbon (GAC) filter and discharged to a vegetated area on-site. The GAC filter was taken off-site for disposal.

3.8 CALIBRATION PROCEDURES

Field instruments were calibrated according to manufacturer specifications prior to use and periodically during sampling if instrument drift is suspected. At a minimum, field instruments were calibrated daily during the field event. Documentation of calibration in provided in Appendix B.

3.9 TRANSPORTATION AND DISPOSAL

A Contaminated Soil Transport and Treatment Approval Form was submitted to ADEC by NPSI. This request listed the estimated volume of soil and the disposal facilities. This request was submitted prior to transportation of any soil from the Site. The form was signed by ADEC and returned to NPSI via email. A copy is provided in Appendix C.

Super Sacks containing excavated soil were placed in ocean going shipping containers for transport from the Site via Alaska Marine Line barge to Seattle, Washington. In Seattle, the containers were transferred to a flatbed trailer for transport to CEMEX in Everett, Washington, a permitted petroleum contaminated soil treatment facility, for final disposal. Copies of the CEMEX solid waste permit are provided in Appendix C.

All containers were properly placarded, tracked, and recorded. Shipping papers and nonhazardous waste manifests were prepared in accordance with US Department of Transportation Shipping Regulations (49 CFR 173-178). Copies of transportation manifests and certificates of disposal are provided in Appendix C.

3.10 HEALTH AND SAFETY

All field activities were conducted in accordance with the site-specific SLR Health, Safety, and Environmental Plan (HSEP). Additionally, all field personnel were required to adhere to the SLR and NPSI Corporate Health and Safety Plan.

3.11 DEVIATION FROM WORK PLAN

This section describes deviations from the ADEC-approved Work Plan (SLR, 2015) that were made during the 2015 field activities.

- Due to the fact that temporary drive points at the seep locations failed to produce water, small collection reservoirs were dug below each seep. Seep water samples were collected from the reservoirs as described in Section 3.5.
- No piping was removed from the remediation area as proposed in Section 3.3 of the Work Plan. Broken sections of pipe and other debris were encountered and removed. Two capped pipes were unearthed near base of the Fisherman's Gear Storage Building. These pipes were opened yielding approximately 5 gallons of thick bunker oil and water that was containerized and disposed. Once drained the pipes were resealed.
- Soil removal was not completed in the vicinity of the Laundry Building as proposed in Section 3.4.2 of the Work Plan. NPSI will be removing this material at a future date.
- Confirmation sample point locations were surveyed using swing ties. It was determined in the field that the swing tie method would provide better accuracy than the handheld geographic positioning system (GPS).
- Based on field observations indicating that groundwater impacts extended beyond the excavation area, the step-out distance for monitoring wells MW-2, MW-3, and MW-4 were increased outward from the proposed locations (Section 3.7 of the Work Plan) on the perimeter of the excavation.
- Groundwater samples were collected after removal of a minimum of three casing volumes of water and not by low-stress low flow sampling techniques.

This section provides a summary of field and analytical results.

4.1 SOIL EXCAVATION

Approximately 50 CY of petroleum contaminated soil was removed from the area adjacent to the northwest side of the Fisherman's Gear Storage Building. Nine samples, three sidewall and six floor samples, were collected for analytical testing to evaluate the remaining extent of impacted soil following excavation. The results of confirmation analyses are discussed below and presented in Table 2 and shown on Figure 3.

GRO was detected in all nine samples with concentration ranging from 2.09 milligram per kilogram (mg/kg) to 61.2 mg/kg. All GRO results were below the most stringent ADEC Method Two soil cleanup level of 300 mg/kg. RRO were also detected in all nine samples collected with concentration ranging from 156 mg/kg to 754 mg/kg. All RRO results were also below the most stringent ADEC Method Two soil cleanup level of 1,000 mg/kg.

DRO was detected in all nine samples with concentration ranging from 192 mg/kg to 20,000 mg/kg. With the exception of sidewall sample SWE4, all samples exceeded the ADEC Method Two soil cleanup level of 250 mg/kg. Two samples, sidewall sample SWB0 with a concentration of 20,000 mg/kg and floor sample SFB4 with a concentration of 13,000 mg/kg (Figure 3 and Table 2), also exceeded the ADEC Method Two soil cleanup levels for ingestion and inhalation of 10,250 mg/kg and 12,000 mg/kg, respectively.

All BTEX constituent concentrations were below ADEC Method Two soil cleanup levels. Benzene concentrations were below the limit of detection (LOD) in all nine samples analyzed. Toluene was detected in two samples with a maximum concentration of 0.09 mg/kg. Ethylbenzene was also detected in two samples with a maximum concentration of 0.89 mg/kg. Xylenes concentrations were reported in four samples with a maximum concentration of 2.03 mg/kg. The maximum concentrations of each constituent occurred in floor sample SFB4.

Heated headspace screening results exceeded 30 ppm in all floor and sidewall samples with the exception of sidewall locations 17 and SWE4 along northwest-central perimeter of the excavation area (Figure 3 and Table 1). The low headspace result recorded at SWE4 is consistent with the lower DRO concentration reported at this location of 192 mg/kg. SWE4 was the only location that did not exceed the ADEC Method Two soil cleanup level. Although the sidewall headspace results exceeded the criteria for additional excavation along most to the pit perimeter, the excavation was halted once a total of 50 CY of soil were excavated in accordance with the Work Plan.

All excavation floor heated headspace samples had PID results exceeding 30 ppm (Figure 3 and Table 1). However, these samples were collected at the soil/water interface or slightly below and may not be representative of unsaturated soil conditions.

4.2 GROUNDWATER SAMPLING

Four groundwater samples, one within the excavation area (MW-1), one upslope of the excavation area (MW-3), and two downslope of the excavation area (MW-2 and MW-4), were collected for analyses of GRO, DRO, RRO, and BTEX. Groundwater from monitoring well MW-2 was also analyzed for PAHs. Groundwater results are presented in Table 3 and shown on Figure 4.

GRO was detected in three of the four wells sampled with concentration ranging from 0.038 milligrams per liter (mg/L) in MW-2 to 0.362 mg/L in MW-1; GRO was not detected above the LOD in MW-3. RRO was not detected above the LOD in MW-4. All GRO results were below the ADEC groundwater cleanup level of 2.2 mg/L. RRO was also detected in three of the four wells sampled with concentration ranging from 0.276 mg/L in MW-1 to 1.05 mg/L in MW-2. All RRO results were below the ADEC groundwater cleanup level of 1.1 mg/L.

DRO was detected in all four groundwater samples with concentration ranging from 0.343 mg/L in MW-4 to 5.49 mg/L in MW-1. With the exception of the sample for MW-4, the other three samples were above the ADEC groundwater cleanup level of 1.5 mg/L.

One or more BTEX constituents were reported above the LOD in each of the four wells; however, all reported BTEX constituent concentrations were below ADEC groundwater cleanup levels. Benzene was reported in MW-1, MW-2, and MW-3 with concentrations ranging from 1.42 micrograms per liter μ g/L in MW-3 to 4.39 μ g/L in MW-1. Toluene was detected in MW-1 and MW-4 at concentrations of 6.33 μ g/L and 0.41 μ g/L respectively. Ethylbenzene was detected in MW-1 and MW-1 and MW-4 at concentrations of 7.16 μ g/L and 3.69 μ g/L, respectively. Xylenes were detected in MW-1, MW-2, and MW-4 at concentrations of 60.0 μ g/L, 0.75 μ g/L, and 8.54 μ g/L, respectively.

4.3 TEST PIT RESULTS

Test pits TP2 and TP3 were located approximately 160-feet and 50-feet northwest of the excavation area, respectively (Figure 4). The test pits were completed to depth of between 7-feet and 8-feet bgs. Heated headspace samples were collected from sidewall on 2-foot intervals from the surface to total depth and analyzed with a PID.

Heated headspace results at TP2 ranged from 3.5 ppm at 8-feet bgs to 13.4 ppm at 4-feet bgs. At T3, heated headspace results ranged from 11.0 ppm at 7-feet bgs to 18.0 ppm at 3-feet bgs. The test pit headspace results roughly an order of magnitude lower than results from the excavation area. Headspace and PetroFLAG results are provided in Table 1.

Analytical results from soil samples collected at the two test pits near the soil/water interface were consistent with the relatively low headspace reading. At TP2, GRO, DRO, RRO and BTEX were reported below the LOD in a sample collected at 8-feet bgs. At TP3, in a sample collected at 7-feet bgs, DRO was estimated at a concentration of 10.2 mg/kg (NOTE: estimated concentration value was below limit of quantitation [LOQ]), but GRO, RRO, and BTEX were all below the LOD. Test pit analytical results are provided in Table 3.

4.4 SEEP SAMPLING

Two seeps were identified by NPSI personnel on the hillslope northeast of the Cold Storage Building (Figures 4). In June 2015, water from both seeps were sampled and analyzed for GRO, DRO, RRO, BTEX and PAHs. In August 2015 water from Seep-1 was resampled and analyzed for BTEX and PAHs only. All seep sample results are provided in Table 3.

GRO was only detected above the LOD in Seep-1 with a concentration of 0.3 mg/L which was below the ADEC groundwater cleanup level of 2.2 mg/L. DRO was detected at both Seep-1 and Seep-2, at concentrations of 0.826 mg/L and 6.05 mg/L, respectfully. Only the DRO concentration reported at Seep-1 exceeded the ADEC groundwater cleanup level for DRO of 1.5 mg/L. RRO was also detected at both Seep-1 and Seep-2, at concentrations of 0.188 mg/L and 3.46 mg/L, respectfully. Similar to DRO, only the RRO concentration reported at Seep-1 exceeded the ADEC groundwater cleanup level at Seep-1 exceeded the ADEC groundwater cleanup level of 2.2 mg/L.

In June 2015, BTEX constituents were only reported at concentrations above the LOD at Seep-1, with benzene at 35.7 μ g/L, toluene at 0.32 μ g/L, ethylbenzene at 15 μ g/L, and xylenes at 44.7 μ g/L. Only benzene exceeded the ADEC groundwater cleanup level of 5 μ g/L. The TAH value for Seep-1 was calculated (i.e., sum of the BTEX constituent concentrations) as 95.72 μ g/L which exceeded the Alaska Water Quality Standard of 10 μ g/L. Seep-1 water was resampled and analyzed in August 2015 with the following results: benzene at 28.2 μ g/L, toluene at 10.8 μ g/L, ethylbenzene below the LOD, and xylenes at 16.25 μ g/L. Although BTEX concentrations were lower in August, the calculated TAH value of 55.25 μ g/L continued to exceed the Alaska Water Quality Standard.

Multiple PAH constituents were reported above the LOD at both seep locations (Table 3); however, no individual PAH concentration exceeded an ADEC groundwater cleanup level. TAqH values were calculated (i.e., sum of BTEX and PAH constituent concentrations) for each seep. In June 2015, the TAqH value at Seep-2 was 5.27 μ g/L and below the Alaska Water Quality Standard of 15 μ g/L. At Seep-1, both the June and August TAqH exceeded Alaska Water Quality Standards with values of 110.46 μ g/L and 74.20 μ g/L, respectively.

No hydrocarbon sheen was observed from either seep location at the time of sampling. Upon inspection, no seeps were seen beneath the Cold Storage Building or discharging to the Naknek River.

4.5 QUALITY ASSURANCE AND QUALITY CONTROL

The analytical data were reviewed for consistency with the requirement of the Work Plan (SLR, 2015) and with *ADEC Technical Memorandum, Environmental Laboratory Data and Quality Assurance* (ADEC, 2009). The review was documented in the Data Quality Assessment (DQA) Review, which is provided in Appendix E. The DQA includes a list of all work order numbers for the project, a brief description of the type of samples analyzed, a Quality Assurance (QA) summary for the entire data set (except for waste characterization) and an ADEC Laboratory Data Review Checklist for each work order reviewed in the QA summary. The following data quality indicators were included in the review in order to evaluate the data against precision,

accuracy, representativeness, completeness, and sensitivity requirements established for the project.

- COC paperwork and custody seals;
- Preservation (thermal 4 ± 2 °C and chemical);
- Analytical method hold times;
- Blanks (trip blanks and method blanks);
- Continuous calibration verifications;
- Internal standards;
- Surrogate recoveries;
- Laboratory control sample and laboratory control sample duplicate (LCS/LCSD) recoveries as percent recovery and precision as relative percent difference (RPD);
- Matrix spike and matrix spike duplicate recoveries as percent recovery, and precision as RPD;
- Field replicates as RPD; and
- Laboratory method detection and reporting limits.

Anomalies identified are discussed in the DQA. Where applicable, the associated data was qualified by applying flags. The rationale for applying qualifiers to specific data sets is detailed in DQA Review. The data flags used are presented below:

Q - One or more laboratory quality control (QC) criteria (for example, LCS recovery or surrogate spike recovery) failed. Where applicable, an "H", "L", or "N" was appended to indicate positive, negative, or unknown bias, respectively.

J - Estimated: The analyte was positively identified but the result was outside the calibration range, between the limit of quantitation and the detection limit; the quantitation was an estimate.

M - The concentration was an estimate due to a sample matrix QC failure. Where applicable, an "H", "L", or "N" will be appended to indicate positive, negative, or unknown bias, respectively.

B - Blank contamination: The analyte was positively identified in the blank (e.g., trip blank and/or method blank) associated with the sample and the concentration reported for the sample was less than five times that of the blank (ten times for metals and common laboratory contaminants methylene chloride and acetone).

P - Sample preservation requirements were not satisfied.

The review indicated that the reported laboratory data met the data quality objectives. No data were rejected. A complete summary of the data review is provided in the DQA. Data qualifiers were added to the data tables and figures, where applicable.

The nature and extent of soil and groundwater impacts as well as a site conceptual model are discussed in this section.

5.1 NATURE AND EXTENT OF SOIL IMPACTS

Eight of nine confirmation results from the excavation area adjacent to the Fisherman's Gear Storage Building exceeded the ADEC Method Two soil cleanup levels for DRO when excavation work was halted. Soil cleanup criteria were met at SWE4 along the western perimeter of the excavation (Figure 3).

Although confirmation samples from the excavation floor exceeded soil cleanup levels, the excavation was not advanced to greater depth. Continuing to great depth would have required penetrating the saturated zone as the excavation floor was at the top of the water table when digging stopped. Impacts to the saturated zone are evaluated as part of the groundwater assessment. All excavation work was stopped once a total of 50 CY of material had been removed as per the Work Plan.

Based on results from 2014 and 2015, the extent of hydrocarbon impacted soil (i.e., headspace results greater than 30 ppm and/or DRO concentrations greater than 250 mg/kg) can be partially delineated in the vicinity of the Fisherman's Gear Storage Building (Figure 5). To the east of the building, impacted soil extends outward approximately 15-feet to 20-feet and is bounded by several locations where DRO concentrations were less than 50 mg/kg and PID readings were below 30 ppm (Figures 5). To the west, impacted soil extends approximately 20–feet to 25-feet from the building based on results from SC-17 and SWE4 (Figures 3 and 5). To the northwest of the building, data are limited but results from TP3 suggest that soil contamination does not extend more than approximately 50-feet (Figure 5). No data are available to the north in the vicinity of the former tank farm area.

5.2 NATURE AND EXTENT GROUNDWATER IMPACTS

Although groundwater elevation data are not available, groundwater flow is presumed to be from the northwest to the southeast based on surface topography. As a result, the reported increase in the dissolved phase DRO concentrations in the downslope (downgradient) direction from MW-3 at 3.25 mg/L to MW-1 at 5.49 mg/L, suggest potentially different source areas, as it is typical for dissolved phase concentrations to be highest nearest the source and decrease in the downgradient direction. The elevated dissolved phase DRO concentrations at MW-1, the highest observed in groundwater, were consistent with the high DRO concentrations in soil reported in floor samples of the excavation area (Figure 4). Similarly, based on the presumed groundwater flow direction it can be inferred that the dissolved phase DRO at MW-2 are related to the upslope impacts in the vicinity of MW-1.

In contrast to the groundwater results where dissolved phase RRO and benzene were not reported at significant concentrations, these compounds exceeded groundwater cleanup levels from water collected at Seep-1 (Table 3). The lack of, or low concentration of these compounds

at monitoring wells MW-1, MW-2, and MW-3, suggest a potentially unique, and localized source area for Seep-1, possibly unrelated to the groundwater sampled from the upslope wells.

Seep water was observed flowing on the surface and ponding against a retaining wall on the north side of the Cold Storage Building (Figure 5).

Based on the available soil, groundwater, and seep data, the extents of dissolved phase groundwater plumes in the vicinity of the Fisherman's Gear Storage Building have been inferred and are shown on Figure 5.

An oxygen releasing compound, ORC[®] by Regenesis, was applied to the floor of the excavation area prior to back filling. The intent of this application was to enhance anaerobic biological degradation of dissolved phase hydrocarbon beneath the excavation at MW-1 and the area downslope at MW-2.

5.3 CONCEPTUAL SITE MODEL

A conceptual site model (CSM) provides a way to describe how people, animals, and plants may come in contact with contaminants. Health risks to humans and the environment cannot exist unless chemicals detected at a given site have the ability to cause an adverse effect and come into contact with a human or ecological receptor. The presence of potentially complete pathways alone, however, does not imply the existence of unacceptable risks.

The CSM for this report has been prepared following ADEC guidance (ADEC, 2010) and present exposure pathways for chemicals of potential concern, routes of migration, and potential current and future receptors. ADEC Human Health scoping forms and graphical representations are provided in Appendix F.

There are no current permanent residents at the Red Salmon facility. The facility has restricted access which precludes recreational activities. There are two deep water production wells upgradient of the excavation area that are occasional used. The facility property is fully developed with gravel roads, gravel and concrete pads, and building, and heavily used several months of the year. As a result, the facility provides little or no ecological habitat. The lack of habitat and access restrictions eliminates any potential for subsistence activities. The only potential receptors at the facility are indoor and outdoor commercial worker, construction worker, and site visitor.

Potential exposure media include groundwater, surface water, soil, and outdoor air. Potentially complete pathways include exposure to groundwater, surface water, soil, and outdoor air via direct contact to site commercial workers, construction workers, and site visitors.

Approximately 50 CY of hydrocarbon impacted soil was removed from the area on the northwest side of the Fisherman's Gear Storage Building (Figure 5). Hydrocarbon impacted soil in this area was investigated in 2014 in response to oil observed near an inactive valve box. The valve box was connected to a set of former above ground storage tanks that once contained Bunker C fuel oil. Based on the 2014 investigation, a soil removal action and groundwater investigation were proposed for 2015. Soil removal from around the valve box, and installation and sampling of monitoring wells was completed in July and August 2015.

Results of soil confirmation samples collected from the floor and sidewalls of the excavation pit showed DRO concentration remained above the most stringent ADEC Method Two soil cleanup level (i.e., migration to groundwater) after the 2015 excavation work was completed (Figure 5). Expansion of the excavation was halted once 50 CY of impacted soil had been removed due to limitations with storage and transportation, and in accordance with the Work Plan.

Two test pits were completed and sampled approximately 50-feet and 160-feet to the westnorthwest of the excavation area to better delineate the extent of impacted soil (Figure 4). Analytical results from both test pits showed no hydrocarbon impacts in these areas. To the east-southeast, soil screening and analytical testing completed in 2014 delineated the extent of soil impacts to approximately 20-feet to 25-feet southeast of the Fisherman's Gear Storage Building (Figure 5).

During excavation activities, additional vertical digging was not practical for source removal as the excavation floor was at the top of the water table. Hydrocarbon impacts below the water table were assessed with the installation of groundwater monitoring wells, and groundwater and seep water sampling.

Four groundwater monitoring wells, one upslope of the excavation area (MW-3), one within the excavation area (MW-1), and two downslope of the excavation area (MW-2 and MW-4), were installed and sampled (Figure 5). With the exception of downslope well MW-4, groundwater from each well contained dissolved phase DRO concentrations exceeding ADEC groundwater cleanup levels.

Two seeps were identified and sampled downslope of the Fisherman's Gear Storage Building (Figure 5). Analytical results from seep water samples collected showed, in addition to dissolved phase DRO, RRO and benzene also exceeded ADEC groundwater cleanup levels. TAH and TAqH were calculated for the seep water, and both values exceeded Alaska Water Quality Standards. The occurrence of dissolved phase benzene and RRO in the seep water was in contrast to the impacts reported in groundwater at MW-1 and MW-2.

Upon completion of the excavation, clean backfill material was acquired and used to bring the excavation area back to grade. An application of Regenesis ORC[®] was applied to the floor of the excavation prior to backfilling as a means to enhance biodegradation in the saturated zone adjacent to and downgradient of the Fisherman's Gear Storage Building.

In 2016, NPSI proposes to complete one monitoring event at the four existing groundwater monitoring wells, MW-1 through MW-4, and at the one surface water location Seep-1. In addition to the fuel hydrocarbon constituents, NPSI proposes to test for water quality parameters indicative of natural attenuation processes at selected wells. NPSI also proposes to install a monitoring well or well point, if possible, between Seep-1 and the Naknek River, and will continue to inspect the bank area for seeps.

NPSI believes these actions will provide the data necessary to evaluate the effects of the removal of the contaminated soil and the addition of ORC is having on groundwater. Should the results of the proposed samples show minimal improvement in the groundwater quality then NPSI will propose additional corrective actions.

- Alaska Department of Environmental Conservation (ADEC). 2009. Environmental Laboratory Data and Quality Assurance Requirements. ADEC, Division of Spill Prevention and Response, Contaminated Sites Program Technical Memorandum 06-002. March 2009.
- ADEC. 2010. Draft Field Sampling Guidance. Division of Spill Prevention and Response, Contaminated Site Program. May.
- ADEC, 2013. ADEC Monitoring Well Guidance. Division of Spill Prevention and Response, Contaminated Site Program. September.
- ADEC. 2015. Alaska Administrative Code (18 AAC 75), Oil and Other Hazardous Substances Pollution Control, as amended through June 17.
- Dexsil Corporation, 2009. PetroFlag Hydrocarbon Analyzer User's Manual, April.
- NPSI, 2015. ADEC Spill #14269911201, Red Salmon Cannery, Work Plan Addendum. July 15, 2015.
- SLR International Corporation, 2014. Subsurface Investigation Report, Red Salmon Facility, Naknek, Alaska, November.
- SLR, 2015. Soil and Groundwater Assessment and Remediation Red Salmon Facility, Naknek, Alaska, Work Plan. March.

The services described in this work product were performed in accordance with generally accepted professional consulting principles and practices. No other representations or warranties, expressed or implied, are made. These services were performed consistent with our agreement with our client. This work product is intended solely for the use and information of our client unless otherwise noted. Any reliance on this work product by a third party is at such party's sole risk.

The purpose of an environmental assessment is to reasonably evaluate the potential for, or actual impact of, past practices on a given site area. In performing an environmental assessment, it is understood that a balance must be struck between a reasonable inquiry into the environmental issues and an appropriate level of analysis for each conceivable issue of potential concern. The following paragraph discusses the assumptions and parameters under which such an opinion is rendered.

No investigation can be thorough enough to exclude the presence of hazardous materials at a given site. If hazardous conditions have not been identified during the assessment, such a finding should not therefore be construed as a guarantee of the absence of such materials on the site, but rather as the result of the services performed within the scope, practical limitations, and cost of the work performed.

FIGURES

- Figure 1 Site Location Map
- Figure 2 Site Layout Map
- Figure 3 Excavation Area and Soil Sampling Results
- Figure 4 Test Pits, Groundwater, and Seep Sampling Results
- Figure 5 Estimate Extent of Hydrocarbon Impacts





Background aerial photography referenced from image DS_PHR1B_201410042149428_FR1_PX_W157N58_0123_00459, Production Date: 2015-01-23T09:22:30.599, ©CNES_2014, distribution Astrium Services / Spot Image S.A, France, all rights reserved, http://www.astrium-geo.com

LEGEND	
	MONITORING WELL



TEST PIT SEEP SAMPLE

NORTH PACIFIC SEAFOODS, INC. RED SALMON FACILITY NAKNEK, ALASKA

Report

SOIL AND GROUNDWATER ASSESSMENT AND REMEDIATION AT RED SALMON FACILITY

Drawing

SITE LAYOUT MAP

Date November 2015 File Name F2-5 NPS Soil Assess RPT_15 Scale 1" = 125 Feet Project No. 101.00151.15005 Fig. No.

2









TABLES

- Table 12015 Field Screening and Analytical Sampling Summary
- Table 22015 Soil Sampling Results
- Table 32015 Groundwater Sampling Results
- Table 42015 Seep Water Sampling Results

Table 1 - 2015 Field Screening and Analytical Sampling Summary

PID Screening Location ID ¹	Excavation Grid Location ²	Screening Depth Interval (Feet BGS)	Screening Headspace TVOC (ppm)	Petroflag TPH Result (ppm)	Analytical Sample ID (duplicate in parentheses)	Analytical Sample Depth Interval (Feet BGS)	Analytical Sample DRO Result (mg/Kg) ³	Comments
TP2-2		1-2	10.7					
TP2-4		3-4	13.4					
TP2-6		5-6	12.3					
TP2-8		7-8	3.5	8	TP2	7-8	ND	
TP3-1		0.5-1	15.1					
TP3-3		2-3	18.0					
TP3-5		4-5	12.4					
TP3-7		6-7	11.0	63	TP3	6-7	10.2J	
MW2-2		1-2	76.4					Bunker oil visible - gooey
MW2-4		3-4	498.0					Dark sand, HC odor, Wet
SC01	C0-C1-D0-D1	0-0.5	74.8					
SC02	A0-A1-B0-B1	0-0.5	63.6	459	SFB1 (SFB91)	0-0.5	2340 (1900)	
SC03	A1-A2	0-0.5	59.1					
SC04	C2-D2	0-0.5	133.8	514	SFC2	0-0.5	1220	
SC05	B2	0-0.5	555.0					
SC06	C3-C4-D3-D4	0-0.5	136.9					
SC07	B3-B4-C3-C4	0-0.5	514.0	156	SFB4	0-0.5	20000	
SC08	B4-B5-C4-C5	0-0.5	513.0					
SC09	D5-D6-E5-E6	0-0.5	36.2	8	SFE6	0-0.5	565	
SC10	B5-B6-C5-C6	0-0.5	122.3					
SC11	A5-A6	0-0.5	257.0					
SC12	C6-D6	0-0.5	46.9					
SC13	A6-A7	0-0.5	107.1					
SC14	B7-C7	0-0.5	210.1	219	SFC7	0-0.5	4840	
SC15	A8-A9	0-0.5	79.9	131	SFA9	0-0.5	7130	
SC16	A9-B9	0-0.5	102.8					
SC17	E5-E6	1.5-2	22.6					Sidewall - 2ft depth
SC18	E3-E4	2.5-3	28.1	1	SWE4	2.5-3	192	Sidewall - 3ft depth
SC19	E2-E3	2.5-3	40.6					Sidewall - 3ft depth
SC20	D1	2.5-3	352.0	14	SWD1	2.5-3	4500	Sidewall - 3ft depth
SC21	D0	2.5-3	36.3					Sidewall - 3ft depth
SC22	BO	1.5-2	156.1	NR	SWB0	1.5-2	13000	Sidewall - 2ft depth; TPH reading may be over range

Abbreviations: -- Not applicable; this data not collected.

BGS - below ground surface.

DRO - Diesel range organics

J - Result is considered an estimated value because the level is below the laboratory limit of quantitation, but above the detection limit.

mg/kg - Milligrams per kilogram

ND - Not detected; result was lower than laboratory detection limit.

NR - No reading; device would not produce reading for unknown reason.

ppm - parts per million

TPH - Total petroleum hydrocarbons

TVOC (ppm) - Total volatile organic carbon (parts-per-million).

Notes:

1: Screening samples MW2-2 and MW2-4 were collected from the excavation in which monitoring well MW2 was installed. 2: Multiple grid squares listed indicates sample collected from line between 2 squares or corner of 4 squares. One grid square listed indicates sample collected from center of square.

3: Bold font indicates analytical sample DRO results above 250 mg/Kg.

Table 2 - 2015 Soil Sample Results

	Compound in milligrams	Screeni		Sample Identificaiton ⁴																													
		ADEC Method Two Under 40 Inch Zone, Human Health Cleanup Level ^{1,3}	ADEC Method Two Under 40 Inch Zone, Migration to Groundwater Cleanup	SI 7/29 1154	FA9 /2015 090009	SF 7/29/ 11540	⁻ B4 /2015 090006	SF 7/29 11540	FC2 /2015 090005	SF 7/29/ 11540	C7 2015 90008	S 7/29 1154	FE6 9/2015 090007	SV 7/29 11540	VB0 /2015 090012	SV 7/29 1154	VD1 9/2015 090011	SW 7/29/ 11540	VE4 /2015 090010	T 7/28 1154	P2 /2015 090001	TF 7/28/ 11540	23 2015 90002	SFB1 (7/29 1154	Primary) /2015 090003	SF (Duplicate 7/29 11540	B91 e of SFB1) /2015 090004	Maxir Concent	num ration ^{3,5}	Frequency of Detection ⁶			
per kilo Method (mg/Kg)	per kilogram (mg/Kg)					Level ^{1,3}	Level ^{2,3}	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc.3,8	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag	Conc. ^{3,8}	Flag
AK101	Gasoline Range Organics	300		12.6	=	61.2	=	8.35	=	23	=	2.35	J	16.5	=	94.5	=	1.66	J	[2.06]	ND	[1.60]	ND	2.09	J	1.93	J	61.2	=	9/11	0/ 11		
AK102	Diesel Range Organics	250		7130	=	20000	=	1220	=	4840	=	565	=	13000	=	4500	=	192	=	[11.3]	ND	10.2	J	2340	=	1900	=	20000	=	10/11	8/ 11		
AK103	Residual Range Organics	10000		747	=	495	=	172	=	754	=	498	=	194	=	156	=	29.3	=	[11.3]	ND	[11.1]	ND	169	=	166	=	747	=	9/11	0/ 11		
			T	1				1																-									
SW8260B	Benzene	11	0.025	[0.0138]	ND	[0.01380]	ND	[0.0137]	ND	[0.01590]	ND	[0.0127]	ND	[0.00995]	ND	[0.0109]	ND	[0.0112]	ND	[0.0103]	ND	[0.008]	ND	[0.0150]	ND	[0.01340]	ND	[0.0150]	ND	0/11	0/ 11		
	Ethylbenzene	110	6.9	[0.0276]	ND	0.189	=	[0.0273]	ND	[0.03170]	ND	[0.0254]	ND	[0.0199]	ND	0.0967	=	[0.0223]	ND	[0.0206]	ND	[0.0160]	ND	[0.0299]	ND	[0.0267]	ND	0.189	_ =	2/11	0/ 11		
	o-Xylene	63	63	[0.0276]	ND	1.22	=	0.129	=	0.0234	J	[0.0254]	ND	[0.0199]	ND	1.01	=	[0.0223]	ND	[0.0206]	ND	[0.0160]	ND	[0.0299]	ND	[0.0267]	ND	1.22	=	4/11	0/ 11		
	P & M -Xylene	63	63	[0.055]	ND	0.811	=	0.0688	J	[0.0635]	ND	[0.0505]	ND	[0.0398]	ND	0.705	=	[0.0447]	ND	[0.0411]	ND	[0.0320]	ND	[0.06]	ND	[0.0535]	ND	0.811	_ =	3/11	0/ 11		
	Toluene	220	6.5	[0.0276]	ND	0.0847	=	[0.0273]	ND	[0.03170]	ND	[0.0254]	ND	[0.0199]	ND	0.0291	J	[0.0223]	ND	[0.0206]	ND	[0.0160]	ND	[0.0299]	ND	[0.0267]	ND	0.0847	=	2/11	0/ 11		
SM21 2540G	Total Solids (%)			82.5	=	75.7	=	76.6	=	82.7	=	74.5	=	89.6	=	90.8	=	86.1	=	88.3	=	89.2	=	77.8	=	77.2	=	82.5	=	11/11	0/ 11		

Notes:

Notes:
 1 - This screening level corresponds to ADEC Method Two cleanup level for the Under 40 Inch Zone, most stringent of direct contact or inhalation from 18 AAC 75.341, Tables B1 and B2 (October 1, 2014)
 2 - This screening level corresponds to ADEC Method Two cleanup level for the Under 40 Inch Zone, migration to groundwater from 18 AAC 75.341, Tables B1 and B2 (October 1, 2014).
 3 - Sample results above the most stringent screening level are shown in BOLD to indicate exceexance of screening criteria.
 4 - The field sample identification number, date collected, and laboratory sample identification number are provided.

4 - The field sample identification number, date collected, and laboratory sample identification number are provided.
5 - The maximum concentration of a detected analyte is shown. If an analyte was not detected, then the highest LOD is shown in [brackets].
6 - Number of primary results detected above the DL / Total number of primary field sample results. For duplicate sample pairs, only the higher result is counted as a primary sample.
7 - Number of results exceeding the most strignet screening criteria (lessor of Human Health or Migration to Groundwater) / Total number of primary field sample results.
8 - For detected results, the sample result is listed in this column. For results of non-detect, the LOD is listed in [] in this column.

Data Flags

- Analyte detected at concentration listed in column to the left.
- Result is considered an estimated value because the level is below the laboratory LOQ, but above the Detection Limit. Nondetect, LOD is in brackets in the concentration column, limit of quantitation is in brackets in the LOQ column. .1
- ND
- Abbreviations
- Not applicable or screening criteria does not exist for this compound AAC
 Alaska Administrative Code
 ADEC
 Alaska Department of Environmental Conservation

- LOD Limit of Detection
- LOQ Limit of Quantitation
- mg/Kg milligrams per kilogram
| | | | - | | | | | | | | | | | | | | | |
|---------------------|--------------------------|-------|-------------------|-----------------------------|------------|--------|------------|----------|--------------------|--------|-------------|--------|--------------|----------|----------|--------------|------------|-----------|
| | | | | | | | Sample | dentific | ation ⁴ | | | | | | | | | Frequency |
| | | | Scre | eninig Criteria | RS-MW1-080 | 315 | RS-MW2-080 | 315 | RS-MW3-08 | 0315 | RS-MW4-0803 | 315 | RS-MW9 | 9-080315 | Maxi | mum | Froquency | Abovo |
| | | | 18 AAC 70 | 18 AAC 75 Table C | 115416100 | 1 | 115416100 |)2 | 11541610 | 03 | 115416100 | 4 | 11541 | 61005 | Comoon | 3,5 | riequency | Drimory |
| | | | TAH and | Groundwater | 8/3/2015 | | 8/3/2015 | | 8/3/201 | 5 | 8/3/2015 | | 8/3/ | 2015 | Concen | tration | or | Primary |
| | | | TAaH ¹ | Cleanup Levels ² | | | | | | | | | | | | | Detection° | Screening |
| | | | | | 3.8 | Els.v. | 3.8 | El a m | a 3.8 | El a m | 3.8 | El a m | a 3.8 | Ele a | 3.8 | F law | 1 | Criteria' |
| analysis method | analyte | units | • | | Conc." | Flag | Conc." | Flag | Conc." | Flag | Conc.** | Flag | Conc." | Flag | Conc." | Flag | | |
| AK101 | Gasoline Range Organics | mg/L | | 2.2 | 0.362 | | 0.0379 | J | < 0.0500 | ND | 0.13 | | 0.126 | | 0.362 | | 4/5 | 0/5 |
| AK102 | Diesel Range Organics | mg/L | | 1.5 | 5.49 | | 4.02 | | 3.25 | | 0.343 | J | 0.422 | J | 5.49 | | 5/5 | 3/5 |
| AK103 | Residual Range Organics | mg/L | | 1.1 | 0.276 | J | 1.05 | | 0.433 | J | <0.261 | ND | < 0.250 | ND | 1.05 | | 3/5 | 0/5 |
| SW 8021B | Benzene | ug/L | | 5 | 4.39 | | 1.56 | | 1.42 | | <0.200 | ND | < 0.200 | ND | 4.39 | | 3/5 | 0/5 |
| SW 8021B | Toluene | ug/L | | 1000 | 6.33 | | < 0.500 | ND | <0.500 | ND | 0.4 | J | 0.41 | J | 6.33 | | 3/5 | 0/5 |
| SW 8021B | Ethylbenzene | ug/L | | 700 | 7.16 | | < 0.500 | ND | <0.500 | ND | 3.5 | | 3.69 | | 7.16 | | 3/5 | 0/5 |
| SW 8021B | o-Xylene | ug/L | | 10000 | 31.3 | | < 0.500 | ND | < 0.500 | ND | 1.97 | | 1.94 | | 31.3 | | 3/5 | 0/5 |
| SW 8021B | P & M -Xylene | ug/L | | 10000 | 28.8 | | 0.75 | J | <1.00 | ND | 6.33 | | 6.6 | | 28.8 | | 4/5 | 0/5 |
| SW 8270D SIMS (PAH) | 1-Methylnaphthalene | ug/L | | 150 | | | | | | | 2.27 | | 3.62 | | 3.62 | | 2/2 | 0/2 |
| SW 8270D SIMS (PAH) | 2-Methylnaphthalene | ug/L | | 150 | | | | | | | 2.11 | | 3.31 | | 3.31 | | 2/2 | 0/2 |
| SW 8270D SIMS (PAH) | Acenaphthene | ug/L | | 2200 | | | | | | | 0.125 | | 0.16 | | 0.16 | | 2/2 | 0/2 |
| SW 8270D SIMS (PAH) | Acenaphthylene | ug/L | | 2200 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Anthracene | ug/L | | 11000 | | | | | | | 0.0218 | J | 0.0267 | J | 0.0267 | J | 3/3 | 0/2 |
| SW 8270D SIMS (PAH) | Benzo(a)Anthracene | ug/L | | 1.2 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Benzo[a]pyrene | ug/L | | 0.2 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Benzo[b]Fluoranthene | ug/L | | 1.2 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Benzo[q,h,i]perylene | ug/L | | 1100 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Benzo[k]fluoranthene | ug/L | | 12 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Chrysene | ug/L | | 120 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Dibenzo[a,h]anthracene | ua/L | | 0.12 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Fluoranthene | ug/L | | 1500 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Fluorene | ua/L | | 1500 | | | | | | | 0.417 | | 0.641 | | 0.641 | | 2/2 | 0/2 |
| SW 8270D SIMS (PAH) | Indeno[1,2,3-c,d] pyrene | ua/L | | 1.2 | | | | | | | < 0.0265 | ND | < 0.0271 | ND | < 0.0265 | ND | 0/3 | 0/2 |
| SW 8270D SIMS (PAH) | Naphthalene | ua/L | | 730 | | | | | | | 2.28 | | 3.71 | | 3.71 | | 2/2 | 0/2 |
| SW 8270D SIMS (PAH) | Phenanthrene | ua/L | | 11000 | | | | | | | 0.404 | | 0.593 | | 0.593 | | 2/2 | 0/2 |
| SW 8270D SIMS (PAH) | Pvrene | ua/L | | 1100 | | | | | | | 0.0245 | J | 0.0349 | J | 0.0349 | J | 2/2 | 0/2 |

Notes:

1 - This screening level for TAH and TAqH from 18 AAC 70.020 (April 8, 2012)

2 - This screening level for individual compounds is from 18 AAC 75.345 table C (April 8, 2012)

3- Sample results above the most stringent screening level are shown in BOLD to indicate exceexance of screening criteria.

4 - The field sample identification number, date and time collected, and laboratory sample identification number are provided.

5 - The maximum concentration of a detected analyte is shown. If an analyte was not detected, then the highest LOD is shown in [brackets].

6 - Number of results detected above the DL / Total number of primary field sample results.

7 - Number of results exceeding the most strignet screening criteria / Total number of primary field sample results.

8 - For detected results, the sample result is listed in this column. For results of non-detect, the LOD is listed preceeded with <.

9 - For individual analyte that were not detected in the sample, the value of the analyte LOD is included in the For TAH, PAH and and TAqH totals.

Data Flags

- Analyte detected at concentration listed in column to the left.
- J Result is considered an estimated value because the level is below the laboratory LOQ, but above the DL.
- ND Nondetect, LOD is in brackets in the concentration column.

Abbreviations

- Not applicable or screening criteria does not exist for this compound
- AAC Alaska Administrative Code
- LOD Limit of Detection

									Sample Identific	ation ⁴										Frequency
			Scree	ninig Criteria	SEEP1-0612	15	SEEP1DUP061	215	SEEP2-0612	15	TB1		RS-SW1-080315 (Pr	imary)	RS-SW99-080	031	Maxi	mum	Fraguanay	Abovo
			18 AAC 70	18 AAC 75 Table	115281200	1	1152812004	Ļ	115281200)2	1152812003		1154161005		(Dup of RS-SW1-	080315)	Concon	3,5	Frequency	Above
			TAH and	С	6/12/2015		6/12/2015		6/12/2015	5	6/12/2015		8/3/2015		115416100	7	Concen	ration	OT .	Primary
			TAqH ¹	Groundwater											8/3/2015				Detection	Screening
Analysis	Analyte	Unit			Conc.3,8	Flag	Conc.3,8	Flag	Conc.3,8	Flag	Conc.3,8	Flag	Conc.3,8	Flag	Conc. ^{3,8}	Flag	Conc.3,8	Flag		Criteria
AK102	Diesel Range Organics	mg/L		1.5	4.86		6.05		0.826								6.05		2/2	1/2
AK103	Residual Range Organics	mg/L		1.1	2.05		3.46		0.188	J							3.46		2/2	1/2
AK101	Gasoline Range Organics	mg/L		2.2	0.294		0.3		<.05	ND	<.05	ND					0.3		1/2	0/2
SW 8021B	Benzene	ug/L		5	35.4		35.7		<.25	ND	<.25	ND	28.2		24.5		35.7		3/4	3/4
SW 8021B	Ethylbenzene	ug/L		700	14.9		15		<.5	ND	<.5	ND	< 0.500	ND	< 0.500	ND	15		1/4	0/4
SW 8021B	o-Xylene	ug/L		10000	19.4		19.5		<.5	ND	<.5	ND	7.49		7.02		19.5		3/4	0/4
SW 8021B	P & M -Xylene	ug/L		10000	25.2		25.2		<1.	ND	<1.	ND	8.76		8.49		25.2		3/4	0/4
SW 8021B	Toluene	ug/L		1000	0.32	J	<.5	ND	<.5	ND	<.5	ND	10.8		10.2		10.8	J	3/4	0/4
	TAH	ug/L	10		95.22		95.9		<2.75	ND	<2.75	ND	55.45		50.41		95.9		3/4	3/4
SW 8270D SIMS (PAH)	1-Methylnaphthalene	ug/L		150	5.49		4.44		0.117				5.29		4.49		5.49		4/4	0/4
SW 8270D SIMS (PAH)	2-Methylnaphthalene	ug/L		150	0.816		0.666		<.0338	ND			2.51		1.54		2.51		4/4	0/4
SW 8270D SIMS (PAH)	Acenaphthene	ug/L		2200	0.472		0.577		0.214				0.866		0.512		0.866		4/4	0/4
SW 8270D SIMS (PAH)	Acenaphthylene	ug/L		2200	<.0278	ND	<.0276	ND	<.0338	ND			< 0.130	ND	< 0.0262	ND	0	ND	0/4	0/4
SW 8270D SIMS (PAH)	Anthracene	ug/L		11000	0.257		0.418		0.0571	J			0.259	J	0.142		0.418		4/4	0/4
SW 8270D SIMS (PAH)	Benzo(a)Anthracene	ug/L		1.2	0.0887		0.104		<.0338	ND			< 0.130	ND	< 0.0262	ND	0.104		2/4	0/4
SW 8270D SIMS (PAH)	Benzo[a]pyrene	ug/L		0.2	0.0467	J	0.0643		<.0338	ND			< 0.130	ND	< 0.0262	ND	0.0643		2/4	0/4
SW 8270D SIMS (PAH)	Benzo[b]Fluoranthene	ug/L		1.2	<.0278	ND	<.0276	ND	<.0338	ND			< 0.130	ND	< 0.0262	ND	0	ND	0/4	0/4
SW 8270D SIMS (PAH)	Benzo[g,h,i]perylene	ug/L		1100	0.0219	J	0.039	J	<.0338	ND			<0.130	ND	< 0.0262	ND	0.039	J	2/4	0/4
SW 8270D SIMS (PAH)	Benzo[k]fluoranthene	ug/L		12	<.0278	ND	<.0276	ND	<.0338	ND			< 0.130	ND	< 0.0262	ND	0	ND	0/4	0/4
SW 8270D SIMS (PAH)	Chrysene	ug/L		120	0.189		0.275		<.0338	ND			<0.130	ND	< 0.0262	ND	0.275		2/4	0/4
SW 8270D SIMS (PAH)	Dibenzo[a,h]anthracene	ug/L		0.12	<.0278	ND	<.0276	ND	<.0338	ND			<0.130	ND	< 0.0262	ND	0	ND	0/4	0/4
SW 8270D SIMS (PAH)	Fluoranthene	ug/L		1500	0.0698		0.084		<.0338	ND			<0.130	ND	< 0.0262	ND	0.084		2/4	0/4
SW 8270D SIMS (PAH)	Fluorene	ug/L		1500	0.895		1.09		1.39				1.69		0.963		1.69		4/4	0/4
SW 8270D SIMS (PAH)	Indeno[1,2,3-c,d] pyrene	ug/L		1.2	<.0278	ND	<.0276	ND	<.0338	ND			<0.130	ND	< 0.0262	ND	0	ND	0/4	0/4
SW 8270D SIMS (PAH)	Naphthalene	ug/L		730	5.06		2.69		0.299				4.39		3.63		5.06		4/4	0/4
SW 8270D SIMS (PAH)	Phenanthrene	ug/L		11000	1.24		1.48		<.0338	ND			2.16		1.15		2.16		3/4	0/4
SW 8270D SIMS (PAH)	Pyrene	ug/L		1100	0.457		0.514		<.0338	ND			0.286		0.0857		0.514		3/4	0/4
	Total PAH	ug/L			15.2421		12.5793		2.52				18.751		12.7747		18.751	-	-	-
	TAqH	ug/L	15		110.4621		108.4793		5.27				74.201		63.1847		110.46	-	3/4	3/4

Notes:

Notes:
1 - This screening level for TAH and TAqH from 18 AAC 70.020 (April 8, 2012)
2 - This screening level for individual compounds is from 18 AAC 75.345 table C (April 8, 2012)
3 - Sample results above the most stringent screening level are shown in BOLD to indicate exceedance of screening criteria.
4 - The field sample identification number, date and time collected, and laboratory sample identification number are provided.

5 - The maximum concentration of a detected analyte is shown. If an analyte was not detected, then the highest LOD is shown in [brackets]. Trip blanks are not included.

6 - Number of results detected above the DL / Total number of primary field sample results.

7 - Number of results exceeding the most strignet screening criteria / Total number of primary field sample results.

8 - For detected results, the sample result is listed in this column. For results of non-detect, the LOD is listed preceeded with <.

Data Flags

Analyte detected at concentration listed in column to the left. =

Result is considered an estimated value because the level is below the laboratory LOQ, but above the DL. Nondetect, LOD is in brackets in the concentration column. Л

ND

Abbreviations ---

Not applicable or screening criteria does not exist for this compound Alaska Administrative Code Limit of Detection

AAC LOD

APPENDIX A PHOTOGRAPH LOG



Photo 1: TP1 Pre-excavation



Photo 2: Ponded areas mid-excavation



Soil and Groundwater Assessment and Remediation Red Salmon Facility Naknek, Alaska



Photo 3: Loading Supersacks



Photo 4: Supersack Staging Area



Soil and Groundwater Assessment and Remediation Red Salmon Facility Naknek, Alaska



Photo 5: Excavating monitoring well MW-1, photo facing south.



Photo 6: Installing monitoring well MW-1



Soil and Groundwater Assessment and Remediation Red Salmon Facility Naknek, Alaska



Photo 7: Installing monitoring well MW-2



Photo 8:

Re-graded excavation area (post-excavation), photo facing north towards completed monitoring wells MW-3 (left, background) and MW-1 (right, foreground)



Soil and Groundwater Assessment and Remediation Red Salmon Facility Naknek, Alaska



Photo 9: Monitoring well MW-1



Photo 10:

Sampling surface water seep SW-1 next to temporary drive point, south of monitoring well MW2.



Soil and Groundwater Assessment and Remediation Red Salmon Facility Naknek, Alaska



Photo 11: Sampling monitoring well MW-3 after developing with surge block.



Photo 12: Monitoring wells were surged and purged to remove sediment until purge water was visibly clear.



Soil and Groundwater Assessment and Remediation Red Salmon Facility Naknek, Alaska

APPENDIX B FIELD FORMS AND FIELD NOTES

76 Location Reb Solman Date 7/26/15 Location Ked Salmon _ Date 1/27/15 Project / Client NPS/ Ben Siwilc Project / Client NPS/ BUN SIWILC 1030 Arrive, n King Salmon 8700 Meet with crew in Lining hall 130 Arrive Red Salmon Site, 0725 Bn site setting U.P. Plan is to continue excavating 148 Calibrate PID to 100 ppm. and screening to the south, 1200 Tailgate safety meeting the work north. 1215 Begin work - stop for lunch 1315 Finished with lunch Excavation has gathered surface NAOF from overnight rains. 320 Excavation Start - with PID bump check: outside air: 0.2 Grid A4 looppm 150 85. Will calibrate later, before official screening. Filled one sack- 12: A4B4-1 340 Sacks are NOT lined. Don 0800 Start Ligging - grid squares D6 07 looking for tote liness to contain 1130 Finish Southern part of moisture in super sacks. excavation. Contrim romains 1405 Broken pipe section unearthed in grid A5. 1st dupth. in floor but can't excavate in Water Hable. Moving to Various broken pipes and wood northan area. leurs throughout. 1645 Diesel smelled in sond in B3 area, 1330 - Lunch 236 . 355. Encounter 2 pipes near north at 3-4 ft depth, probably continuing edge of building Don opens under water table. Unknown source. their end caps, Finds black oil, 2000 Stop for the Lay. Filled 18 Suchs Closes caps 1410 Emptydrum or Site, About 5 BS 9126/15 gal of thick black bunker oil and Water Irained from 2 pipes

Location Red Salmon 78 Location Red Salmon Date 7/28/15 79 _____ Date 7/27/15 Project / Client WPS Project / Client NPSI Ben Siwiec Ben Siwiec in to basrell down. Drum moved into 0700 Meetwith grew in Jining hall. warehouse, will be shipped out with Cloudy, Cool, some light mist 0130 Gerting started. Don will be occupied with Wenly today. He 1800 Excavating in area DZ-encountered gray strong HC odor at abelow water table - In Site PID hits is training new brickhoe operator to do test pits and wells with me. 0800 Don hus set up 2 delpers as of 300-400 ppm (very high) Don forms me that he will operators on 2 backhors, 1830 held to escort Wouldy for a few hours so I'll need to work digging 2 test pits - up and 0830 Collect soil Sample from alone. I'll use this time to collected confirmation Screening and TP2 - Pit above gen bidg. Ond head space screening sample. Depth: 7.8.ft. Appears to be SAMPLES. Dire for the Lay Not able to 1125 around WL line - Pit finished Confirm excele punker pipes as related to DRD in grandwater. at 8 ft. Sampled from bucket. Will test pit tomorrow. 0940 Collect soil Sample and from has TP3 - pit below you bodg and head space screening sample. Depth: 6-7.17. Appears to be at while. Sampled from bucket. BB 1/27/15 0945 Finished digging hole for well in excavation. Getting well mararies

80 Location Red Silmon _____ Date _1/28/15 Date 7/28/15 81 Location Red Salmon Project / Client NPSI Ben Siwiec Project / Client NPS Ben Giwiel Collect headspace bags from overy 2 ft of TP2 and TP3 1015 Now well screen is above Burface. by a few inches Work on installing well in Wh in casing 1 ft of bottom. Don't want to re-dig this hote. Dor + have time anyway. excavation 1230 Well MW-1 installed. Still needs 1715 Set monument and poured cement base and monument. bentonite inside monument and Well screen: 5.05 A hydrated. Bentonite covers up 1735 Now WL and TD For MW-2: 6.63 and 8.10 Sump: 0.46 ft Right now: bottom of well (sump) is GIF bas TOC'S 4.4 A above ground. 1860 Install monument on AW-1 Bentonite Sic to life bas but PVC stickup to 3.55 ft Sand ist bas to 6 ft bas 1810 Begin installing well at Current LL in casing: 4.8.4 btoc TP-3 near 3cn bldg. MW-3 Finish Well, brockfill have or 0.4 ft bgs Begin excavation for downgradient 1900 1920 Crow done for the day 1350 monitoring well. This is the SE one. 2025 Ben back at site to do 1430 Finished Digging, in stalling well Well installed backfilling hole, Confirmation suren and sample. 1545 2200 Collected confirmation screening must smish brink filling by hand, SAMPLES. 16 FLOOR + 6 S SEWALL 2225 Read headspare on all excavator an't read all soil. While remaining 8" pVC sheath, Lab Samples will be Collected 1645 well pulls up about 1 foot. from PID Sites 2, 4, 7, 9, 14, 15, 18, 20, 22

B2 Location Red Salmon Date 7/28/15	Location Red Salmen Date 1/21/13 83
Ben Siwec	Project / Client 10 r 51 Ben Siwiel
2230 Begin prop for PetroPag analyses. Analyzing same as will be sampled	700 heet with Don in Jining hal oils on site. Weather clorby, cool.
0000 - Midnight - Finish Petroflag. To bed! Soil Samples to be collected	07730 Prepping to excavate and install
PIDIOL Lab 1D SCAD SERI	Four soil sampling.
SCOT SFC2	NPdate, plans Conf call
SCOT SFBT SCOT SFEG	for 9:00.
SCI5 SFA9	MW-1: 3.99 bioc
5420 SWD1	- 5+ 16 bg S ML= 0-46 bg S
Note: PID was callyrated to 100 ppm at 0730 this morning.	MW-2. 6.62 broc · Stickup: 2.35 (on high side) WL: 4.27 bgs MM Z: 9 DC broc
33.7128/15	- Stickup = 1.60 WL: 7.66 bys TD: 10.3 btol 0960-0920 Phone call worn Andy EPhil 0930 Finished installing MWM

84 Location Rel Salmon Location Red Salmon Date 7/29/15 85 Date 7/29/15 Project / Client NPS Project / Client NPS Ben Siwiec Ben Siwier No samples collected during excavation 1230 Talk to Andy Don the of MW-4 - Observation was sheen-y phone - Instructions Water obzing from soil. 1300 Set up trive pt well at 1000 Collect sample SFB1 and Secp 1 duplicate SFB91. Soil moist Installed drive point & to saturated sand - brown ft east of water tank at Collect SFC2. Noist-sal Sand, brun Soot of bluff. 1005 Collect SFB4 Moist-sat sand, pray 1015 Pared Fine sand abound screen 1018 Collect SFEG Moist Sand, boun and bentonite above sand -1022 Collect SFC 17 Moist Sand bown 1030 Collect SFA9 Noist Sand brown attempt to, make seal. 1340 Measuring location of MW-3 1635 Collect SWEY Most sand, brown 1040 Collect SWDI Molsy Sand, go-brun 45 1045 Collect SWBD Moist Band, brann 30' 3 1130 All soil samples collected 14.5 labeled and Col preparet. 71 1145 NOT to X. MW-1 bidg Check step #1 - No water Scall flow! Only damp and with Small stagnant pool. Package soll samples, centime 1350 Check new MW-4: 4.40 BTOC cleaning up equip, make 1150 Stiller: 2.25 A asrangements. WL: 2.15 695 1500 Leave site. TD: 10.15 6706 1530 Ship samples on Pen Air will Cham up equipment / soil bags arrive in ANC on 7/30/13

Location Red Salman Date \$/3/15 Project / Client NPST SLR Alexing 0630 Arrive @ Airport in Anchorage 0730 For delay announced, Call Anty Dimitriou 1100 Arrive in King Salmon, get rental truck. Reserve Room at King Salmon Lodge. 1200 Arrive at Red Salmon Plant, find Jim Yourt. Jim shows where gear has been stored and shows site/where to park. Canner is in shot down, today is last day at site. 1205 notice sample couldr's have been stored near gasoline serry cans. 1210 SURVEY Site + take Site photos: 1230 SLR Safety meeting. topics - working a long - Direct sun 1235 Begin Developing MN-3 DTJ 9,18 TO 10,45 Surge & purge 2 gallons of Brown (Silty) water, then po with wattera tubing & foot value by

Location Ked Salmon Date 8/3/15 Project / Client NPST SLR Alex Wing hand, then purge an additional Y2 gallon with peri pump to Clean out sump until water is clear 1356 hook of YSI w/ flow through cell, *1420 Sample RS-MW3-080315 11/48 Begin developing MW-4 DTW TD 10.15 surged/purged 5 gallons dark brown heaving silted water, switched to parit pumped out sump purged along screened interval, purge water has OOL sheen ¥1605 Sample MW-4: RS-MW4-080315 DUP RS-MW99-080315 1634 MW 2 DTW 6.80

surged/purged 2 gallons light br water befose started clearing of

1650 SWIKL to peri pump

Location Red Salmon Date 8/3/15 Project / Client NPSI SLR Alex wing *1721 Sample RS-MW2-086315 1732 Begin Development MW-1 TD 9.5 DTW 4.33 purge/surge 7,5 gallons dark brown slite water. 1900 switch to peripont, pump out sump, pump an additional Issgal Until clear. 1814 seep drive point ommediately purged dr.g. water is fairly clear - will sumple @ Slowest possible flow rate, did not get parameters, Drive point does not provide enough water for samples sampled surface selp 1829 Water next to DP instead. » RS-SW1-080315/RS-SW99-080315 Clear w/ some turbidity, POL obar *1926 Sample RS-MW1-080315

Location Red Salmon Date 8/3/15-89 Project / Client _NPST_ SLR Alex Wing 1835 Speak with Jim Yourt (NPSI) Excavatel Soil has been shipped off site. 1938 pack up sampling equipment 2030 Arrive in King Salmon Additional Notes on Seep sample: Surface seep is actively flowing beneath thick plates biogenic sheen. Sample Location is approx. 3 fect cross-gradient of the drive point. Sample collected via peri pump directly into containers for BTEX + P+H to calculate TAH/TARH as per work plan. nw-2 uphil/ Water 3' approx Jank Seept Sumple Concrete Wall ponded water Drawing not to scale





Client / Site Na	me: NPSI Red S	almon Facilit	у	PID Model\Unit	#: Mini 12 AE 3000
Project # : 105.0	0151.15005			Lamp Strength:	Ben Libit
Weather:	livery			Pleid Personnel.	Dalginico
	Currente Data	Sample	Measurement	JI O Data	Commonts
Sample ID	(mm/dd/yy)	Time (24-hr)	Time (24-hr)	Value (ppm)	(instrument malfunctions or anomalies)
+12-8	1/78	0830	1015	3.5	
TP3-7	7/28	0940	1015	11-0	
102-2	120	(1)(5	1045	10.7	
TP2-4		1015	1045	13.4	
12-6		1015	1045	17.3	
TP3-1		1030	1045	15,1	
103-3		1030	1045	18.0	-
TP3-5		1030	1045	12.4	
MWZ-Z		(400	1510	76.4	Braker Oil Visible - goocy
MW2-4		1415	1510	49.8	dark sand, HC odor, Wet
SCOL		2130	2200	74.8	Grid Abor
SC02		1	· · · · ·	63.6	
5003				59.1	
SCOM	· · · · · · · · · · · · · · · · · · ·		e 1	(33.8	
5005				555	
5006				136.9	
5C07				514	
5608				513	8
5609				36.2	
5010				172.3	
SCII				251	
SC12				46.9	
5(13				16 lal.	
SC14				210.10	
5215				7402.8	
3416				162.8	
<u>SC17</u>				00.6	Sidewall - 2st depin
5018				08.	Stt depth
SCI9				40.6	24+ dypil
5620				Jod	SCL Neight
5021	*			26-3	Str (rep) M
5022			· · · · · · · · · · · · · · · · · · ·	124.	Ext- drapin
Natasi					J
NOTES					



Hydrocarbon Test Kit - Field Data Sheet

Date: 7/28/15 Operator: Ben Siwiec Location: Red Salmon Calibration Time/Date: 15°C

No.	Sample ID	Weight	Time/Date	Reading (ppm)	DF ¹	RF ²	Actual (ppm)	Comments
1	5007	~109	2305	459	l	5	459	
2	5004	1	2310	514	l	5	514	
3	567		2315	156	1	5	156	
4	sco9		2320	8	1	5	8	
5	SCIM		7325	219	1	5	219	
6	scis		2330	131		5	13	
7	SCIS		2335			5		
8	5620		2340	14	1	3	14	
9	5022		7345	EFEE	<u>a</u>	5		Too high?
10	482		7350	8	1	5	8	
11	tp3	1	2355	63		5	63	
12								
13								
14								
15								
16								
17								
18								
19								
20								

 $^{1}\text{DF} = \text{Dilution Factor, e.g., for 5 gram soil sample DF}=10g/5g=2, and actual concentration equals reading times DF (reading (ppm) x DF = actual concentration).$

JLI	201	Salmon
Client/Site Name:	146	Samon

Soil Sampling Form

Project #: 65.60151.15005

					6 621	~	
Sample ID:	TP d		L(ocation/Area:	Test rit	2 7/2	ator
Sampled By:	BSINIEC		S	ample Time: 🛛 👌	330 Samp	le Date: 1/	8/15
Approx. Air Tem	perature (°F):	60	D	uplicate ID:			
Weather Condition	ons: Clo	udiy	M	S/MSD 🗌 Yes 🔀	No Trip Blank	Required: 🛛 Yes	No No
	No. No. of Lot of Lot of Lot	1	Location I	nformation	Run ux ux A C.	Grifty Alfred	
Surface	Boring XTest P	it (floor / sidewall)	Excavation	Sample I	Depth (ft bgs):	7-8	
Water level Dept	th (ft bas)	Frozen	Soil Depth (ft bgs)	A/D			
Note- If not know	vn at sample loca	tion, list as not det	ermined "ND"	100			
NA PROFIL			Sample D	escription	New ALCOLOGIES SAM	an an mori wa	n senar o Miren va
GRAVEL (3	3 – 0.08 IN)	SAND (0.08	- 0.003 IN)	SILT (< ().003 IN)	CLAY (NO GR	AINS VISIBLE)
GW GP	GM GC	SW (SP)	SM SC	M		CL OL N	н сн он
61 672		9	4 % Einon		Post/Organic Sc	il Likely Present ()	
Color	700	oarse	//////es		- Teaborganic de	None	
Moisture (circle c	one): Dry, Moist W	let/Saturated Sta	ined: Y or M Oc	tor (describe nature	and intensity)	1.0.5 5	
PID 3.5	ppm Head	space 🗌 in-Sam	oler 🗋 In-Situ	PID/FID Model/	SN: (IF USED)	lini RAt 3	000
	C *						
Anahiene	Check	Analyses	Check	Analyses	Check	Analyses	Check
Analyses	Applicable	,	Applicable		Applicable		Applicable
VOCs	1.4	DRO/RRO	X	RCRA Metai			
BTEX	X	PAHs		Lead (only)			
GRO	X	PCBs					
	. Sail	ALLAN C	2000				
Collection Method		Tuger, 2		and there are the ford	abaya)		
Notes/Comment	s (indicate genera	l location, and poss	ble other relevant	conditions not listed	above):		
- lini	11-00-		i	21 12			
()on	111 tran	aener	ator di	JILding			
~~~	1.001	0.1					
	A CONTRACTOR OF A CONTRACTOR OFTA CONTRACTOR O						
a lun t	0.0			agation/Area:	TOST ALT	3	
Sample ID:	53		L	ocation/Area.	1031 11	Datas MI-	10/15
Sampled By:	B SIWIEL		5	ample Time: O	140 Sam	bie Date: (/c	48/12
Approx, Air Tem	perature (°F):	60	D	uplicate ID:	/		
Weather Conditi	ions:	oudy	N	IS/MSD 🗌 Yes 🔀	No Trip Blank	Required: X Yes	L] No
		0	Location	Information		0	on a star star
□ Surface □	Boring Test P	Pit (floor / sidewal)	Excavation	Sample	Depth (ft bgs):	6-7 ++	
Water level Dep	th (ft bas)	Frozen	Soil Depth (ft bas	AIP		~	
Note- If not know	wn at sample loca	ation, list as not det	termined "ND"				
			Sample I	Description	ne, Martin		
GRAVEL (	3-0.08 IN)	SAND (0.0	3 - 0.003 IN)	SILT (<	0.003 IN)	CLAY (NO GR	AINS VISIBLE)
GW GP	GM GC	SW SP	SM SC	N	۸L	CL OL N	H CH OH
	000	au		1			AI
Color Drot	WN %C	Coarse	%Fines	S	Peat/Organic So	oil Likely Present (	(/N)
Moisture (circle )	one): Dry Moist V	Vet/Saturated Sta	ined: Y or OOO	dor (describe nature	e and intensity)	None	12
						Mini RFA =	ZOM
PID 1.0	ppm 🛛 📉 Head	ispace 🔲 in-Sam	pier 🗋 in-Situ	FID/FID MODE!	<b>3N</b> . (IF USED)	the triby i	
				1	Chack		
		1			Check		Check
Analyses	Check	Analyses	Check	Analyses	Applicable	Analyses	Check
Analyses	Check Applicable		Applicable	Analyses	Applicable	Analyses	Check Applicable
Analyses VOCs	Check Applicable	Analyses DRO/RRO	Applicable	Analyses RCRA Metal	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX	Check Applicable	Analyses DRO/RRO PAHs	Applicable	Analyses RCRA Metal Lead (only)	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX GRO	Check Applicable	Analyses DRO/RRO PAHs PCBs	Applicable	Analyses RCRA Metal Lead (only)	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX GRO	Check Applicable	Analyses DRO/RRO PAHs PCBs		Analyses RCRA Metal Lead (only)	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX GRO Collection Metho	Check Applicable	Analyses DRO/RRO PAHs PCBs Auger,	Applicable	Analyses RCRA Metal Lead (only)	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX GRO Collection Metho Notes/Comment	Check Applicable	Analyses DRO/RRO PAHs PCBs Auger, al location, and poss	Applicable	Analyses RCRA Metal Lead (only) conditions not listed	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX GRO Collection Metho Notes/Comment	Check Applicable	Analyses DRO/RRO PAHs PCBs Auger, al location, and poss	Spoon ible other relevant	Analyses RCRA Metal Lead (only) conditions not listed	Applicable	Analyses	Check Applicable
Analyses VOCs BTEX GRO Collection Metho Notes/Comment	Check Applicable X d d Soil ts (indicate general worh (1)	Analyses DRO/RRO PAHs PCBs Auger, al location, and poss	Spoon ible other relevant	Analyses RCRA Metal Lead (only)	Applicable above):	Analyses	Check Applicable
Analyses VOCs BTEX GRO Collection Metho Notes/Comment	Check Applicable X d ts (indicate general two.h()	Analyses DRO/RRO PAHs PCBs Auger, al location, and poss	Spoon ible other relevant	Analyses RCRA Metal Lead (only) conditions not listed	Applicable above):	Analyses	Check Applicable



Comple ID:	5001			ocation/Area	Main excan	ation	
Sample ID:	TP I			ample Time:	Same	le Date: 7/3	915
Sampled By:	DJIMIEC	0 h		unligato ID:	ACD01		
Approx. Air Tem	perature ("F):	60			JED T	Demuired:	
Weather Conditi	ons: 📿 🗸 🗸	Jay	IV		NO THP BIANK	Required. X res	
	A PARA		Location	Information		Dea	15
Surface	Boring 🔲 Test P	it (floor / sidewall)	Excavation	Sample	Depth (ft bgs):	547 0-	0.5
Water level Dep	th (ft bgs) <u>0.5-(</u>	Frozen	Soil Depth (ft bgs				
Note- If not know	vn at sample loca	tion, list as not det	ermined "ND"		and the second second		
		Contraction of the second	Sample I	Description		01.414.010.000	
GRAVEL (3	3 – 0.08 IN)	SAND (0.08	- 0.003 IN)	SILT (< 0	0.003 IN)	CLAY (NO GR	AINS VISIBLE)
GW GP	GM GC	SW (SP)	SM SC	M	IL		
Color brow	wn %C	oarse 99	%Fines		Peat/Organic So	il Likely Present (Y	7N) ///
	and the second second	DO at sector d	and Your D	der (deseribe pature	and intensity)	10	
Moisture (circle o	one): Dry, impist, vy	eusaturateo Sta	ined. Torty O	uur (uescribe nature	and intensity/	MINDAC	ZAVI
PID 63+6	ppm 🔼 Head	space 🔲 In-Samp	oler 🗌 In-Situ	PID/FID Model/S	SN: (IF USED)	MUNCAE	<u></u>
Analyses	Check	Anatyses	Check Applicable	Analyses	Check Applicable	Analyses	Check Applicable
VOCs	, appreciate	DRO/RRO	×	RCRA Metal			
BTEX	×	PAHs		Lead (only)			
GRO	×	PCBs					
	2.00	~ 10					
Collection Methor	d 500	011					
Notes/Comment	s (indicate genera	l location, and possi	ible other relevant	conditions not listed	above):		
				-			
Gri	d squar	e B1	PID	location :	SCOZ		
	- 210						
					and the second	and the second second second	
Sample ID: 4	FCZ		L .	.ocation/Area: 🥖	yain excau	ation	
Sampled By	2 Siwier		S	ample Time: )	05 Sam	ble Date: 7/2	9/15
			-	Contraction of the second second	a an interest of the second se		

Approx. Air Terr		60			No Trip Blank	Required X Yes	No
Weather Condit		lovag					
			Location	Information	Dauth (B has)	0-0 5	
Surface	Boring L Test F	rit (floor / sidewall)	Excavation	Sample	Depth (ft bgs):	0.0.2	
Vater level Dep	oth (ft bgs)_0-3	Frozen	Soil Depth (ft bg	s)			
tote- If not know	wn at sample loca	ation, list as not det		Description			-
			Sample	Description	0.000 (NI)		
GRAVEL (	3 - 0.08 IN)	SAND 000	3 - 0.003 IN)	SILT (<	0.003 IN)		HING VISIBLE
GW GP	GM GC	SVV SP	SM SU				
color Gr	14 %C	oarse 99	%Fine	es(	Peat/Organic Sc	il Likely Present (	(/N)_//
Antonio (airala)	anali Day Maint M	Coturated Sta	inod: V or D	dor (describe nature	and intensity)	tC	
IOISTURE (CITCIE						and the second se	and the second se
1000	one, biy, moist, y	ic cala dica			40	( DAF	2000
PID 133.8	ppmHead	ispace 🔲 In-Sam	pler 🔲 In-Situ	PID/FID Model/	SN: (IF USED)	ini RAE.	3000
PID 133.8	ppmKHead	ispace In-Sam	pler 🗌 In-Situ	PID/FID Model/	SN: (IF USED)	ini RAE.	3000
Analyses	ppm D Head Check Applicable	ispace In-Sam	pler In-Situ Check Applicable	PID/FID Model/	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs	ppm Diffead	Analyses DRO/RRO	Check Applicable	PID/FID Model/ Analyses RCRA Metal	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs 3TEX	ppm AHeac Check Applicable	Analyses DRO/RRO PAHs	pler In-Situ Check Applicable	PID/FID Model/ Analyses RCRA Metal Lead (only)	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs 3TEX 3RO	ppm Di Heac Check Applicable	Analyses DRO/RRO PAHs PCBs	pler In-Situ Check Applicable	PID/FID Model/ Analyses RCRA Metal Lead (only)	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs 3TEX GRO	ppm Di Heac Check Applicable	Analyses DRO/RRO PAHs PCBs	pler In-Situ Check Applicable	PID/FID Model/ Analyses RCRA Metal Lead (only)	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs 3TEX 3RO Collection Metho	ppm Diffeac	Analyses DRO/RRO PAHs PCBs	pler In-Situ Check Applicable	PID/FID Model/ Analyses RCRA Metal Lead (only)	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs 3TEX 3RO 20llection Metho lotes/Comment	ppm AHeac Check Applicable	Analyses DRO/RRO PAHs PCBs I location, and poss	ible other relevan	PID/FID Model/ Analyses RCRA Metal Lead (only) t conditions not listed	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses /OCs BTEX BRO Collection Metho Notes/Comment	ppm AHead Check Applicable	Analyses DRO/RRO PAHs PCBs I location, and poss	ible other relevan	PID/FID Model/ Analyses RCRA Metal Lead (only) t conditions not listed	SN: (IF USED)	Analyses	Check Applicable
Analyses /OCs 3TEX BRO Collection Metho lotes/Comment	ppm Check Applicable	Analyses DRO/RRO PAHs PCBs I location, and poss	ible other relevan	PID/FID Model/ Analyses RCRA Metal Lead (only) t conditions not listed	SN: (IF USED)	Analyses	Check Applicable
Analyses /OCs 3TEX 3RO Collection Metho Iotes/Comment Collector	check Applicable	Analyses DRO/RRO PAHs PCBs I location, and poss	ible other relevant	PID/FID Model/ Analyses RCRA Metal Lead (only) t conditions not listed	SN: (IF USED) Check Applicable	Analyses	Check Applicable
Analyses OCs TEX RO Collection Metho Iotes/Comment	check Applicable	Analyses DRO/RRO PAHs PCBs I location, and poss	ible other relevant	PID/FID Model/ Analyses RCRA Metal Lead (only) t conditions not listed	SN: (IF USED)	Analyses	Check Applicable
Analyses /OCs TEX BRO Collection Metho Iotes/Comment Collection	Check Applicable	Analyses DRO/RRO PAHs PCBs I location, and poss	ible other relevant	PID/FID Model/ Analyses RCRA Metal Lead (only) t conditions not listed	SN: (IF USED)	Analyses	Check Applicable



Soil Sampling Form

Sample ID:	CRU			ocation/Area	yain excav	9+101	
Sampled By:	B Simil	C		Sample Time:	5 Sam	ble Date: 7/	29/15
Approx, Air Ten	perature (°F):	60		Duplicate ID:	~		
Weather Condit	ions: Cla	udy		MS/MSD 🗖 Yes 🏹	No Trip Blank	Required: X Yes	No No
			Location	Information			
Surface D	Boring Test P	it (floor / sidewall)	Excavation	Sample	Depth (ft bas):	0-0,5	
Water level Der	oth (ft bas)	5 Frozen	Soil Depth (ft bg	s) ND			
Note- If not kno	wn at sample loca	tion, list as not det	termined "ND"				
			Sample	Description		Solution (1991	
GRAVEL (	(3 – 0.08 IN)	SAND (000	3 – 0.003 IN)	SILT (<	0.003 IN)	CLAY (NO GR	AINS VISIBLE)
GW GP	GM GC	SW SP	SM SC	N	11	CL OL N	ин сн он
Color Gra	4 %C	oarse 99	%Fine	s	Peat/Organic Se	oil Likely Present (	(/N) N
Moisture (circle	one) Dry Maist W	let/Saturated Sta	ined York	dor (describe nature	and intensity)	trong HI	С
			alar 🗍 In City	BID/EID Medel/		1 iniDAF :	3000
	ppm 🔀 Head	space 🗋 in-Sam	pier 🗋 in-Situ	PID/FID Model/		( IIII P/IE )	0000
	Check	A SECOND	Check		Check		Check
Analyses	Applicable	Analyses	Applicable	Analyses	Applicable	Analyses	Applicable
VOCs		DRO/RRO	$\mathbf{X}$	RCRA Metal			
BTEX	X	PAHs		Lead (only)			
GRO	X	PCBs					
	The Squar			12 10001			
Sample ID:	SFEG			Location/Area:	Tain excel	lation 7	n he
Sampled By:	D. Siwiel	0.0			18 Sam	ble Date: (//	4/15
Approx Air Ten	nperature ("F):	60				Pequired:	
Weather Condit	tions: Cla	uag			по прыалк	Required. Da res	
		it (floor / sideurs))	Location	Information	Donth (ft bas)	BAF	
	boring L lest H	Tit (noor / sidewall)	Soil Depth (# ba	Sample	Deptn (it bgs):	0-0-3	
Note- If not kno	wn at sample loca	tion list as not de	termined "ND"		_		
HOLO- II HOL KIIO	and at sumple loce	alon, not do not de	Sample	Description			71 - 22/52 - 211
GRAVEL	(3 - 0.08 IN)	SAND (0.0)	B - 0.003 IN)	SILT (<	0.003 IN)	CLAY (NO GF	RAINS VISIBLE)
GW GP	GM GC	SW (SP)	SM SC	N N	ΛL	CL OL N	NH CH OH
Color Br	swn %C	oarse 99	%Fine	es/	Peat/Organic S	oil Likely Present (	
Moisture (circle	one): Dry, Moist, W	vet/Saturated Sta	ined: Y or NO	Ddor (describe nature	e and intensity) 🔟	Vone	
PID 36-2	ppm 🙀 Head	ispace 🔲 in-Sam	pler 🔲 In-Situ	PID/FID Model/	SN: (IF USED)	MiniRAE	3000

Applicable	Analyses	Applicable	Analyses	Applicable	Analyses	Applicable
	DRO/RRO	X	RCRA Metal			
X	PAHs		Lead (only)			
X	PCBs					
Square E	C Pi	d location	5009			
	-		7 1992 A.I.			
	Applicable S POC s (indicate genera S 1 Vare E	Applicable DRO/RRO PAHs PCBs s (Indicate general location, and poss Silvare EC P(1)	Applicable DRO/RRO DRO/RRO PAHs PCBs s (indicate general location, and possible other relevant Square EC Pid location	Applicable     Applicable       DRO/RRO     X       PAHs     Lead (only)       PCBs     PCBs       Indicate general location, and possible other relevant conditions not listed       Square     EG	Applicable     Applicable     Applicable       DRO/RRO     X     RCRA Metal       PAHs     Lead (only)       PCBs       Source    Production States above:	Applicable     Applicable     Applicable       DRO/RRO     X     RCRA Metal       PAHs     Lead (only)       PCBs       Source       Poon       Source       FC       Pid       Location       Source



	1019				In alla	1.04	
Sample ID:	SFLT		L	ocation/Area:	ghin ercar	ale Data:	Nº LIE
Sampled By:	D. DIMIC	10		unligato ID:		Die Dale. //o	9/15
Approx. All Terri	iperature ( P)	60			No Trip Blank	Pequired: Wyee	
vveatrier Conditi		Udy	1 + A			Required. 🕰 i es	
	Design D Test D	it /flear / aidawall	Location	Information	Donth (ft bac):	0-05	
Water level Den	th (ft bas)	Erozen	Soil Depth (ft bas	Sample	Depth (it bgs).	0-0.5	
Note- If not know	wn at sample loca	tion, list as not de	termined "ND"	ND ND			
	STR. DOCTOR	R. 600 10 (A.S. & )	Sample I	Description	0.50 (ALC: 2000)		
GRAVEL (	3-0.08 IN)	SAND (AO	8 - 0.003 IN)	SILT (< (	0.003 IN)	CLAY (NO GR	AINS VISIBLE)
GW GP	GM GC	SW (P)	SM SC	N	1L	CL OL N	н сн он
Color BH	who who	29 earse	%Fines		Peat/Organic Se	oil Likely Present ()	$(N)$ $\Lambda$
		let/Cetureted Ch	stands V ark	der (dessibs esture	rout organic or	HC	·····
	one). Dry, woist, w	evoatorateo Sta	ameu. Toiny O	uor (describe nature	and intensity)	AUNDAT	Zant
	ppm 🔀 Head	space 📋 In-Sam	ipler 📋 In-Situ	PID/FID Model/3	SN: (IF USED)	IMIRAL S	
	Check		Check	Provide Street of	Check		Check
Analyses	Applicable	Analyses	Applicable	Analyses	Applicable	Analyses	Applicable
VOCs		DRO/RRO	X	RCRA Metal			
BTEX	X	PAHs		Lead (only)			
GRO	X	PCBs					
O Hardina Matha	5000	$\wedge$					
Collection Method		Leastion and nors	vible other relevant	conditions not listed	above):		
Notes/Comment	is (indicate general	nocation, and poss		conditions not listed	above).		
Gail	C	17	PIDI	children "	5/ 11		
01.9	Square	GT.		dation	5617		
-							
	ii						
Sample ID:	<7A9			ocation/Area:	Uin exav	ation	
Sample ID:	SFA9 B. Swier	c	L S	ocation/Area:	Uin Ocav 30 Sam	ation Del Date: 7/34	1/15
Sample ID: 4 Sampled By: Approx. Air Tem	SFA9 B. Switt	60		ocation/Area:	Miin Oxav 30 Sam	ation ole Date: 7/74	1/15
Sample ID: 4 Sampled By: Approx. Air Tem Weather Conditi	SFA9 B. Swill perature (°F): ions: (°Lau	GO	L S D M	ocation/Area:	Min Oxav 30 Sam	ation ole Date: 7/24 Required: 28Yes	1/15 ⊡ No
Sample ID: Sampled By: Approx. Air Tem Weather Conditi	SFA9 B. Swill perature (°F): ions: CLGU	60 60	Location	ocation/Area:	Min Oxav 30 Sam	Ation ole Date: 7/24 Required: 28Yes	1/15 :□ No
Sample ID: Sampled By: Approx. Air Tem Weather Condit	Boring Test P	GO GO Pit (floor / sidewall)	Location	ocation/Area:	Min Oxav 30 Sam No Trip Blank Depth (ft bgs):	Ation Dele Date: 7/74 Required: 28 Yes	1/15 ⊡ No
Sample ID: Sampled By: Approx. Air Tem Weather Condition Surface Dep	B. Switc perature (°F): ions: C.C.D Boring [] Test P th (ft bgs) (D)	GO GO Pit (floor / sidewall) Frozen	Location Soil Depth (ft bgs	ocation/Area: ample Time: ouplicate ID: IS/MSD I Yes Information Sample	Main Oxav 30 Sam No Trip Blank Depth (ft bgs):	Ation Del Date: 7/74 Required: 28Yes	1/15 :□ No
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know	B. Switc perature (°F): ions: (160) Boring Test P th (ft bgs) (0) wn at sample loca	GO it (floor / sidewall) Frozen tion, list as not de	Location Soil Depth (ft bgs termined "ND"	ocation/Area: ample Time: Duplicate ID: IS/MSD I Yes Information Sample	Vin Oxav 30 Sam No Trip Blank Depth (ft bgs):	Ation Del Date: 7/74 Required: 28Yes	1∕15 :□ No
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know	Boring Test P th (ft bgs)	GO it (floor / sidewall) Frozen tion, list as not de	Location Location Excavation Soil Depth (ft bgs termined "ND" Sample I	ocation/Area: ample Time: Duplicate ID: IS/MSD Yes Information Sample Description	Vin Oxav 30 Sam No Trip Blank Depth (ft bgs): (	Ation De Date: 7/74 Required: 28Yes	1/15 :□ No
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know GRAVEL ()	Boring Test P th (ft bgs) 3 – 0.08 IN)	GO it (floor / sidewall) Frozen tion, list as not de SAND (QQ	Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN)	ocation/Area: ample Time: Duplicate ID: IS/MSD Yes Information Sample Description	Quin Oxav 30 Sam No Trip Blank Depth (ft bgs): ( 0.003 IN)	Ation Del Date: 7/74 Required: XYes D ~ 0 5 CLAY (NO GR	
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know GRAVEL ( GW GP	Boring Test P th (ft bgs) Test P th (ft bgs) Sample loca 3 – 0.08 IN) GM GC	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP	Location Location Excavation Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC	ocation/Area: ample Time: Duplicate ID: IS/MSD Yes Information Sample Description	V (in Car) Sam No Trip Blank Depth (ft bgs): ( 0.003 IN) 1L	Required: 2XYes	A/15 No AINS VISIBLE) AH CH OH
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know GRAVEL ( GW GP	Boring Test P th (ft bgs) 3 – 0.08 IN) GM GC	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP parse 99	Location N Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Eines	ocation/Area:	Quin Oxav Samp No Trip Blank Depth (ft bgs): ( 0.003 IN) AL Peat/Organic St	Ation Del Date: 7/74 Required: XYes D - 0 5 CLAY (NO GR CL OL N Doil Likely Present ()	AINS VISIBLE) H CH OH $(N)$
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Usurface U Water level Dep Note- If not know GRAVEL ( GW GP Color_ Meintum (circle	Boring Test P th (ft bgs) GM GC	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9	Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Finese %Finese	ocation/Area: ample Time: // puplicate ID: IS/MSD Yes Information Sample Source Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample	V (in Car) Samp No Trip Blank Depth (ft bgs): ( 0.003 IN) AL Peat/Organic Se and intensity)	CLAY (NO GR CLAY (NO GR CL OL N Dil Likely Present (	A/15 AINS VISIBLE) AH CH OH (/N)
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know GRAVEL (: GW GP Color Color	SFA9 perature (°F): ions: CLGU Boring Test P th (ft bgs) O wn at sample loca 3 – 0.08 IN) GM GC WC one): Dry, Moist W	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9 /et/SaturatedSta	Location Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O O	ample Time: // ample Time: // buplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Samp	No Trip Blank Depth (ft bgs): ( 0.003 IN) //L Peat/Organic S	CLAY (NO GR CLAY (NO GR CL OL N Dil Likely Present ( CL OL M	AINS VISIBLE) AINS VISIBLE) AH CH OH (/N)
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Usurface U Water level Dep Note- If not know GRAVEL (: GW GP Color Moisture (circle of PID	SFA9 perature (°F): ions: CLGU Boring Test P th (ft bgs) O wn at sample loca 3 – 0.08 IN) GM GC M GC	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9 /et/Saturated5ta spaceIn-Sarr	Location Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler [] In-Situ	Cocation/Area: Cocation/Area: Comple Time: Complicate ID: Complicate ID: Complexity Com	No Trip Blank Depth (ft bgs): ( 0.003 IN) AL Peat/Organic S e and intensity) SN: (IF USED)	CLAY (NO GR CLAY (NO GR CL OL N Dil Likely Present ( Uni RAE	AINS VISIBLE) AH CH OH (N) $N3000$
Sample ID: Sampled By: Approx. Air Tem Weather Conditi Surface Water level Dep Note- If not know GRAVEL (: GW GP Color Moisture (circle of PID	SFA9 B. Score perature (°F): ions: CLGU Boring Test P th (ft bgs) OS wn at sample loca 3 – 0.08 IN) GM GC SM GC SM GC MC one): Dry, Moist W _ppm M Head	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9 /et/Saturated5ta space □ In-Sarr	Location Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler [] In-Situ Check	ocation/Area: ample Time: Duplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample S	No Trip Blank Depth (ft bgs): ( 0.003 IN) AL Peat/Organic S and intensity) SN: (IF USED)	Ation De Date: 7/74 Required: 2KYes 2 ~ 0, 5 CLAY (NO GR CL OL N Dil Likely Present ( 4 ~ - 1 (g) H Mini RAE	
Sample ID: Sampled By: Approx. Air Terr Weather Condit Surface Water level Dep Note- If not know GRAVEL (: GW GP Color Moisture (circle PID 79.9	SFA9 B. Score perature (°F): ions: CLGU Boring Test P th (ft bgs) OS wn at sample loca 3 – 0.08 IN) GM GC SM GC SM GC SM GC MC one): Dry, Moist W ppm M Head Check Applicable	it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9 /et/Saturated5ta space In-Sarr Analyses	Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler  In-Situ Check Applicable	ocation/Area: ample Time: ) Duplicate ID: IS/MSD Yes Information Sample Description SILT (< 1 M S dor (describe nature PID/FID Model/ Analyses	No Trip Blank Depth (ft bgs): ( 0.003 IN) AL Peat/Organic S e and intensity) SN: (IF USED) Check Applicable	Analyses	AINS VISIBLE) AINS VISIBLE) AH CH OH (/N) Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Conditi Surface Water level Dep Note- If not know GRAVEL ( GW GP Color Moisture (circle PID 79.7 Analyses VOCs	SFA9 perature (°F): ions: CLCU Boring Test P th (ft bgs) O wn at sample loca 3 – 0.08 IN) GM GC O O O ppm A Head Check Applicable	C GO Pit (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse /et/Saturated Sta space □ In-Sarr Analyses DRO/RRO	Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler [] In-Situ Check Applicable	ocation/Area: ample Time: ) puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample	No Trip Blank Depth (ft bgs): ( 0.003 IN) //L Peat/Organic Si e and intensity) SN: (IF USED) Check Applicable	Analyses	AINS VISIBLE) H CH OH (/N) Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Conditi Surface Water level Dep Note- If not know GRAVEL ( GW GP Color Moisture (circle PID 79.7 Analyses VOCs BTEX	SFA9 perature (°F): ions: CLCU Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC OM %C one): Dry, Moist W ppm A Head Check Applicable	GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9 vet/Saturated Sta space □ In-Sarr Analyses DRO/RRO PAHs	Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler [] In-Situ Check Applicable X	ocation/Area: ample Time: // puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample	No Trip Blank Depth (ft bgs): ( 0.003 IN) //L Peat/Organic Se e and intensity) SN: (IF USED) Check Applicable	Analyses	AINS VISIBLE) H CH OH (/N) Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Condit Surface Water level Dep Note- If not know GRAVEL (: GW GP Color Moisture (circle PID 79.7 Analyses VOCs BTEX GRO	SFA9 perature (°F): ions: CLCU Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC O O O O Check Applicable	GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse vet/Saturated Sta space □ In-Sarr Analyses DRO/RRO PAHs PCBs	Location Location Location Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler  In-Situ Check Applicable X	ocation/Area: ample Time: //> puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sampl	No Trip Blank Depth (ft bgs): ( 0.003 IN) //L Peat/Organic Se e and intensity) SN: (IF USED) Check Applicable	Analyses	AINS VISIBLE) H CH OH (/N) M Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Condit Surface Water level Dep Note- If not know GRAVEL (: GW GP Color Moisture (circle PID 79.0 Analyses VOCs BTEX GRO	SFA9 perature (°F): ions: CLGJ Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC O O O ppm A Head Check Applicable	GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse vet/Saturated Sta space □ In-Sarr Analyses DRO/RRO PAHs PCBs	Location Location Location Location Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler  In-Situ Check Applicable X	ocation/Area: ample Time: //> puplicate ID: IS/MSD   Yes   Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sa	Uin       Sample         So       Sample         So       Trip Blank         Depth (ft bgs):       Image: Constraint of the second	Analyses	AINS VISIBLE) H CH OH (/N) M Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Condit Surface Water level Dep Note- If not know GRAVEL ( GW GP Color Color Moisture (circle PID 79.0 Analyses VOCs BTEX GRO Collection Metho	SFA9 perature (°F): ions: CLAU Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC O O O Check Applicable Check Applicable	GO it (floor / sidewall) Frozen tion, list as not de SAND (0 0 SW (SP oarse oarse yet/Saturated Sta space □ In-Sarr Analyses DRO/RRO PAHs PCBs	Location  Location  Location  Location  Soil Depth (ft bgs  termined "ND"  Sample I  8 – 0.003 IN)  SM SC  %Fines ained: Y or O  opler □ In-Situ  Check Applicable  X	ocation/Area: ample Time: 0 puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Pip/Fin Model/ Analyses RCRA Metal Lead (only)		Analyses	AINS VISIBLE) AH CH OH (/N) M Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Condition Surface Water level Dep Note- If not know GRAVEL ( GW GP Color Moisture (circle PID 79.9 Analyses VOCs BTEX GRO Collection Metho Notes/Comment	SFA9 perature (°F): ions: CAU Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC O O O Check Applicable Check Applicable Check Applicable Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check Check C	GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse9 vet/Saturated Sta space □ In-Sarr Analyses DRO/RRO PAHs PCBs Note: Note: Not:	Location  Location  Location  Location  Soil Depth (ft bgs  termined "ND"  Sample I  8 – 0.003 IN)  SM SC  %Fines ained: Y or O  pler □ In-Situ  Check Applicable  Sible other relevant	ocation/Area: ample Time: buplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sa	No Trip Blank Depth (ft bgs): ( 0.003 IN) AL Peat/Organic So and intensity) SN: (IF USED) Check Applicable	Analyses	AINS VISIBLE) AINS VISIBLE) AH CH OH AN Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Conditi Usurface U Water level Dep Note- If not know GRAVEL ( GW GP Color Moisture (circle PID 79.9 Analyses VOCs BTEX GRO Collection Metho Notes/Comment	SFA9 perature (°F): ions: CAU Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC 000 %C 000): Dry, (lois) W ppm A Head Check Applicable Check Applicable	GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse oarse SW (SP oarse oarse Analyses DRO/RRO PAHs PCBs ON Hocation, and poss	Location N Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler [] In-Situ Check Applicable	ocation/Area: ample Time: 0 puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample		Analyses	
Sample ID: Sampled By: Approx. Air Terr Weather Condit Usurface U Water level Dep Note- If not know GRAVEL ( GW GP Color Moisture (circle PID Analyses VOCs BTEX GRO Collection Metho Notes/Comment Collection Metho	SFA9 perature (°F): ions: CLAU Boring Test P th (ft bgs) 0 wn at sample loca 3 - 0.08 IN) GM GC 000 %C 000 %C 0000 %C 000 %C 000 %C 000 %	GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse oarse yet/Saturated Sta space □ In-Sam Analyses DRO/RRO PAHs PCBs ON I location, and poss A9	Location N Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler □ In-Situ Check Applicable Sible other relevant	ocation/Area: ample Time: 0 puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample	Uin       Okan         So       Sam         So       Sam         So       Trip Blank         Depth (ft bgs):       Okan         0.003 IN)       ML          Peat/Organic So         and intensity)          SN: (IF USED)          Check       Applicable         I above):	Analyses	AINS VISIBLE) AINS VISIBLE) AH CH OH ANN Check Applicable
Sample ID: Sampled By: Approx. Air Terr Weather Conditi Usurface Upp Note- If not know GRAVEL (: GW GP Color Moisture (circle PID Analyses VOCs BTEX GRO Collection Metho Notes/Comment	SFA9 perature (°F): ions: CLAU Boring Test P th (ft bgs) O wn at sample loca 3 - 0.08 IN) GM GC 000 %C 000): Dry, Moist W ppm Head Check Applicable Check Applicable Sfure	GO GO it (floor / sidewall) Frozen tion, list as not de SAND (0.0 SW (SP oarse oarse yet/Saturated Sta space □ In-Sam Analyses DRO/RRO PAHs PCBs ON I location, and poss A 9	Location N Location Soil Depth (ft bgs termined "ND" Sample I 8 – 0.003 IN) SM SC %Fines ained: Y or O opler  In-Situ Check Applicable Sible other relevant	ocation/Area: ample Time: 0 puplicate ID: IS/MSD Yes Information Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample	Uin Oxav         Sample         Son Trip Blank         Depth (ft bgs):         Depth (ft bgs):         0.003 IN)         AL         Peat/Organic Se         and intensity)         SN: (IF USED)         Check         Applicable         I above):         30	Analyses	AINS VISIBLE) AINS VISIBLE) AH CH OH (/N) N Check Applicable



Sample ID:	SHIFY			ocation/Area:	Main oxcau	ation				
Sampled By:	B Siwill	r		Sample Time:	Sam	ple Date:	79/15			
Approx. Air Ten	nperature (°F);	60		Duplicate ID:						
Weather Condi	tions /	"India								
Troution Condi	-		Location		The The Blank	rioquirou. (ZX / ou				
	Boring T Test F	Pit (floor / sidewall)	Excavation	Sample	Depth (ft bas):	2				
Water level Der	oth (ft bas	4-5 Frozen	Soil Depth (ft ba		Deptil (it bys).	9	H			
Note- If not kno	wn at sample loca	tion, list as not de	termined "ND"							
Aller milling			Sample	Description						
GRAVEL	(3 - 0.08 IN)	SAND (20	8 - 0.003 IN)	SILT (<	0.003 IN)	CLAY (NO GR	AINS VISIBLE)			
GW GP	GM GC	SW (SP)	SM SC	N	ЛL	CL OL N	H CH OH			
Calar Bo		99	0/ <b>F</b> iele		Da at/Osnania O	all I live to Data and ()				
Color		oarse	%Fine	s	- Peat/Organic S	oli Likely Present (	r/N)			
Moisture (circle	one): Dry Moist W	Vet/Saturated Sta	ained: <u>Y or (M)</u> C	dor (describe nature	e and intensity)	IVUIN				
PID_28-1	ppm 🗾 Head	ispace 🔲 In-Sam	ipler 🔲 In-Situ	PID/FID Model/	'SN: (IF USED)	<u>uinirae</u> 3	000			
Analyses	Check	Analyses	Check	Anatyses	Check	Analyses	Check			
VOCa	Applicable	DRO/RRO	Applicable	BCRA Motol	Applicable		Applicable			
PTEY		DRUKRO								
CRO	-5	DCPa								
GRU			1				L			
5166		brids	quare E*	t. PID	location	SCI8				
Sample ID:	SWD1			.ocation/Area:	lain excav	ation 1/				
Sampled By:	DSIWIC	20		Sample Time.	JIO Sam	pie Date: // c	×9/15			
Approx. Air Ten	nperature ( F).				LNIa Tria Diank	Desuined Styles				
vveatner Condi	ions: U6	000	r		сто тпрыалк	Required. A res				
	B		Location	Information	D					
	Boring L Test F	rit (floor / sidewall)	Excavation	Sample	Depth (ft bgs):	3				
Water level Dep	oth (ft bgs)	Frozen	Soil Depth (ft bg	s) IV D						
NOLE- II NOL KNO	wh at sample loca	mon, list as not de	Contined ND	Deserved						
	0.00.000	CAND (0.0	Sample	Description	0.000 IND					
GW CP	GM CC	SAND (0.0	6 - 0.003 IN)		0.003 IN) /I		AINS VISIBLE)			
Giv GP		J SVV OF		N						
Color Grag-	brown %c	oarse <u>91</u>	%Fine	s	Peat/Organic S	oil Likely Present (	(/N)			
Moisture (circle	one): Dry, Mois, W	levSaturated Sta	ained: $\underline{Y \text{ or } N}$	dor (describe nature	e and intensity)	ALCO AL	Smad			
	nnm V Head	snace [] In-Sam	inler I In-Situ	PID/FID Model/	SN (IF USED)	Innishe				

Analyses	Check Applicable	Analyses	Check Applicable	Analyses	Check Applicable	Analyses	Check Applicable
VOCs		DRO/RRO	×	RCRA Metal			
BTEX	×	PAHs	-	Lead (only)			
GRO	×.	PCBs					
Sideu	1911- G	orid squa	re D1	PDI	location	5620	



					4.3.				
Sample ID:	DWBD.			Location/Area: Main Excavation					
Sampled By:	B SINI	ec		Sample Time: 1045 Sample Date: 1/24/15					
Approx. Air Tem	perature (°F):	60		Duplicate ID:					
Weather Conditi	ions:	ouda		MS/MSD 🗌 Yes 😭	No Trip Blank	Required: 🖾 Yes	No No		
一些第一些"你"。	on on Article	5	Locatio	on Information			1. 1. 1. 1. 1.		
Surface	Boring 🔲 Test F	it (floor / sidewall)	Excavation	n Sample	Depth (ft bgs):	$\checkmark$			
Water level Dep	th (ft bgs)	5 Frozen	Soil Depth (ft b	igs)_ND					
Note- If not know	wn at sample loca	ition, list as not de	termined "ND"						
		200 m 2 8 1 2	Sampl	e Description	N. C. MARK				
GRAVEL (	3 – 0.08 IN)	SAND (0.0	8 – 0.003 IN)	SILT (<	0.003 IN)	CLAY (NO GR	AINS VISIBLE)		
GW GP	GM GC	SW SP	SM SC	N	1L	CL OL N	и снон		
Color Bro	wn %c	oarse 21	%Fit	nes	Peat/Organic So	il Likely Present ()			
Mainture (airela	anali Day Mand M	lat/Calurated Ctu	And Var	Oder (deseribe pature		1			
WOISture (Circle	one). Dry. woisy, w	leu Saturateo Sta	aned: 1 or W	Oubr (describe nature		IND AF D	000		
PID_126-1	ppm XHead	space 🗌 In-Sam	pler 🔲 In-Situ	PID/FID Model/	SN: (IF USED)	IMICAE 3			
	Ob	T	0		Objects		0		
Analyses	Applicable	Analyses	Applicable	Analyses	Annlicable	Analyses	Annlicable		
VOCs	Approcusie	DRO/RRO	Applicable	RCRA Metal	Applicable		Applicable		
BTEX	~	PAHs		Lead (only)					
GRO	- <del>2</del>	PCBs		Loud (only)					
one									
Collection Methor	d 5000	5h							
Notes/Comment	ts (indicate genera	l location, and poss	ible other releva	int conditions not listed	above):				
a l	6 ·			a = 2	v. a				
SIDER	Jal - F	orid Grua	re BO	PID	location	5622			
		1				200.0			
Sample ID:				Location/Area:					
Sampled By:				Sample Time:	Samp	le Date:			
Approx. Air Tem	perature (°F):			Duplicate ID:					
Weather Conditi	ions:			MS/MSD □ Yes □	No Trip Blank	Required: 🗌 Yes	T No		
1995/1040/155 -	NWC, NEDBU	and an and	Locatio	n Information	81 25 10 1 5 1 6 5 M	SECTION AND AND AND	In the second second		
Surface	Boring Test P	Pit (floor / sidewall)		Sample	Depth (ft bas):				
Water level Dep	th (ft bas)	Frozen	Soil Depth (ft h	as)	Boptin (it bgb).				
Note- If not know	wn at sample loca	tion. list as not de	termined "ND"		<del></del> )				
WEDGE WHEN I'V		TRUCT ON STAT	Sampl	e Description		ALL NUMBER			
GRAVEL (	3 – 0.08 IN)	SAND (0.0	8 - 0.003 IN)	SILT (< 0	0.003 IN)	CLAY (NO GR	AINS VISIBLE)		
GW GP	GM GC	SW SP	SM SC	N	L	CL OL N	H CH OH		
Color	0/ 0	0.0500	0/ <b>۲</b> :.	200	Post/Orannia Sa	il Likoly Drosent ()	(/N)		
			%FI	ico	- reavorganic Sc	ui ∟ikely Present (1	/IN)		
Moisture (circle o	one): <u>Dry, Moist, W</u>	let/Saturated Sta	uined: Y or N	Odor (describe nature	and intensity)				

____ppm 📋 Headspace 🔲 In-Sampler 🗋 In-Situ PID/FID Model/SN: (IF USED) _____

PID

alyses Check Analyses Check Analyses Check Applicable Analyses Applicable Analyses Applicable	Check Applicable	Analyses	Check Applicable	Analyses
RRO RCRA Metal		DRO/RRO		VOCs
Lead (only)		PAHs		BTEX
		PCBs		GRO
		PCBs	d	GRO

Notes/Comments (indicate general location, and possible other relevant conditions not listed above):

Re	d Salmon	n Excan	Jation			50	
	Super 5	Dirk LO	9		4		
		1: 0					
ID	thate	time	Notes	Cit			_
A4B4-1	7/26	1330	Not lined, h	eaping WII,			
A5B5-1		1355	Lined with +	ete liner			
A5B5-2		1410	Lined. Cont	an-gray	,		
1585-3		440	Lined - sme	ly-high co	ntern .		
15 B5-4		1500					
3505-1	· · · · · · · · · · · · · · · · · · ·	1545		1			
3565-2		1610			2		<u>к</u> 24
B3-1		1645	Desel noted in	Sund at 3 44	itdepth		
B3-2	·	1705				4	
B364-1	1	1720					
B3B4-2		1740		D	Date	Time	Votes
BRB4-3		1805		DDZ-1	7/27	1655	Very Strong HC.
B3B4-4		1815	80	QD2-2	·	1715	11
(4(5-1		1845		D2D3-2		1745	Droth 0-3
0469-1		1900	42	D705-3		1800	Very Strong Ger
(4(5-2	-	1915		D102-4		1815	2.2
NHD5-1		1940		BOCD-1	ri i	1830	
DEDG-1		2000		0203-3		1850	Dath 6.7
D(-D7-1	7/77	GRIK	Daths-1	1-nt		(910	1.
00011	11 d	6920	Doth 1-7	1-00-00-1		1925	Faithes North
C(7-1		0000	Depthot	0000			
Br BT-1		1935	Danth A-1		-	·	
MBT-I		0455	Death and				
1-18-1		1015	Dennoa			1. 1. 1.	
ADAG I		1105	Diator				
HAMTI		1105	Depino				· · ·
Babler		1205	Dente A.				
DIDZ		1205	Depriso	5		- 20	
Vald-		1220	Depths O-	· · · ·			
Ld-1		1440	Depths 0-	2	-		
419-1		1515	Ropths 0-	*		0	-
MIBI-X		1275	Nopms on	2			
+1B -3		1550	Pan O	2			
HORD-1		1050	Lipins U-		1		
1-1/120		1612	Depths 0-	2	· · · ·		
0203-1		1625	Popths 0-3				
CI (2-1		1640	Depths U-				1



Project Name:	NPSI Red Salmon	Boring ID:	MW-1	Well Type:	Check boxes?
Project #:	105-00151.15005	Top of Casing El:			
Installation Date:	7/28/15	Northing			
Well Owner:	NPSI	Easting:			
Completion Method:		Coord System:			



### **EXPLORATORY BORING**

- Borehole depth ft. а.
- Borehole diameter _____ in. b. Drilling method Backhoe

### WELL CONSTRUCTION

- Screen and casing riser length 10.5 ft. 9.63 C. Material PVC
- Inside diameter in. d.
- Depth to top of screen O. G ft. e.
- Screen length 5.05 ft. f. Perforated interval from 6-6 to 5.6 ft. Perforation type PVC Perforation size 0.020 in.
- Surface seal g. ft. bgs Seal material _____
- Backfill 🖉 ____ ft. h. Backfill material
- Seal ft. i. Seal material _bentonite
- Filter pack (length) 5 ft. j. – Sund Pack material Silica
- Bottom seal ____ ft. k. Seal material
- Stickup 4.4-83tt 3.53 Ι. (aboveground surface)

Remarks: Used pre-packed well screen. Additional filter sand



### Well Construction Form

Project Name:	NPSI Redsalmon	Boring ID:	MW-2	Well Type:	Check boxes?
Project #:	105.00151.15005	Top of Casing El:			
Installation Date:	7/28/15	Northing:			
Well Owner:	NPSI	Easting			
Completion Method:		Coord System:			



### **EXPLORATORY BORING**



### **Well Construction Form**

Project Name:	NPSI Red Salmon	Boring ID:	MW-3/TP-	3Well Type:	Check boxes?
Project #:	105.00151.15003	Top of Casing El:			
Installation Date:	7/28/15	Northing:			
Well Owner:	NPSI	Easting			
Completion Method:		Coord System:			





### Well Construction Form

Project Name:	NPS1 Red Salmon	Boring ID: MW -	Well Type:	Check boxes?
Project #:	165.00151.15005	Top of Casing El:		
Installation Date:	7/29/15	Northing		
Well Owner:	NPSI	Easting:		
Completion Method:		Coord System;		



44



0

## Groundwater Sampling Form

Site/Clie	ent Name:	NPSI Red Sa	almon Facili	ty	Weil IE	Well ID: MWal						
Project #	¥:105.001	51,15005			Sample	D: RS	-MW	1-080	315			
Sampleo	d By: A	Wing			Sample	Time: 1	928	Sampl	e Date: 火	13/15		
Weather	Condition	5: Partil	e cloud	a, 60 s "F	- Duplica	ate ID: -						
Samplin	g Method:	Low Flow	Ø Other∑	BWE-11 VO	Z/ MS/MS	D 🗌 Yes	Z No	Trip Blank	Required:	Yes 🗌 No		
			Store much	W	ell Informat	ion	1.11		State of the second			
Well Typ	pe: Pern	nanent 🗋 Te	emporary	Well Diameter <u>2</u>	in x	Screen Inte	erval:	<u> </u>	BTOC to	9ft BTOC		
Well Cor	ndition	Good 🗌 Fai	r 🔲 Poor (if	fair or poor explair	n in Notes)	Stickup	Yes 🗌 N	o; If yes,	<u>3</u> ft abov	ve ground		
				Gauging	/Purging In	ormation						
Depth to	Water (ft t	310C): 7.	33		I ubing/	Pump Depth	(ft, BIOC	): 9	1CIAC D	anal		
Depth to	Product (f	t BTOC)			Purge E	nd Time (24	4-ni) / 7 ( I-hr)	DO H	ATCI M	SVGI -		
Product	Thickness	(ft)			Total Pt	irge Time (n	nin)					
	DW: Ma is l pur	below top of so mping a minim	=(1 creen, then us um of 1 flow th	Fubing Depth – Top of se default value of C rough cell volume).	of Screen Dep 0.3 ft.; achieve	th in ft) X 0.25 stable parar	5 =( meter for 3	ft); if screen in consecutive n	terval is not kno eading (each re	wn or water table ading taken after		
1" Casin	Pu 28. 28.	rge Volume = 3 3 =(lite	14 X ers) (1 gallon =	(well radius squared = 3.79 liters)	in ft.) X	_ (water colum	nn in ft.) X	(numbe	r of casing volun	ne to be purge)X		
t Casing	g vor (mera/	- 0.104 Wate	i column (r)	Water	Quality Para	meters	(1) 4	ousing vor (ii	(013) - 2.41 • •	ater column (iy		
Time (24-hr)	Flow Rate (liters or gal/	Purge Volume (liters or	Temp (°C)	Specific Conductance (µS/cm [°] )	DO (mg/L)	ORP (mV)	pН	Turbidity (NTU)	DTW (ft BTOC)	Drawdown (ft)		
	minute)	-	(± 3 %)	(± 3%)	(± 10%)	(± 10mV)	(± 0.1)	(± 10%)		(Maxft.)		
1920	G.15	- 9	12.47	332	2,58	-30	5.10	8.57	9:30			
	S	ampli	e at	iter t	Develo,	e/pu	rge	9+ c	zallon	5		
		1			1-1							
Sample	Color: (	1000		Sample Odor:	POL		Shee	en: 📋 none		ed 📋 heavy		
-		3	1	Ana Preservative	lytical Sam	pling	part and	_	Pr	eservative/		
Analys			of Bottle	Comments	A	nalyses	Numbe	r/Type of Bo	C	omments		
DRO	2x2	50ml AG										
RRO	Wit	h DRO										
Notes:												
Equipme	ent Used:	Pump Type_		Tubi	ng (Type/Ler	ngth)		Bailer T	ype			
Water Le Turbidity	evel Meter_ Meter (Ma	ike/SN#) <u>ℓ</u> ¢	motte	Mult	i-Parameter r Lot #	Meter (Make	e/SN#) <u> </u>	<u>'SI SS (</u> ,				
IDW Dis	posal: 🔲 I	Discharged to	surface 📐	Treated (how?)	5AC			Other:				

Site/Clie	nt Name:	NPSI Red Sa	ilmon Facilii	ty	Well ID	: MW	-2			
Project #	: 105.001	51,15005			Sample	ID: RS	- MW	2-09	10315	
Sampled	Ву: Д	Wina			Sample	e Time: 7"	721	Samp	le Date: 08	0315
Weather	Conditions	50004	1,70s	°F	Duplica	ate ID: 🕌	~			
Sampling	Method: [	Low Flow	Other 7	3 well vol	MS/MS	D 🗌 Yes 🗄	No	Trip Blank	Required:	Yes 🗌 No
	- 11 4 - 1-	-		We	ell Informat	ion				
Well Typ	e: 🛛 Perrr	anent 🗌 Te	mporary N	Well Diameter <u>2</u>	ind	Screen Inte	rval:	<u>3</u> ft.	BTOC to 🗾 💈	ft BTOC
Well Con	ndition: 🔽 (	Good 🗋 Fair	r 🗌 Poor (if '	fair or poor explain	in Notes)	Stickup	Yes 🗌 No	o; If yes,	ft abo	ve ground
<b>D</b>	1	TOOL	6 600	Gauging/	Purging In	formation	(# ETOO)		64	
Depth to	VVater (ft E		6,80		Purge S	Pump Depth	(π. BTOC)	1.5	lac Del	- 1
Depth to	Product (ft	BTOC )	0.20		Purge E	nd Time (24-	-hr)	05 04	HE DEVI	2:1
Product 7	Thickness	(ft)			Total Pu	urge Time (m	in)			
LOW FLO	W: Mai ist pur	x Draw Down below top of so nping a minimu	=(1 creen, then us um of 1 flow th	Tubing Depth – Top of the default value of 0, rough cell volume).	f Screen Dep 3 ft.; achieve	th in ft) X 0.25 stable param	=(f neter for 3 c	t); if screen in consecutive in	nterval is not kno reading (each re	wn or water table ading taken afte
OTHER:	Pur Pur 28	ge Volume min ge Volume = 3. 3 = (lite	nimum of 3 ca .14 X ( ers) (1 gallon =	sing volume and stabl (well radius squared ir = 3,79 liters)	e parameters n ft.) X	for 3 consecu (water colum	tive reading in in ft.) X	s, or maximu (numbe	m of 10 casing v er of casing volur	olumes purged, ne to be purge)X
1" Casing	Vol (liters)	= 0.154 * Water	r Column (ft)	2" Casing Vol (liter	s) = 0.617 * V	Water Column	(ft) 4"	Casing Vol (I	iters) = 2,47 * W	ater Column (ft)
Time	Flow	Pures	Tomp	Water C	Quality Para	OPP	<b>7</b> 4	Turbidity	DTM	Drawdown
(24-hr)	Rate	Volume (liters or	(°C)	Conductance (µS/cm°)	(mg/L)	(mV)	рп	(NTU)	(ft BTOC)	(ft)
	minute)	er	(± 3 %)	(± 3%)	(± 10%)	(± 10mV)	(± 0.1)	(± 10%)		(Maxft.
1768		3.5	11.31	178	0.71	-69.7	5,34	87.5	7.50	
1711	0.2	3.15	11.40	177	0.72	-75.5	5.40	51.8	7:38	
1-714	0.2	39	11,86	180	6.90	- 80.1	5.41	47.1	7.33	-140 j
		0	μ. · · · · ·		-v		Dr. i.i.			
				6						
	Sc	ampl	e at	ter der	clop/	purge	. 41	- gal	lons	
Sample	Color: C	loar		Sample Odor: 4	slight	POL	Shee	n: 🛛 none	🗌 light 🗌 m	ied 🗌 heavy
Analys	ies Nu	imber/Type c	of Bottle	Anal Preservative/	A A	nalyses	Number	Type of B	ottle Pr	eservative/
GRO/BTE	X 3x4	0mL VOA		HCI					and the second	
DRO	2x2	50mL AG		HCI						
RRO	Wit	h DRO								
Notee										
_										
Equipme	ent Used:	Pump Type_	Geotech	peri Tubin	ig (Type/Lei	ngth) <u>Tef-1</u>	ined/1	2 Bailer	Гуре	
Water Le Turbidity	evel Meter_ Meter (Ma	ke/SN#) <u>[</u> e	motte	Multi- Filter	-Parameter Lot #	Meter (Make	/SN#)	57 55	<i>l</i>	
		Discharged to	suface T	Treated (how?)	SAC		r" c	Other		



## Groundwater Sampling Form

Site/Clie	ent Nai	me: N	PSI Red Sal	Imon Facilit	iy	Well ID: MY -3						
Project #	t: 105.	00151	.15005			Sample	D: RS	- MW	3-080	315		
Sampled	By:	A.	1 al Dag			Sample	Time: 16	120	Samp	e Date: S	6/3/15	-
Weather	Condi	itions:	SUNA	4.70	OF	Duplica	ite ID:				. / .	
Sampling	n Meth	od [.]	Low Flow	S Other >	3 well Not	MS/MS	D 🗌 Yes 🖡	No	Trip Blank	Required	Yes T	No
oumpring	givien	.04.	2011 101		We	ell Informat	ion					
Well Typ	e: 🛐	Perma	nent 🗌 Tei	mporary N	Well Diameter	int	Screen Inte	rval:	5 ft. E	STOC to _	<i>i0</i> _ft E	зтос
Well Con	ndition:	D G	ood 🔲 Fair	Deor (if f	fair or poor explain	in Notes)	Stickup	Yes 🗌 No	; If yes,	Z_ft	above ground	
			<u>ар</u> та, <u>ар</u> та,		Gauging/	Purging Int	formation			a state	Server alle	
Depth to	Water	r (ft BT	OC): 9,3	54		Tubing/	Pump Depth	(ft. BTOC)	: 10			
Total De	pth (ft	BTO	C): 10.4	5		Purge S	tart Time (24	-hr) 14	031	Develog.	mant	
Depth to	Produ		BIOC)			Purge E	na Time (24-	in)				
LOW FLO	W:	Max	Draw Down		ubing Depth - Top o	f Screen Dep	th in ft) X 0.25	=(f	t); if screen ir	iterval is not	known or wate	r table
		is be	low top of sc	reen, then us	e default value of 0.	3 ft, achieve	stable param	eter for 3 o	consecutive r	eading (eac	h reading taker	n after
OTHER:		Purg	e Volume mir	nimum of 3 ca:	sing volume and stabl	e parameters	for 3 consecu	tive reading	s, or maximu	m of 10 casi	ng volumes pur	ged.
		Purge	e Volume = 3.	14 X (	(well radius squared in	n ft.) X	_ (water colum	n in ft.) X	(numbe	r of casing v	olume to be put	rge)X
1" Casing	g Vol (li	zo.5 ters) =	0.154 * Water	Column (ft)	2" Casing Vol (liter	6 L 3 (s) = 0.617 V	Vater Column	(ft) 4"	Casing Vol (I	iters) = 2.47	* Water Column	n (ft)
		121			Water (	Quality Para	ameters					
Time (24-br)	Flo	0W	Purge	Temp	Specific	DO (mg/L)	ORP (mV)	pH	Turbidity (NTU)	(ft BTO	C) Drawd	lown h
(2441)	pro	's or	(liters or	(0)	(µS/cm°)	V37	V		4			Tean
2014	ga	al/ ute)	Ö	(+ 3 %)	(+ 3%)	(± 10%)	(± 10mV)	(± 0,1)	(± 10%)	111	(Max -	-fL)
				(= 0 10)	(± 0 /0)	1		274		(2)	- 0.	1
1404	0	15	2.75	12.46	254	1,19	-124,6	1,19	éleus	7, 3	5 00	1
1407	0	·15	3	11.66	244	1,81	-130.6	7.68	5.51	9.3	9 8.0	5
1415				11.87	243	2.08	-132.7	6.97	5,10	4,30	3 0.0	35
								6				
									-			
			50 10	10 0	CLAC	anala	1/000	0.0	-> 1	adl	lanc	
		2	ump	ic a	TEO d	evelop	por	3e	54	Jun	ons	
					l				_/			
Sample	Color	: 010	ear		Sample Odor:	None		Shee	n: A none	∐ light L		eavy
11.15			19 - Caller		Ana	lytical Sam	pling		<u> (111-16)</u>		Descention	
Analys	ses	Nun	nber/Type o	of Bottle	Preservative/	A	nalyses	Number	/Type of B	ottle	Comment	e/
CDO/INTE	~	2140		12 11 18	Comments	- and the					Commente	,
GRU/BIE	:	3X40										
BRO		With										
V												
Notes:	· · · · ·											
·												
			<u>``</u>									
(												
Easter				noter			anth) Tel-1	ines 11	5' Baller			
		sea: F	<pre>rump type_</pre>	younch		ig (Type/Let -Paramatar	Moter (Make	/SN#)	Daller	ype		
Turbidity			0/SN#)		Wulti	-rarameter	weter (wake	/314#)			<u>'</u>	
autoluity	weter	( IVIAN	ωωι <b>π</b> )			2017					-	5
IDW Dis	posal	: 🗆 D	ischarged to	surface 🕅	Treated (how?)	5AC			Other:			
			-				-					

Site/Client Name: NPSI Red Salmon Facility						Well ID: MUL Y					
Project # : 105.00151.15005						Sample ID: R5-MW4-080315					
Sampled By: A. Wina					Sample	Sample Time: 16.05 Sample Date: 8/3/14					
Weather Conditions: CARA TA CE						Duplicate ID: 85-MW99-080315					
Sampling Method: I low Flow D Others will Vol											
Well Typ	e: N-Pem	nanent 🗌 Te	mporary	Well Diameter	- mor	Screen Inte	rval: 1	Ø ft. E	STOC to	ft BTOC	
Well Condition: S Good S Fair Poor (if fair or poor explain in						Notes) Stickup Yes No; If yes, 2, 5 ft above ground					
0.043.115				Gauging/	Purging Int	urging Information					
Depth to	Water (ft E	BTOC):	6.11	>	Tubing/	Tubing/Pump Depth (ft. BTOC): 9					
Total Depth (ft BTOC): 10:15						Purge Start Time (24-hr) 15 30 after Level.					
Depth to Product (ft. BTOC)						Purge End Time (24-hr)					
Product	Thickness	(ft)		Tubing Dopth Top of	I otal PL	I OTAL MUTGE I IME (MIN)					
OTHER	is pur	below top of so mping a minimu	reen, then u um of 1 flow the	se default value of 0. arough cell volume).	3 ft.; achieve	stable param	tive reading	s or maximur	eading (each rea	ading taken after	
1" Casing	Pu 28.	rge Volume = 3 3 =(lite = 0.154 * Water	14 X rs) (1 gallon	(well radius squared in = 3.79 liters)	s) = 0.617 * )	_ (water colum	(ff) 4°	(numbe	r of casing volum ters) = $2.47 * Wa$	te to be purge)X	
i Gasini		UTUT VVdlei		Water C	Juality Para	ameters	<u>19</u>	caoing voi (il			
Time (24-hr)	Flow Rate (Hers or	Purge Volume (liters or	Temp (°C)	Specific Conductance (µS/cm ^c )	DO (mg/L)	ORP (mV)	pН	Turbidity (NTU)	DTW (ft BTOC)	Drawdown (ft)	
	gal/ minute)	Ø	(± 3 %)	(± 3%)	(± 10%)	(± 10mV)	(± 0,1)	(± 10%)		(Maxft.)	
1545	0.2	in7qal	11.68	244	0.24	-66.1	5.92	99.7	6.10		
1548	02	~7.5	11.79	254	0.26	-76,4	5,94	\$6.9	5.81	21	
155)	0.2		11.78	268	0.33	-80.4	5.95	60.2	5.74		
1557	6.2	N.Xcal	01.14	2/0	0.47	-87.3	5.91	46.6	5.62		
11.00	Uin		11 72	2055	ASA	-128	5.90	31.1	5.50		
1007			1.76		0.50	6510		20.1			
	San	nple o	fter	develop	purg	: 81	ga/	lons			
Sample	Color: C	lear	1	Sample Odor:	hydr	e carbo	A Shee	n: 🗌 none _c	light 🗆 m	ed 🗌 heavy	
				Anal	ytical Sam	pling			Dre	envativel	
Analys	ses Ni	Number/Type of Bottle		Comments	A	Analyses		Number/Type of Bottle		Comments	
GRO/BTEX 3x40mL VOA											
DRU 2X25UML AG											
		II DRO									
Notes:				na na mangana na manga Na mangana na							
Equipm	ent Used:	Pump Type	peri-o	scotech Tubin	g (Type/Lei	ngth) Tef-	lined/1	3 Bailer T	ype		
Water Le	evel Meter			Multi-	Parameter	Meter (Make	/SN#) Y	SI SSE	8		
Turbidity	Meter (Ma	ake/SN#) Le	notte	Filter	Lot #						
	·	,									
IDW Dis	posal: 🗍	Discharged to	surface 🕅	Treated (how?)	5AC			Other:			
F063-Kit_Request_and_COC_Templates-Blank Revised 2013-03-24

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

[ ] 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

I		Se	ecti	ion t	5					-		Sect	tion	2				Г			S	ectior	1			1				
	Relinquished	1	Relinquisbed	app	Relinquished	aut	Relinquished	AND STATES	anna aite			ALL DESCRIPTION	1. 1. 1. A.		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	and the second	RESERVED for lab use	Stan F	INVOICE TO:	Jason	REPORTS TO	PROJECT	CONTACT:		CLIENT: S			U	2	
	By: (4)		By: (3)	0	By: (2)	lell,	d By: (1)		1 R-080315	RS-SW99-08031	RS-SW1-080315	RS-MW94-0803	RS-MW 4-08031	RS-MW3-08031	RS-MW2-080315	RS-MW1-080315	SAMPLE IDENTIFICATION	lage P		Slow	ņ	I Red Salmon	flex Wing		LR Internation		1	G		A REAL PROPERTY AND A
	Date		Date	5/1/2	Date	3/2/15	Date 14/4/		K			2	4		-	- 08/03/15	DATE mm/dd/yy	1.0. #: 105, oc	UOTE #:	no Jec	-MAIL:	WSID/ ERMIT#:		LONE NO.	onal Co					
	Time اج: گک		Time	1450	Time	0730	Time		1420	1829	1829	11.05	1605	1420	1721	1928	TIME HH:MM	1157,1500	•	Severacion			1.238.01	2	porati			ç		
	Received For I		Received By:		Received By:	alpha	Received By:		8		SC	K				5w	MATRIX/ MATRIX CODE	٦		suiting			20		22			HAIN OF C	SGS Nor	
	Laboratory By			$\setminus$		14/8/1	8		A/N GI	Jon K		10	10	00	8	ठ ठ	R mental Soils	N · Multi	A GRAB	T C =	ОТуре	O #	Sections	Contion 2	lns: O			USTODY	th Americ	
						15-1134			×			KK					DRO AKIO GRI	2/R 2/	10	0 3		HCI HCI	_		tructions: missions			RECORD	a Inc.	
	(See atta	Temp Blan	 (	Star	Requested	Cooler ID	Section 4		k			×					BTE 820 PAT	60 1 5	TI	n		нст			Sections may delay					ι.
	or Ambien	k°C: 5.7		bard +	Turnaround	a I	4 DOD Pro																Preservat		the onse				5410	
	Receipt Form	\$ 238		AT	Time and/or S		ject? Yes																ive		t of analy		We	Ne	Ala	
		Chain			pecial Instruct	Leve	Data De																		d out. sis.	www.us	∋st Virgina	w Jersey rth Carolina	iska	Locations N
	BROKEN ABSENT	of Custody Seal: (Circle)			tions:	S/ 77	eliverable Requirements:		110 Black	Ż	P -						REMARKS/ LOC ID								Pare / of /	s.sgs.com	Kentucky	New York Indiana	Maryland	ationwide

### **APPENDIX C**

### TRANSPORT, TREATMENT, AND DISPOSAL DOCUMENTATION



#### ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SPILL PREVENTION AND RESPONSE Contaminated Sites and Prevention and Emergency Response Programs

#### Transport, Treatment, & Disposal Approval Form for Contaminated Media

DEC HAZARD/SPILL ID # NAME OF SPILL OR CONTAMINATED SITE									
14269911201	Red Salmon Ca	ed Salmon Cannery							
SITE OR SPILL LOCATION									
Red Salmon Cannery, near Fisherman's Gear Storage Building									
CURRENT LOCATION AND TYPE OF   SOURCE OF THE CONTAMINATION     CONTAMINATED MEDIA   SOURCE OF THE CONTAMINATION									
Red Salmon Cannery, POL contaminated soil POL from above ground storage tanks									
COMPOUNDS OF CONCERN	N	ESTIMATED	OLUME	DATE(S) GENERATED					
GRO, DRO, RRO, BTEX		46 cubic yards	3	7/26/2015 - 7/27/2015					
POST TREATMENT ANALY	SIS REQUIRED (	such as GRO, DRO	O, RRO, BTEX	(, and/or Chlorinated Solvents)					
Disposal contractor has rev	iewed soil sampl	e results from 2	2014 investi	gation and found them acceptable.					
COMMENTS									

#### Facility Accepting the Contaminated Media

NAME OF THE FACILITY	PHYSICAL ADDRESS/PHONE NUMBER
Cemex	6300 Glenwood Avenue; Everett, WA 98203

#### **Responsible Party and Contractor Information**

BUSINESS/NAME	ADDRESS/PHONE	ADDRESS/PHONE NUMBER					
North Pacific Seafoods, Inc./ Philip Mobilia	4 Nickerson St.; S	4 Nickerson St.; Suite 400; Seattle, WA 98109; 206-812-4231					
Philip Mobilia		EHS Manager - North Pacific S	Seafoods, Inc.				
Name of the Person Requesting Approval (printed	d)	Title/Association					
Philip molulia		8/25/15	206.812.4231				
Signature		Date	Phone Number				
DEC USE ONLY							

Based on the information provided, ADEC approves transport of the above-described media for treatment in accordance with the approved facility operations plan. The Responsible Party or their consultant must submit to the DEC Project Manager a copy of weight/volume receipts of the loads transported to the facility and a post treatment analytical report. If the media is contaminated soil, it shall be transported as a covered load in compliance with 18 AAC 60.015.

Joshua Barsis

DEC Project Manager Name (printed)

Signature

EPS III

Project Manager Title

8-26-2015

(907)269-7691

Date

Phone Number



### CARGO RECEIPT

Receipt No. 25983

×		CARGO	O RECEIPT I	NSTRUCTIONS AS G	IVEN BY SHIPPER OR HIS	REPRESENTA	TIVE		
DATE	20/15		BOOKING	NO.	VESSEL AND VOYAGE	NO. CO	CONTROL NO.		
PORT OF L	OADING		PORT OF	PORT OF DISCHARGE DESTINATION		BE	YOND CARRIER		
NAK	-RSC		SEP		Seattle		NSI		
SHIPPER				CONSIGNEE	2	COLLECT PR	EPAID OTHER	Please Specify	
NPSI	Red Salmo	n Canr	leas	NPSI WALEHOU	52				
			4			BILL TO: Please	show complete ad	ldress - include zip	
4 Nich	eessi St	reet		2440 W Com	modore Way	NPS1 Tecl	Salmon Ca	R AP IS	
400					1			J	
Seattle ;	JANA 9810	9		STE 200 Seatt	e WHA 78199	H Nickersan	Street		
						Saudilo Vall	4 <1.21.29		
TELEPHON				TELEPHONE		soffer (1. C. ). Wall	1 10101		
(20	(a) 726-9	GOP	1	(206) 402-	2056				
CONTAINE	RNO	Lci	ONTAINER TY	PE SEAL NO	LOAD DATE	SET TEMP.	PROCESSOR	SUPPLIER	
FRIL	1300 73	22	SIGH/ AIREICH)	0315552	7/20/15	°F/°C	Red Salms	*	
LOAD TYP	'E	Pallet	iized: 🗌 H	land Stacked:	Mixed or other (Pleas	e describe):			
		<u> </u>					NET	GROSS	
NO OF PIECES	KIND OF PACKAGE	нм		DESCRIPTION OF GO	OODS PROVIDED BY SHIPPER		WEIGHT	WEIGHT	
17	400		$C_{1}$			S		36 145	
1-6-	Dag		-04			1		00,110	
	V		~	1					
			Enizl	my Plumple					
				haver	for Konry 1	11			
				- ROXRC	K T I I	<i>V</i> ,			
				box M.	Ke lesast To				
				Coursen	Rotary Uni-	F			
				Stread	+ Hend Cur	4-PA		*	
						100			
_				V		8	3		
						9			
							×		
			-						
- 11			_						
his is to c	ertify that the	above na	amed materia	als are properly classif	ied, described, packaged,	Received for Ca	rrier in good ord	ler, count, and	
equiations	of the Departn	nent of Tra	ansportation.	If the shipment is of a	hazardous nature and has	-ela		LE EN	
een tender	red in a contai	iner, it is d	eclared that I	the packing of the cont	ainer has been carried out	Date:	<u>//5</u> Tim	e: <u>1225</u>	
raccordan	ce with the pro		49 CI K 170.	27 (0).		Received By:	1. 119.	n	
Shipper: 🔟	VPS1 Red	Salmon	Cannery	Date	7/30/15	Quantity or Fou	inment size / tv	0e'	
his docum	ent merely rep	presents a	transfer of go	ods. Receipt, storage,	transportation, liability and	Guantity of Equ	Ders		
lelivery of	the cargo is	s subject	to the terms	s and conditions of t	he applicable contract of	Container Num	ber & Prefix		
uneignunei		) of lading	or the beyond	d Carrier.			FBLC	300735	
Signed:							~~~~~	IFERS	
Shipper:			*			Seal Number:	02	17992	
gent:						Temperature R	eceived:		
)oto:	2			B		and the			
ale:						OOL DEVICE			
ML-NS-LR	Rev. 02-2015	WHITE	-ORIGINAL C	ANARY-WHARF COPY	PINK-MEMO COPY	GOLDENRO	D-MEMO COPY		

	PO. Boy	24348 • S	A ELIN eattle, WA 98	<b>IES</b>		C A R G	0 RECE	IPT	
	(800) 42	6-3113 Fa	x (206) 764-57	/82		Receipt No			
DATE		CARG		NSTRUCTIONS AS (	GIVEN BY SHIPPER OR HIS	REPRESENT	ATIVE CONTROL NO.		
PORT OF	LOADING	1998	PORT OF	DISCHARGE	DESTINATION	E	BEYOND CARRIER		
SHIPPER	Const	2000		CONSIGNEE	ALF 6		REPAID OTHER P	lease Specify	
A Nicke	rush Sheep		9	2440 VA (000	modore Way	BILL TO: Pleas	se show complete add	ress - include zip	
Section VIA 9809				STE 200, Seat	HU WHA 78199	4 Nickers	on Street	, <b>t</b> .	
an a						Seattle. 1	POISP FIL		
TELEPHO	NE	000		TELEPHONE	3-510				
	ER NO. 352 00	C Ballo	ONTAINER TY	PE SEAL NO.	LOAD DATE	SET TEMP. °F/	°C PROCESSOR / Salars	SUPPLIER	
LUAD TH	- <u>-</u>	Palle				e describe).	NET	GROSS	
NO OF PIECES	KIND OF PACKAGE	НМ		DESCRIPTION OF C	BOODS PROVIDED BY SHIPPER		WEIGHT	WEIGHT	
17			Bag	S OF W	SOIN TO TO	1	_	49,35	
				i) iii			-	¢ §	
								· · · · · · · · · · · · · · · · · · ·	
ai.									
	5			3.					
								Speciel.	
								The second	
"his is to o narked, an egulations been tende n accordan Shipper:	certify that the id labeled, an of the Departr red in a conta ice with the pro	above n d are in p nent of Tra iner, it is o ovisions of Solmon	amed materia roper conditio ansportation. leclared that 49 CFR 176.	als are properly class on for transportation : If the shipment is of a the packing of the cor 27 (c).	ified, described, packaged, according to the applicable a hazardous nature and has nature has been carried out	Received for C condition unle Date: Received By: Quantity or Fr	Carrier in good orde ess otherwise noted Same Time	r, count, and hereon. :	
This docum delivery of affreightme	the cargo is nt and/or bill(s	oresents a subject ) of lading	transfer of go to the terms of the Beyond	oods. Receipt, storage s and conditions of d Carrier.	e, transportation, liability and the applicable contract of	Container Number & Prefix:			
Signed:			4			TR	14 3520	20	
Shipper:	de la constance	_	1 1			Seal Number:	02155	53	
Agent:						Temperature	Received:		

Agent:		
÷		

----

Date:

の子を見たるというのですの

AML-NS-LR Rev. 02-2015 WHITE-ORIGINAL CANARY-WHARF COPY

GOLDENROD-MEMO COPY

ALASKA MARINE LINES
P.O. Box 24348 • Seattle, WA 98124-4348

Salmint

Street

726- 9900

DATE

SHIPPER

TELEPHONE (206)

CONTAINER NO.

CaX1)333 LOAD TYPE

7/20/15 PORT OF LOADING NAK- RSL

UPSI Red

NUCLESSA

rathe, wha gaing

(800) 426-3113 Fax (2)

### CARGO RECEIPT

95004

1348 • S 113 Fa	eattle, WA 9812 x (206) 764-578	24-4348 2		Receipt No. 20904					
CARGO		STRUCTIONS AS GIVE		HIS REPRESEN	NTATIVE				
	BOOKING	10.	VESSEL AND VOYAG	GE NO.	CONTROL NO.				
	PORT OF D	ISCHARGE	DESTINATION		BEYOND CARRIER				
	SEA		Seattle		NSI				
Č.	56275	CONSIGNEE							
Lan	5	2440 Not Commo	dore Wasi	BILL TO: Please show complete address - include					
		SIE 200, Seattle	WA 98199	11 Nicker	son street	j.			
				Seattle,	1,519 78109				
0		(2013) 402-30	56		Г.				
	ONTAINER TYP	E SEAL NO.	LOAD DATE	SET TEMP	P. PROCESSOR	SUPPLIER			
Pallet	tized: 🔲 Ha	nd Stacked:	Mixed or other (Pl	ease describe):					
нм		DESCRIPTION OF GOOD	S PROVIDED BY SHIPPER		NET WEIGHT	GROSS WEIGHT			
						49,352			
	Daac	00 50	Prove Sec.						

PIECES	PACKAGE	HM	DESCRIPTION OF GOODS PROVIDED BY SHIPPER	WEIGHT	WEIGHT
17					49,352
	\		Bags OF SOIL		
		· · · ·			
	133.	28	56 Ker Note @ AML/Naknak		
			and the second se	-	-
			0	4.	

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. If the shipment is of a hazardous nature and has been tendered in a container, it is declared that the packing of the container has been carried out in accordance with the provisions of 49 CFR 176.27 (c).

Rec con	eived for Carrier in good order, count, and dition unless otherwise noted hereon.							
Dat	e: <u>7/30/18</u> Time: <u>12:25</u>							
Red	ceived By: Cy PBB							
Qua	Quantity or Equipment size / type:							
Cor	Container Number & Prefix:							
Sea	al Number: 02.15544							
Ter	nperature Received:							

Shipper: NPSI Bed Salmon Cannery

Date: 7/20/15

This document merely represents a transfer of goods. Receipt, storage, transportation, liability and delivery of the cargo is subject to the terms and conditions of the applicable contract of affreightment and/or bill(s) of lading of the Beyond Carrier.

Signed: 4 _____ Shipper: _ Agent:

-	- 4	-	
	21	Δ	•
ຶ			

AML-NS-LR Rev. 02-2015 WHITE-ORIGINAL CANARY-WHARF COPY

GOLDENROD-MEMO COPY



#### **Release of Liability/Certificate of Disposal**

**North Pacific Seafoods Inc:** is released from liability for all petroleum contaminated soil from:

#### Red Salmon Cannery Project, Mile 1.5 Alaska Peninsula Highway, Naknek, Alaska 99633

and transported to:

#### CEMEX Soil Remediation Facility 6300 Glenwood Ave. Everett WA 98203

from 10/22/2015 through 11/04/2015

A total of 50.86 tons of petroleum-contaminated soil was transported to the above facility. The material was disposed of in the following manner:

#### Thermal Desorption and Landfill for Reclamation

Disposal of the contaminated debris was performed in accordance with all applicable federal, state, and local laws and regulations.

Signed:

Date: November 11, 2015

Farry W. Baker

Larry W. Baker CEMEX USA. Operations Manager Soil Remediation Division



### Ticket List By Customer\Order\Product



S C V

Date From	<b>n</b> 10/15/2015	То	11/11/2015
Location	( <b>s)</b> 1876		
Order:	41038354		

Date	TicketNo	Delivery Address	Vehicle	TimeIn	TicketTime	Qty	Unit	h i p	a s h	o i d
Scale Tick	cets CIFIC SEAFOODS	INC								
41038354 1192508										
10/22/15	1876084378	P: RED SALMON CANNERY	1877-1, ARLINGTON AGG	11:41:00	12:36:00	17.54	TON			
10/26/15	1876084394	P: RED SALMON CANNERY	1876-1, EVERETT SOIL GENERIC	0:00:00	7:42:00	7.15	TON			
11/4/15	1876084541	P: RED SALMON CANNERY	1876-1, EVERETT SOIL GENERIC	0:00:00	15:28:00	26.17	TON			
Product To Order Total Customer 1	itals 3 Is 3 Totals 3				Qty Qty Qty	50. 50. 50.	86 TON 86 TON 86 TON			
Grand Tota	l	3			Qty	50.86	5 TON			

### APPENDIX D

### SGS LABORATORY DATA REPORTS



#### Laboratory Report of Analysis

To: SLR Alaska-Anchorage 2700 Gambell St Suite 200 Anchorage, AK 99503 (907)222-1112

Report Number: **1152812** 

Client Project: Red Salmon

Dear Jason Gray,

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

Print Date: 07/06/2015 1:51:00PM

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: SLR Alaska-Anchorage SGS Project: 1152812 Project Name/Site: Red Salmon Project Contact: Jason Gray

Refer to sample receipt form for information on sample condition.

*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: 07/06/2015 1:51:02PM

SGS North America Inc.

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



#### 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 <<u>http://www.sgs.com/en/Terms-and-Conditions.aspx></u>. 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 & Microbiology) & 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, 8021B, 8082A, 8260B, 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 Continuing Calibration Verification
- CCCV Closing Continuing Calibration Verification
- CL Control Limit
- D The analyte concentration is the result of a dilution.
- DF Dilution Factor
- DL Detection Limit (i.e., maximum method detection limit)
- E The analyte result is above the calibrated range.
- F Indicates value that is greater than or equal to the DL
- GT Greater Than
- IB Instrument Blank
- ICV Initial Calibration Verification
- J The quantitation is an estimation.
- JL The analyte was positively identified, but the quantitation is a low estimation.
- LCS(D) Laboratory Control Spike (Duplicate)
- 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
- M A matrix effect was present.
- MB Method Blank
- MS(D) Matrix Spike (Duplicate)
- ND Indicates the analyte is not detected.
- Q QC parameter out of acceptance range.
- R Rejected
- 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.

Print Date: 07/06/2015 1:51:03PM



AK102

AK103

		Sample Summary	,	
<u>Client Sample ID</u> SEEP1-061215	<u>Lab Sample ID</u> 1152812001	<u>Collected</u> 06/12/2015	<u>Received</u> 06/15/2015	<u>Matrix</u> Water (Surface, Eff., Ground)
SEEP2-061215	1152812002	06/12/2015	06/15/2015	Water (Surface, Eff., Ground)
TB1	1152812003	06/12/2015	06/15/2015	Water (Surface, Eff., Ground)
SEEP1DUP061215	1152812004	06/12/2015	06/15/2015	Water (Surface, Eff., Ground)
<u>Method</u> 8270D SIMS (PAH)	Method De 8270 PAH	<u>scription</u> SIM Semi-Vol GC/I	MS Liq/Liq ext.	
AK101	AK101/802	1 Combo.		
SW8021B	AK101/802	1 Combo.		

DRO/RRO Low Volume Water

DRO/RRO Low Volume Water

Print Date: 07/06/2015 1:51:04PM



#### **Detectable Results Summary**

Client Sample ID: SEEP1-061215			
Lab Sample ID: 1152812001	Parameter	Result	<u>Units</u>
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	5.49	ug/L
-	2-Methylnaphthalene	0.816	ug/L
	Acenaphthene	0.472	ug/L
	Anthracene	0.257	ug/L
	Benzo(a)Anthracene	0.0887	ug/L
	Benzo[a]pyrene	0.0467J	ug/L
	Benzo[g,h,i]perylene	0.0219J	ug/L
	Chrysene	0.189	ug/L
	Fluoranthene	0.0698	ug/L
	Fluorene	0.895	ug/L
	Naphthalene	5.06	ug/L
	Phenanthrene	1.24	ug/L
	Pyrene	0.457	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	4.86	mg/L
-	Residual Range Organics	2.05	mg/L
Volatile Fuels	Benzene	35.4	ug/L
	Ethylbenzene	14.9	ug/L
	Gasoline Range Organics	0.294	mg/L
	o-Xylene	19.4	ug/L
	P & M -Xylene	25.2	ug/L
	Toluene	0.320J	ug/L
Client Sample ID: SEEP2-061215			
Lab Sample ID: 1152812002	Parameter	Popult	Unite
Bolynuclear Aromatics GC/MS	<u>rarameter</u> 1-Methylnaphthalene	0 117	
Folynuclear Aronatics GC/MS	Acenanbthene	0.214	ug/L
	Anthracene	0.05711	ug/L
	Fluorene	1 30	ug/L
	Nanhthalene	0.200	ug/L
Semivalatile Organia Evola		0.299	uy/∟ ma/l
Semivolatile Organic Fuels	Desidual Pango Organics	0.020	mg/L
	Residual Range Organics	U. 100J	my/∟

Print Date: 07/06/2015 1:51:05PM

SGS North America Inc.



#### **Detectable Results Summary**

Client Sample ID: SEEP1DUP061215			
Lab Sample ID: 1152812004	<u>Parameter</u>	Result	<u>Units</u>
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	4.44	ug/L
	2-Methylnaphthalene	0.666	ug/L
	Acenaphthene	0.577	ug/L
	Anthracene	0.418	ug/L
	Benzo(a)Anthracene	0.104	ug/L
	Benzo[a]pyrene	0.0643	ug/L
	Benzo[g,h,i]perylene	0.0390J	ug/L
	Chrysene	0.275	ug/L
	Fluoranthene	0.0840	ug/L
	Fluorene	1.09	ug/L
	Naphthalene	2.69	ug/L
	Phenanthrene	1.48	ug/L
	Pyrene	0.514	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	6.05	mg/L
	Residual Range Organics	3.46	mg/L
Volatile Fuels	Benzene	35.7	ug/L
	Ethylbenzene	15.0	ug/L
	Gasoline Range Organics	0.300	mg/L
	o-Xylene	19.5	ug/L
	P & M -Xylene	25.2	ug/L

Print Date: 07/06/2015 1:51:05PM

SGS North America Inc.

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



Results of SEEP1-061215

Client Sample ID: **SEEP1-061215** Client Project ID: **Red Salmon** Lab Sample ID: 1152812001 Lab Project ID: 1152812 Collection Date: 06/12/15 07:15 Received Date: 06/15/15 08:05 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

#### Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	Limits	Date Analyzed
1-Methylnaphthalene	5.49	0.278	0.0833	ug/L	5		06/23/15 18:41
2-Methylnaphthalene	0.816	0.0556	0.0167	ug/L	1		06/22/15 21:39
Acenaphthene	0.472	0.0556	0.0167	ug/L	1		06/22/15 21:39
Acenaphthylene	0.0278 U	0.0556	0.0167	ug/L	1		06/22/15 21:39
Anthracene	0.257	0.0556	0.0167	ug/L	1		06/22/15 21:39
Benzo(a)Anthracene	0.0887	0.0556	0.0167	ug/L	1		06/22/15 21:39
Benzo[a]pyrene	0.0467 J	0.0556	0.0167	ug/L	1		06/22/15 21:39
Benzo[b]Fluoranthene	0.0278 U	0.0556	0.0167	ug/L	1		06/22/15 21:39
Benzo[g,h,i]perylene	0.0219 J	0.0556	0.0167	ug/L	1		06/22/15 21:39
Benzo[k]fluoranthene	0.0278 U	0.0556	0.0167	ug/L	1		06/22/15 21:39
Chrysene	0.189	0.0556	0.0167	ug/L	1		06/22/15 21:39
Dibenzo[a,h]anthracene	0.0278 U	0.0556	0.0167	ug/L	1		06/22/15 21:39
Fluoranthene	0.0698	0.0556	0.0167	ug/L	1		06/22/15 21:39
Fluorene	0.895	0.0556	0.0167	ug/L	1		06/22/15 21:39
Indeno[1,2,3-c,d] pyrene	0.0278 U	0.0556	0.0167	ug/L	1		06/22/15 21:39
Naphthalene	5.06	0.556	0.172	ug/L	5		06/23/15 18:41
Phenanthrene	1.24	0.0556	0.0167	ug/L	1		06/22/15 21:39
Pyrene	0.457	0.0556	0.0167	ug/L	1		06/22/15 21:39
Surrogates							
2-Fluorobiphenyl (surr)	54.3	53-106		%	1		06/22/15 21:39
Terphenyl-d14 (surr)	92.1	58-132		%	1		06/22/15 21:39

#### **Batch Information**

Analytical Batch: XMS8725 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 06/23/15 18:41 Container ID: 1152812001-E

Analytical Batch: XMS8726 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 06/22/15 21:39 Container ID: 1152812001-E Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 06/17/15 12:15 Prep Initial Wt./Vol.: 900 mL Prep Extract Vol: 1 mL

Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 06/17/15 12:15 Prep Initial Wt./Vol.: 900 mL Prep Extract Vol: 1 mL

Print Date: 07/06/2015 1:51:06PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated



Posults of SEED1.061215							
Client Sample ID: SEEP1-061215 Client Project ID: Red Salmon Lab Sample ID: 1152812001 Lab Project ID: 1152812		C F M S L	Collection Da Received Da Matrix: Wate Solids (%): ocation:	ate: 06/12/ te: 06/15/1 er (Surface,	15 07:15 15 08:05 , Eff., Grc	bund)	
Results by Semivolatile Organic Fuels	;						
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 4.86	<u>LOQ/CL</u> 0.682	<u>DL</u> 0.205	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 07/01/15 01:27
Surrogates							
5a Androstane (surr)	100	50-150		%	1		07/01/15 01:27
Batch Information							
Analytical Batch: XFC11917 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 07/01/15 01:27			Prep Batch: Prep Method Prep Date/Til Prep Initial W	XXX33380 : SW3520C me: 06/25/1 /t./Vol.: 220	;  5 11:30 mL		
Container ID: 1152812001-A			Prep Extract	Vol: 1 mL			
Darameter	Recult Qual			Linito	DE	Allowable	Data Analyzad
<u>Falameter</u> Posidual Pango Organico	2 05	0.568	<u>DL</u> 0.170	ma/l	<u>DF</u> 1	LIIIIIS	07/01/15 01:27
Residual Range Organics	2.05	0.000	0.170	ing/L			07/01/13/01.27
Surrogates							
n-Triacontane-d62 (surr)	101	50-150		%	1		07/01/15 01:27
Batch Information							
Analytical Batch: XFC11917 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 07/01/15 01:27 Container ID: 1152812001-A			Prep Batch: Prep Method Prep Date/Tii Prep Initial W Prep Extract	XXX33380 : SW3520C me: 06/25/1 /t./Vol.: 220 Vol: 1 mL	; 5 11:30 mL		

Print Date: 07/06/2015 1:51:06PM

J flagging is activated

Results of SEEP1-061215							
Client Sample ID: SEEP1-061215 Client Project ID: Red Salmon Lab Sample ID: 1152812001 Lab Project ID: 1152812		C R M S L	collection Da leceived Dat latrix: Wate olids (%): ocation:	ite: 06/12/ te: 06/15/ [·] r (Surface	15 07:15 15 08:05 , Eff., Grc	bund)	
Results by Volatile Fuels							
Parameter Gasoline Range Organics	<u>Result Qual</u> 0.294	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	Date Analyzed 06/19/15 13:30
Surrogates							
4-Bromofluorobenzene (surr)	114	50-150		%	1		06/19/15 13:30
Batch Information							
Analytical Batch: VFC12472 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/19/15 13:30 Container ID: 1152812001-B			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	VXX27465 : SW5030B ne: 06/19/1 (t./Vol.: 5 m Vol: 5 mL	8 15 08:00 L		
						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Limits</u>	Date Analyzed
Ethylhonzono	35.4	0.500	0.150	ug/L	1		06/19/15 13:30
	14.9	1.00	0.310	ug/L	1		06/19/15 13:30
	25.2	2.00	0.510	ug/L	1		06/19/15 13:30
Toluene	0.320 J	1.00	0.310	ug/L	1		06/19/15 13:30
Sumorates	-			0			
1,4-Difluorobenzene (surr)	85.7	77-115		%	1		06/19/15 13:30
Batch Information							
Analytical Batch: VFC12472 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/19/15 13:30 Container ID: 1152812001-B			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	VXX27465 : SW5030B me: 06/19/1 (t./Vol.: 5 m Vol: 5 mL	8 15 08:00 IL		
Print Date: 07/06/2015 1:51:06084						£ '	n in anti-unter t
FIIII Date. 07/00/2015 1:51:06PM						J flaggin	g is activated



Results of SEEP2-061215

Client Sample ID: **SEEP2-061215** Client Project ID: **Red Salmon** Lab Sample ID: 1152812002 Lab Project ID: 1152812 Collection Date: 06/12/15 09:20 Received Date: 06/15/15 08:05 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

#### Results by Polynuclear Aromatics GC/MS

						Allowable	
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed
1-Methylnaphthalene	0.117	0.0676	0.0203	ug/L	1		06/19/15 22:28
2-Methylnaphthalene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Acenaphthene	0.214	0.0676	0.0203	ug/L	1		06/19/15 22:28
Acenaphthylene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Anthracene	0.0571 J	0.0676	0.0203	ug/L	1		06/19/15 22:28
Benzo(a)Anthracene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Benzo[a]pyrene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Benzo[b]Fluoranthene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Benzo[g,h,i]perylene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Benzo[k]fluoranthene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Chrysene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Dibenzo[a,h]anthracene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Fluoranthene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Fluorene	1.39	0.0676	0.0203	ug/L	1		06/19/15 22:28
Indeno[1,2,3-c,d] pyrene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Naphthalene	0.299	0.135	0.0419	ug/L	1		06/19/15 22:28
Phenanthrene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Pyrene	0.0338 U	0.0676	0.0203	ug/L	1		06/19/15 22:28
Surrogates							
2-Fluorobiphenyl (surr)	63.8	53-106		%	1		06/19/15 22:28
Terphenyl-d14 (surr)	83.6	58-132		%	1		06/19/15 22:28

#### **Batch Information**

Analytical Batch: XMS8719 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 06/19/15 22:28 Container ID: 1152812002-F Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 06/17/15 12:15 Prep Initial Wt./Vol.: 740 mL Prep Extract Vol: 1 mL

Print Date: 07/06/2015 1:51:06PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated



Posults of SEED2 061215							
Client Sample ID: SEEP2-061215 Client Project ID: Red Salmon Lab Sample ID: 1152812002 Lab Project ID: 1152812		Collection Date: 06/12/15 09:20 Received Date: 06/15/15 08:05 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:					
Results by Semivolatile Organic Fuels	5		_				
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 0.826	<u>LOQ/CL</u> 0.600	<u>DL</u> 0.180	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 07/01/15 01:47
Surrogates							
5a Androstane (surr)	93.9	50-150		%	1		07/01/15 01:47
Batch Information							
Analytical Batch: XFC11917 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 07/01/15 01:47 Container ID: 1152812002-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33380 I: SW3520C me: 06/25/ [,] /t./Vol.: 250 Vol: 1 mL	; 15 11:30 ) mL		
Parameter Residual Range Organics	<u>Result Qual</u> 0.188 J	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 07/01/15 01:47
Surrogates							
n-Triacontane-d62 (surr)	93.5	50-150		%	1		07/01/15 01:47
Batch Information							
Analytical Batch: XFC11917 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 07/01/15 01:47 Container ID: 1152812002-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33380 I: SW35200 me: 06/25/ Vt./Vol.: 250 Vol: 1 mL	) 15 11:30 ) mL		

Print Date: 07/06/2015 1:51:06PM

J flagging is activated

Results of SEEP2-061215							
Client Sample ID: <b>SEEP2-061215</b> Client Project ID: <b>Red Salmon</b> Lab Sample ID: 1152812002 Lab Project ID: 1152812		C R M S Lu	ollection Da eceived Dat latrix: Wate olids (%): ocation:	te: 06/12/ te: 06/15/1 r (Surface,	15 09:20 15 08:05 , Eff., Grc	ound)	
Results by Volatile Fuels							
Parameter Gasoline Range Organics	<u>Result Qual</u> 0.0500 U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 06/19/15 13:49
Surrogates							
4-Bromofluorobenzene (surr)	95.7	50-150		%	1		06/19/15 13:49
Batch Information							
Analytical Batch: VFC12472 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/19/15 13:49 Container ID: 1152812002-C			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	VXX27465 SW5030B ne: 06/19/1 t./Vol.: 5 m Vol: 5 mL	5 08:00 L		
Deremeter	Beault Quel	1.00/01	DI	Linito	DE	Allowable	Data Analyzad
Parameter Benzene		0.500	<u>DL</u> 0.150	ua/l	<u>DF</u> 1	Limits	06/19/15 13:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/19/15 13:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/19/15 13:49
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/19/15 13:49
Toluene	0.500 U	1.00	0.310	ug/L	1		06/19/15 13:49
Surrogates							
1,4-Difluorobenzene (surr)	86	77-115		%	1		06/19/15 13:49
Batch Information							
Analytical Batch: VFC12472 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/19/15 13:49 Container ID: 1152812002-C			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	VXX27465 SW5030B ne: 06/19/1 t./Vol.: 5 m Vol: 5 mL	5 08:00 L		
Print Date: 07/06/2015 1:51:06PM						L flaggin	n is activated

SGS North America Inc.

JY

Results of <b>TB1</b>							
Client Sample ID: <b>TB1</b> Client Project ID: <b>Red Salmon</b> Lab Sample ID: 1152812003 Lab Project ID: 1152812		C R M S L	Collection Da Received Da Matrix: Wate Golids (%): ocation:	ound)			
Results by Volatile Fuels							
Parameter Gasoline Range Organics	<u>Result Qual</u> 0.0500 U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	<u>Date Analyzed</u> 06/19/15 12:33
Surrogates 4-Bromofluorobenzene (surr)	102	50-150		%	1		06/19/15 12:33
Batch Information							
Analytical Batch: VFC12472 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/19/15 12:33 Container ID: 1152812003-A			Prep Batch: Prep Method Prep Date/Tir Prep Initial W Prep Extract	VXX27465 : SW5030E me: 06/19/′ /t./Vol.: 5 m Vol: 5 mL	3 15 08:00 nL		
Deservation	Descrittions	1.00/01	D	11-14-	DE	Allowable	Data Arabarad
Parameter Benzene	<u>Result Qual</u>	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	Units	<u>DF</u> 1	Limits	Date Analyzed
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/19/15 12:33
o-Xvlene	0.500 U	1.00	0.310	ug/L	1		06/19/15 12:33
P & M -Xvlene	1 00 U	2 00	0.620	ug/L	1		06/19/15 12:33
Toluene	0.500 U	1.00	0.310	ug/L	1		06/19/15 12:33
Surrogates							
1,4-Difluorobenzene (surr)	85.8	77-115		%	1		06/19/15 12:33
Batch Information							
Analytical Batch: VFC12472 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/19/15 12:33 Container ID: 1152812003-A			Prep Batch: Prep Method Prep Date/Tir Prep Initial W Prep Extract	VXX27465 : SW5030E me: 06/19/ [,] /t./Vol.: 5 m Vol: 5 mL	3 15 08:00 1L		
Print Date: 07/06/2015 1:51:06PM						J flaggin	g is activated

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



#### Results of SEEP1DUP061215

Client Sample ID: **SEEP1DUP061215** Client Project ID: **Red Salmon** Lab Sample ID: 1152812004 Lab Project ID: 1152812 Collection Date: 06/12/15 07:15 Received Date: 06/15/15 08:05 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

#### Results by Polynuclear Aromatics GC/MS

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
1-Methylnaphthalene	4.44	0.276	0.0829	ug/L	5		06/24/15 20:20
2-Methylnaphthalene	0.666	0.0552	0.0166	ug/L	1		06/19/15 22:45
Acenaphthene	0.577	0.0552	0.0166	ug/L	1		06/19/15 22:45
Acenaphthylene	0.0276 U	0.0552	0.0166	ug/L	1		06/19/15 22:45
Anthracene	0.418	0.0552	0.0166	ug/L	1		06/19/15 22:45
Benzo(a)Anthracene	0.104	0.0552	0.0166	ug/L	1		06/19/15 22:45
Benzo[a]pyrene	0.0643	0.0552	0.0166	ug/L	1		06/19/15 22:45
Benzo[b]Fluoranthene	0.0276 U	0.0552	0.0166	ug/L	1		06/19/15 22:45
Benzo[g,h,i]perylene	0.0390 J	0.0552	0.0166	ug/L	1		06/19/15 22:45
Benzo[k]fluoranthene	0.0276 U	0.0552	0.0166	ug/L	1		06/19/15 22:45
Chrysene	0.275	0.0552	0.0166	ug/L	1		06/19/15 22:45
Dibenzo[a,h]anthracene	0.0276 U	0.0552	0.0166	ug/L	1		06/19/15 22:45
Fluoranthene	0.0840	0.0552	0.0166	ug/L	1		06/19/15 22:45
Fluorene	1.09	0.0552	0.0166	ug/L	1		06/19/15 22:45
Indeno[1,2,3-c,d] pyrene	0.0276 U	0.0552	0.0166	ug/L	1		06/19/15 22:45
Naphthalene	2.69	0.110	0.0343	ug/L	1		06/19/15 22:45
Phenanthrene	1.48	0.0552	0.0166	ug/L	1		06/19/15 22:45
Pyrene	0.514	0.0552	0.0166	ug/L	1		06/19/15 22:45
Surrogates							
2-Fluorobiphenyl (surr)	53	53-106		%	1		06/19/15 22:45
Terphenyl-d14 (surr)	76.5	58-132		%	1		06/19/15 22:45

#### **Batch Information**

Analytical Batch: XMS8719 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 06/19/15 22:45 Container ID: 1152812004-F

Analytical Batch: XMS8728 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 06/24/15 20:20 Container ID: 1152812004-F Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 06/17/15 12:15 Prep Initial Wt./Vol.: 905 mL Prep Extract Vol: 1 mL

Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 06/17/15 12:15 Prep Initial Wt./Vol.: 905 mL Prep Extract Vol: 1 mL

Print Date: 07/06/2015 1:51:06PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated



Results of SEEP1DUP061215										
Client Sample ID: <b>SEEP1DUP061215</b> Client Project ID: <b>Red Salmon</b> Lab Sample ID: 1152812004 Lab Project ID: 1152812			Collection Date: 06/12/15 07:15 Received Date: 06/15/15 08:05 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:							
Results by Semivolatile Organic Fuels	;		_							
						Allowable				
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Limits</u>	Date Analyzed			
Diesel Range Organics	6.05	0.600	0.180	mg/L	1		07/01/15 02:08			
Surrogates										
5a Androstane (surr)	102	50-150		%	1		07/01/15 02:08			
Batch Information										
Analytical Batch: XFC11917 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 07/01/15 02:08 Container ID: 1152812004-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33380 : SW3520C me: 06/25/1 /t./Vol.: 250 Vol: 1 mL	; 15 11:30 0 mL					
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 3.46	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyzed</u> 07/01/15 02:08			
Surrogates										
n-Triacontane-d62 (surr)	98.6	50-150		%	1		07/01/15 02:08			
Batch Information										
Analytical Batch: XFC11917 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 07/01/15 02:08 Container ID: 1152812004-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33380 : SW3520C me: 06/25/1 /t./Vol.: 250 Vol: 1 mL	; 15 11:30 0 mL					

J flagging is activated

Results of SEEP1DUP061215							
Client Sample ID: SEEP1DUP061215 Client Project ID: Red Salmon Lab Sample ID: 1152812004 Lab Project ID: 1152812		C F M S L	Collection Da Received Dat Matrix: Wate Solids (%): ocation:	te: 06/12/ te: 06/15/ [,] r (Surface,	15 07:15 15 08:05 , Eff., Grc	ound)	
Results by Volatile Fuels			_				
Parameter Gasoline Range Organics	<u>Result Qual</u> 0.300	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyzed</u> 06/19/15 14:08
Surrogates							
4-Bromofluorobenzene (surr)	115	50-150		%	1		06/19/15 14:08
Batch Information							
Analytical Batch: VFC12472 Analytical Method: AK101 Analyst: ST Analytical Date/Time: 06/19/15 14:08 Container ID: 1152812004-C			Prep Batch: \ Prep Method: Prep Date/Tir Prep Initial W Prep Extract \	VXX27465 SW5030B ne: 06/19/1 t./Vol.: 5 m Vol: 5 mL	5 08:00 L		
Demonster	De suit Quel			11	DE	Allowable	Deta Arrahmad
Parameter	Result Qual	<u>LOQ/CL</u>	<u>DL</u> 0.150	Units		Limits	Date Analyzed
Ethylbenzene	35.7 15.0	1.00	0.150	ug/L	1		06/19/15 14:08
	19.5	1.00	0.310	ug/L	1		06/19/15 14:08
	25.2	2.00	0.510	ug/L	1		06/19/15 14:08
Toluene	0.500 U	1.00	0.310	ug/L	1		06/19/15 14:08
Surrogatas				-			
1,4-Difluorobenzene (surr)	85.7	77-115		%	1		06/19/15 14:08
Batch Information							
Analytical Batch: VFC12472 Analytical Method: SW8021B Analyst: ST Analytical Date/Time: 06/19/15 14:08 Container ID: 1152812004-C			Prep Batch: Prep Method: Prep Date/Tin Prep Initial W Prep Extract V	VXX27465 SW5030B ne: 06/19/1 t./Vol.: 5 m Vol: 5 mL	5 08:00 L		
Print Date: 07/06/2015 1:51:06PM						J flaggin	q is activated

Blank ID: MB for HBN 1711375 [\ Blank Lab ID: 1272247 QC for Samples:	/XX/27465]	Matrix	: Water (Surface	e, Eff., Ground)			
QC for Samples:							
1152812001, 1152812002, 11528120	003, 1152812004						
Results by AK101							
Parameter <u>F</u>	Results	LOQ/CL	<u>DL</u>	<u>Units</u>			
Gasoline Range Organics 0	0.0500U	0.100	0.0310	mg/L			
Surrogates							
4-Bromofluorobenzene (surr) 1	09	50-150		%			
Batch Information							
Analytical Batch: VFC12472		Prep Bat	ch: VXX27465				
Analytical Method: AK101		Prep Met	hod: SW5030B				
Instrument: Agilent 7890 PID/FID	)	Prep Dat	e/Time: 6/19/201	5 8:00:00AM			
Analysi. 51 Analytical Date/Time: 6/19/2015	10:00:00AM	Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 ml					
		- 1					

Print Date: 07/06/2015 1:51:08PM



#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1152812 [VXX27465] Blank Spike Lab ID: 1272250 Date Analyzed: 06/19/2015 10:57 Spike Duplicate ID: LCSD for HBN 1152812 [VXX27465] Spike Duplicate Lab ID: 1272251 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1152812001, 1152812002, 1152812003, 1152812004

Results by AK101										
	1	Blank Spike	e (mg/L)	S	pike Duplio	cate (mg/L)				
<u>Parameter</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL	
Gasoline Range Organics	1.00	1.11	111	1.00	1.12	112	(60-120)	1.10	(< 20)	
Surrogates										
4-Bromofluorobenzene (surr)	0.0500	104	104	0.0500	98.4	98	(50-150)	5.70		
Batch Information										
Analytical Batch: VFC12472 Analytical Method: AK101				Prep Prep	Batch: V	XX27465 SW5030B				
Instrument: <b>Agilent 7890 PID</b> / Analyst: <b>ST</b>	/FID	Prep Date/Time: 06/19/2015 08:00 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL								

Print Date: 07/06/2015 1:51:10PM

#### Method Blank

Blank ID: MB for HBN 1711375 [VXX/27465] Blank Lab ID: 1272247 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

 $1152812001,\,1152812002,\,1152812003,\,1152812004$ 

#### Results by SW8021B LOQ/CL Parameter **Results** DL Units Benzene 0.250U 0.500 0.150 ug/L Ethylbenzene 0.500U 1.00 0.310 ug/L o-Xylene 0.500U 1.00 0.310 ug/L P & M -Xylene 1.00U 2.00 0.620 ug/L 0.500U Toluene 1.00 0.310 ug/L Surrogates 1,4-Difluorobenzene (surr) 86.8 77-115 % **Batch Information**

Analytical Batch: VFC12472 Analytical Method: SW8021B Instrument: Agilent 7890 PID/FID Analyst: ST Analytical Date/Time: 6/19/2015 10:00:00AM

Prep Batch: VXX27465 Prep Method: SW5030B Prep Date/Time: 6/19/2015 8:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 07/06/2015 1:51:12PM



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1152812 [VXX27465] Blank Spike Lab ID: 1272248 Date Analyzed: 06/19/2015 10:38 Spike Duplicate ID: LCSD for HBN 1152812 [VXX27465] Spike Duplicate Lab ID: 1272249 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1152812001, 1152812002, 1152812003, 1152812004

Results by SW8021B									
		Blank Spike	e (ug/L)	:	Spike Dupli	cate (ug/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Benzene	100	112	112	100	110	110	(80-120)	2.40	(< 20)
Ethylbenzene	100	114	114	100	112	112	(75-125)	1.80	(< 20)
o-Xylene	100	111	111	100	109	109	(80-120)	1.80	(< 20)
P & M -Xylene	200	226	113	200	222	111	(75-130)	1.60	(< 20)
Toluene	100	114	114	100	111	111	(75-120)	2.70	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50	93.1	93	50	95.1	95	(77-115)	2.10	
Potch Information									

#### Analytical Batch: VFC12472 Analytical Method: SW8021B Instrument: Agilent 7890 PID/FID Analyst: ST

Prep Batch: VXX27465 Prep Method: SW5030B Prep Date/Time: 06/19/2015 08:00 Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 07/06/2015 1:51:12PM

#### Method Blank

Blank ID: MB for HBN 1711181 [XXX/33312] Blank Lab ID: 1271572 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1152812001, 1152812004

#### Results by 8270D SIMS (PAH)

Parameter	<u>Results</u>	LOQ/CL	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0250U	0.0500	0.0150	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0250U	0.0500	0.0150	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Fluorobiphenyl (surr)	61.4	53-106		%
Terphenyl-d14 (surr)	83.7	58-132		%

#### **Batch Information**

Analytical Batch: XMS8719 Analytical Method: 8270D SIMS (PAH) Instrument: HP 6890/5973 MS SVQA Analyst: SP Analytical Date/Time: 6/19/2015 8:44:00PM Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 6/17/2015 12:15:13PM Prep Initial Wt./Vol.: 1000 mL Prep Extract Vol: 1 mL

Print Date: 07/06/2015 1:51:13PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1152812 [XXX33312] Blank Spike Lab ID: 1271573 Date Analyzed: 06/19/2015 21:01 Spike Duplicate ID: LCSD for HBN 1152812 [XXX33312] Spike Duplicate Lab ID: 1271574 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1152812001, 1152812002, 1152812004

#### Results by 8270D SIMS (PAH)

	I	Blank Spike	e (ug/L)	ę	Spike Dupli	cate (ug/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
1-Methylnaphthalene	0.5	0.305	61	0.5	0.293	59	(41-115)	4.20	(< 20)
2-Methylnaphthalene	0.5	0.319	64	0.5	0.295	59	(39-114)	7.80	(< 20)
Acenaphthene	0.5	0.321	64	0.5	0.313	63	(48-114)	2.50	(< 20)
Acenaphthylene	0.5	0.334	67	0.5	0.317	63	(35-121)	5.20	(< 20)
Anthracene	0.5	0.355	71	0.5	0.341	68	(53-119)	3.80	(< 20)
Benzo(a)Anthracene	0.5	0.404	81	0.5	0.420	84	(59-120)	4.00	(< 20)
Benzo[a]pyrene	0.5	0.377	75	0.5	0.386	77	(53-120)	2.30	(< 20)
Benzo[b]Fluoranthene	0.5	0.391	78	0.5	0.407	81	(53-126)	4.00	(< 20)
Benzo[g,h,i]perylene	0.5	0.394	79	0.5	0.401	80	(44-128)	1.80	(< 20)
Benzo[k]fluoranthene	0.5	0.432	86	0.5	0.445	89	(54-125)	2.90	(< 20)
Chrysene	0.5	0.436	87	0.5	0.447	89	(57-120)	2.50	(< 20)
Dibenzo[a,h]anthracene	0.5	0.419	84	0.5	0.431	86	(44-131)	2.70	(< 20)
Fluoranthene	0.5	0.417	84	0.5	0.434	87	(58-120)	4.00	(< 20)
Fluorene	0.5	0.349	70	0.5	0.333	67	(50-118)	4.80	(< 20)
Indeno[1,2,3-c,d] pyrene	0.5	0.402	80	0.5	0.406	81	(48-130)	1.10	(< 20)
Naphthalene	0.5	0.344	69	0.5	0.321	64	(43-114)	6.90	(< 20)
Phenanthrene	0.5	0.378	76	0.5	0.366	73	(53-115)	3.20	(< 20)
Pyrene	0.5	0.404	81	0.5	0.422	85	(53-121)	4.50	(< 20)
Surrogates									
2-Fluorobiphenyl (surr)	0.5	67.2	67	0.5	64.5	65	(53-106)	4.10	
Terphenyl-d14 (surr)	0.5	82.9	83	0.5	86.6	87	(58-132)	4.40	

#### **Batch Information**

Analytical Batch: XMS8719 Analytical Method: 8270D SIMS (PAH) Instrument: HP 6890/5973 MS SVQA Analyst: SP Prep Batch: XXX33312 Prep Method: SW3520C Prep Date/Time: 06/17/2015 12:15 Spike Init Wt./Vol.: 0.5 ug/L Extract Vol: 1 mL Dupe Init Wt./Vol.: 0.5 ug/L Extract Vol: 1 mL

Print Date: 07/06/2015 1:51:14PM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Method Blank				
Blank ID: MB for HBN 171 Blank Lab ID: 1273194	1769 [XXX/33380]	Matrix	x: Water (Surfa	ce, Eff., Ground)
QC for Samples: 1152812001, 1152812002, 1	152812004			
Results by AK102		j		
Parameter	<u>Results</u>	LOQ/CL	DL	<u>Units</u>
Diesel Range Organics	0.0750U	0.150	0.0450	mg/L
Surrogates				
5a Androstane (surr)	98.6	60-120		%
Batch Information				
Analytical Batch: XFC119	917	Prep Ba	tch: XXX33380	
Analytical Method: AK102	2	Prep Me	ethod: SW3520C	
Instrument: HP 7890A	FID SV E F	Prep Da	ate/Time: 6/25/20	15 11:30:58AM
Analvst: KJO		Prep Init	tial Wt./Vol.: 100	0 mL
		Dron Ev	tract Vol: 1 ml	

Print Date: 07/06/2015 1:51:15PM



#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1152812 [XXX33380] Blank Spike Lab ID: 1273195 Date Analyzed: 07/01/2015 00:46 Spike Duplicate ID: LCSD for HBN 1152812 [XXX33380] Spike Duplicate Lab ID: 1273196 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1152812001, 1152812002, 1152812004

Results by AK102									
		Blank Spike	e (mg/L)	S	Spike Duplic	cate (mg/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Diesel Range Organics	5	5.87	117	5	6.00	120	(75-125)	2.30	(< 20 )
Surrogates									
5a Androstane (surr)	0.1	104	104	0.1	105	105	(60-120)	0.63	
Batch Information									
Analytical Batch: XFC11917 Analytical Method: AK102	7			Pre Pre	p Batch: X p Method:	XX33380 SW3520C			
Instrument: <b>HP 7890A</b> Analyst: <b>KJO</b>	FID SV E F			Pre Spi Dup	p Date/Tim ke Init Wt./\ be Init Wt./\	e: <b>06/25/201</b> /ol.: 5 mg/L /ol.: 5 mg/L	5 11:30 Extract Vol: Extract Vol:	1 mL 1 mL	

Print Date: 07/06/2015 1:51:16PM

Method Blank				
Blank ID: MB for HBN 1711 Blank Lab ID: 1273194	769 [XXX/33380]	Matriz	x: Water (Surfa	ce, Eff., Ground)
QC for Samples: 1152812001, 1152812002, 11	52812004			
Results by <b>AK103</b>				
Parameter	Results	LOQ/CL	DL	<u>Units</u>
Residual Range Organics	0.0625U	0.125	0.0375	mg/L
Surrogates				
n-Triacontane-d62 (surr)	99	60-120		%
Batch Information				
Analytical Batch: XFC1191	7	Prep Ba	atch: XXX33380	
Analytical Method: AK103		Prep Me	ethod: SW35200	)
Instrument: HP 7890A	FID SV E F	Prep Da Bron Ini	ate/Time: 6/25/20	015 11:30:58AM
Analysi, KJO	045 10:05:00 MM	Prep Ini Prop Ev	tract Vol: 1 ml	IU IIIL

Print Date: 07/06/2015 1:51:19PM



#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1152812 [XXX33380] Blank Spike Lab ID: 1273195 Date Analyzed: 07/01/2015 00:46 Spike Duplicate ID: LCSD for HBN 1152812 [XXX33380] Spike Duplicate Lab ID: 1273196 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1152812001, 1152812002, 1152812004

Results by AK103			_						
		Blank Spike	e (mg/L)	:	Spike Duplic	cate (mg/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Residual Range Organics	5	4.15	83	5	4.22	84	(60-120)	1.60	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.1	106	106	0.1	110	110	(60-120)	4.10	
Batch Information									
Analytical Batch: <b>XFC11917</b> Analytical Method: <b>AK103</b>				Pre Pre	p Batch: X	XX33380 SW3520C			
Instrument: HP 7890A	FID SV E F			Pre	p Date/Tim	e: 06/25/201	5 11:30		
Analyst: KJO				Spi Duj	ke Init Wt./\ pe Init Wt./\	/ol.: 5 mg/L /ol.: 5 mg/L	Extract Vol: Extract Vol:	1 mL 1 mL	

Print Date: 07/06/2015 1:51:20PM

	1152	812 SGS Nor SGS Nor	rth An SUSTC	nerica <u>DV RI</u> Instru	Inc. ECOR Letion	S: D	ection	ns 1	2	2
(IO) (A)				B	ISSIO	IS M8	av del	av tr	le ons	S
Ben Siwiec	PHONE #:	264-6965, 563-2126	Secti	on 3				н	reserva	ati
	Project #:	105.00151.15005 task 0002	# U	Pres: Type:	$\square$	$\bigcirc$	$\searrow$	$\bigcirc$	$\searrow$	
	E-MAIL:		οz	Comp	٤01	( pì				

				21						2							
L	CLIENT:	SLR International					Instru Omi	ctions	: Sec	tions	1 - 5 / the (	must onset (	be till of ana	led ou Ivsis.	4		
	CONTACT:	PF Jason Gray, Ben Siwiec	IONE #: 264-6	3965, 563-212	g	Sectic	n 3				Pres	ervative				rage 1 01	
1 noit:	PROJECT NAME:	Pro Red Salmon	oject #: 105	.00151.15005	task 0002	a c	Pres: Type:		$\left \right\rangle$	$\left \right\rangle$			$\square$	$\mathbb{N}$			
292	REPORTS	TO: E-	MAIL:	-		οz	Comp		-	┨						1	
	Jas	jg son Gray, Ben Siwiec bs	ray@slrconsulti iwiec@slrcons	ing.com, ulting.com		z ⊢ ⊲	Grab	01/2013 1 X 3 T 8	<b>W</b> 1								
	INVOICE T(	ö	UOTE #:	2015 SLR G	eneral	< –	W	01 ( ) } Y K									~~~~
		SLR International P.	0.#:			zι	(Multi- incre-	id O5		0/70							
<u> </u>	RESERVEI for lab use	D SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	цко	mental)	яя/ояа оV wol) У мояэ	41208	60 1184						REMARK LOC ID	SI
	1-40	SEEP1-CODIZIS	n6/12/16	0115	liquid	7	Grab	×	×	×							
	-4-0-	SEEP2-061215	21/2/12	Sand	liquid	7	Grab	×	×	×							
	- 4 (2	TB1	21/21/2		liquid	3	TB		×								
<u> </u>		21212000101212	12/12/15	(3715	Propil	7		X	$\overline{\mathbf{x}}$								
100					- 0	•			· ·	_							
<u> </u>																	
										+							
										_							
						-		_									
		0 0							+		  .					divershie Dequirer	nante.
L	Relinquis	hed By: (h) //	Date	Time	Received By	/				section	4		Jipect	oz	Dala D	silverable hequine	101121
	Ŧ		OBIZIE	0346		$\cap$				Cooler I	ä					LVL2	
	Relinquist	hed By: (2)	Date	Time	Received By				Å	equeste	d Turna	round Ti	me and	'or Speci	ial Instru	ctions:	
	C 110													STANDA	RD		
	C Relinquist	hed By: (3)	Dafe	Time	Received By										a statistica a sub-		
	2										X 30	Blank	ΰQ		Chain	of Custody Seal: (( /	Circle)
27 (	Relinquis	hed By: (4)	Date	Time	Received Fo	r Labora	tory By:				or	Ambient	-		INTAC	T) BROKEN AF	SENT
of 31			6/15/15	08:05	Querna	Clu	30			(See at	tached	ample F	keceipt I	(	See atta	ched Sample Rece	ipt Form
-	[ ] 200 M	V. Potter Drive Anchorage, AK 99 Business Drive Wilmington, NC	9518 Tel: (907) 28405 Tel: (910	562-2343 Fa) ) 350-1903 F _é	k: (907) 561-5; ax: (910) 350-	801 1557				ttp://ww	w.sgs.co	m/terms	-and-cor	iditions			
	· · · · · · · ·																

F083-Kit_Request_and_COC_Templates-Blank Revised 2013-03-24

-
	339	0	60 (° 1	990A			339		0 601	00UU	×.
	SMIRPER'S NAME AND A	DRESS	SHI	PPER'S ACCOL	INT NUMBER	AIR V	NEGOTIABLE VAYBILL		Pen	Air	••••••••
			-		-		GRMENT NOTE)		6100 BO ANCHORAGE	EING AVE. , ALASKA 99502	
	NAK	an An Urana	A.V.			If the ca	opies 1, 2 and 3 of thi rriage involves an u	s Air Waybill a	re originals and have	the same valid	ity. r the
		ADDRESS	CONS	SIGNEE'S ACCO	OUNT NUMBER	country of governs a to cargo. destination as schedu	of departure, the Wa and in most cases I Agreed stopping place n) shown under reque	arsaw Conven imits the liabi ces are those sted routing an or the route. A	tion may be applic lity of carriers in re places (other than the nd/or those places should be applied on the doress of first carrier	able and the C espect of loss of the places of dep nown in carriers' is the airport of	conve or da cartur time f dep
	she end	VS 1				SEE CON Received in g	DITIONS ON REVER	SE HEREOF	on	4-1-1	
		1562	23	43		Please print y	your name	LEOCATION	k Ap	Date/Jime	5
		Y	ECONC	MY C	DATE TIME	PHONE	PERSON CONT	ACTED BY	INSTRUC	TIONS TO CAR	RIER
	TO EXPEDITE MOVEMENT,	SHIPMENT MAY	y be diverted Shipper gives	<u> </u>		ware the second				lan ar da	
ALEXIS IN A CODE ADDRESS OF DEPARTURE LADDR OF PIRST CARPER, AND REQUESTED ROUTING ADDRESS DIF DEPARTURE LADDR OF PIRST CARPER, AND REQUESTED ROUTING DOMESTIC LEADING OF PIRST CARPER, AND REQUESTED ROUTING OF PIRST CARPER, AND READING OF PIRST CARPER, AND R	OTHER INSTRUCTIONS HE	REON.	Lincoutin								
ARPORT OF DEPARTURE (ADDR OF PIPETICARIES) AND REQUESTED ROUTING COMPANY OF DEPARTURE (ADDR OF PIPETICARIES) COMPANY OF ADD DESTINATION COMPANY OF ADD DEST	AGENTS IATA CODE	1. 1. ¹ . My	ACCOUN	T NQ	a bernen i	Domes	tic Liability: If no	value decla	red PEN AIR lial	bility will not	ex-
	AIRPORT OF DEPARTURE	E (ADDR OF FI	RST CARRIER)	AND REQUES	TED ROUTING	ceed \$	.50 per lb. plus t	ransportatic	n costs. See rul	e G32B5 A.T	.Р.
	ROUTING AND DESTINAT		•	TO BY	TO BY	CURRENCY	COS WT/VAL OTH		VALUE FOR CARRIAGE	DECLARED VALUE F	OR CI
	AIRPORT OF DES	STINATION	FUGH	OR CARRIER I	JSE ONLY FLIGHT/DATE				115	2812	)
NO. OF PECES       GROSS       IN       RATE CLASS       CHARGEADLE       RATE       TOTAL       INTURE AND QUANTITY OF GOODS (NCL DIMENSIONS OR VOLUME)         PECES       WEIGHT       IN       IN       IN       INTURE AND QUANTITY OF GOODS (NCL DIMENSIONS OR VOLUME)         PREPAID       WEIGHT       IN       IN       IN       IN       IN         PREPAID       WEIGHT       IN       IN       IN       IN       IN         PREPAID       WEIGHT       IN       PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE         NULUATION CHARGE       COLLECT       IN       PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE         NULUATION CHARGES       COLLECT       IN       PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE         NULUATION CHARGES       COLLECT       IN       PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE         NULUATION CHARGES       DUE COLLECT       IN       PICKUP CHARGES       OFIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE         NULUATION CHARGES       DUE COLLECT       IN       PICKUP CHARGES       OFIGIN ADVANCE       OFIGIN ADVANCE         NULUATION CHARGES       DUE COLLECT       N		Thèse commor ^{citir}	es licensed by US for m	Ilimate destination. Dive	rsion contrary to US law h	prohibited.					28
NO. OF PECCES       GRANGOUTY (INCL DIMENSIONS OR VOLUME)       NATURE AND QUANTITY OF GOODS (INCL DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOLUME)         MINUT DIMENSIONS OR VOLUME)       MINUT DIMENSIONS OR VOL		nese commone	a itensed by 00 ter u	initiate bestimation. Dive	ision contary to our lew t	prononed.					
NO. OF PICES       GROSS       IN ATTER CLASS       OHARGEABLE       RATE       TOTAL       NATURE AND QUANTITY OF GOODS (INCL DIMENSIONS OR VOLUME)         Image: Common of the second											
COMPARISON OF VOLUMES     COMPARISON OF VOLUMES     (INCL. DIMENSIONS OR VOLUME)     (INCL. DI	NO. OF GROSS	kg RATE C		CHARGEABL			τοται		NATURE AND QUA	NTITY OF GOOI	DS
A       A       A       OPERPAID       Weight CHARGE       COLLECT       Aur       PREVENCE       OPERATION	RCP WEIGHT		TEM NO.	WEIGHT		HARGE			(INCL. DIMENSIO	NS OR VOLUME	•) :
A       A       A       A       A       A       A       A       A       A       A       A       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B       B	-				- 1 1 A						
A       Autor PICKUP CHARGES       ORIGIN ADVANCE CHARGES DESCRIPTION OF ORIGIN ADVANCE         A       VALUATION CHARGE       Autor PICKUP CHARGES       ORIGIN ADVANCE CHARGES DESCRIPTION OF ORIGIN ADVANCE         A       VALUATION CHARGE       B.       K.         VALUATION CHARGE       Collect       Autor PICKUP CHARGES       DEST. ADVANCE CHARGES DESCRIPTION OF ORIGIN ADVANCE         A       VALUATION CHARGE       B.       K.         VALUATION CHARGE       DEST. ADVANCE CHARGES DESCRIPTION OF DEST. ADVANCE       TOTAL OTHER CHARGES DUE AGENT         TOTAL OTHER CHARGES DUE AGENT       Shipper cariling such part is properly described by name and is in proper condition for caring on the face hereol are correct and that insolar as any part of the consignment does materials such part is properly described by name and is in proper condition for caring on the face hereol are correct and that insolar as any part of the consignment does materials such part is properly described by name and is in proper condition for caring on the such that the particulars on the face hereol are correct and that insolar as any part of the consignment does and the properly described by name and is in proper condition for caring on the such that the particulars on the face hereol are correct and that insolar as any part of the consignment does and the part on the consuperly on the acarenter on the care on the ca					- Mu				coole	r i	
PREPAID       Weight Change       COLLECT       PUP PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE       Image: Collect Charges         A       ZXME       B.       K.       K.       K.         VALUATION CHARGE       Collect       K.       K.       K.         D       Total OTHER CHARGES DUE AGENT       Shipper Certifies that the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) subject with the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) subject with the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) subject with the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) subject with the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) subject with the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) subject with the particulars on the face hereof are correct and that insolar as any part of the consignment deagence goods (hazardous matching) by the particulars on the face hereof are correct and that insolar as any part of the consignment deagence good (hazardous matching) by the part of the consignment deagence good (hazardous matching) by the part of the consignment deagence good (hazardous matching) by the part of the consignment deagence good (hazardous matching) by the part of the consignment deagence good (hazardous matching) by the part of the part of the co								1 ju	OMICA	nin	$\cap$
PREPAID       WEIGHT CHARGE       COLLECT       F-W       PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE       TR         A       VALUATION CHARGE       DELVERY CHARGES       DEST. ADVANCE CHARGES       DESCRIPTION OF DEST. ADVANCE       TR         A       VALUATION CHARGE       DELVERY CHARGES       DEST. ADVANCE CHARGES       DESCRIPTION OF DEST. ADVANCE       TR         b.       TAX       SHIPPER'S R.F.C.       OTHER CHARGES AND DESCRIPTION       OTHER CHARGES AND DESCRIPTION         TOTAL OTHER CHARGES DUE AGENT       Shipper certifies that the particulars on the see hered are correct and that insoft as any part of the correlyname inclusions and the good description of the insoft as any part of the correct description of the insoft as any part of the correct description of the insoft as any part of the correct description of the insoft as any part of the correct description and the good description of the insoft as any part of the correct description and the good description and and the good description and the good description and and the good description and and and and and and and and and an								17	y y y	- v vFi	X
PREPAID     WEIGHT CHARGE     COLLECT     PUP PICKUP CHARGES     ORIGIN ADVANCE CHARGES DESCRIPTION OF ORIGIN ADVANCE     R     B     K     C     C     PUP PICKUP CHARGES     DEST. ADVANCE CHARGES DESCRIPTION OF ORIGIN ADVANCE     R     B     K     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C     C											
PREPAID       Weight Charge       COLLECT       PutP PICKUP CHARGES       ORIGIN ADVANCE CHARGES DESCRIPTION OF ORIGIN ADVANCE       IFF         A.       VALUATION CHARGE       OEL       DELIVERY CHARGES       DEST. ADVANCE CHARGES DESCRIPTION OF DEST. ADVANCE       IFF         b.       OEL       DELIVERY CHARGES       DEST. ADVANCE CHARGES DESCRIPTION OF DEST. ADVANCE       IFF         b.       OEL       DELIVERY CHARGES       DEST. ADVANCE CHARGES DESCRIPTION OF DEST. ADVANCE       IFF         b.       TOTAL OTHER CHARGES DUE AGENT       Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment dangerous goods (hazardous materials) such part is properly described by name and is in proper condition for carriag and condition (seept as noted) for carriage SUBLECT To THE CONTROL ON THE REVERSE TO THE SCHIPTER S AT ICHTION IS DRAWN OF THE NOTICE CONCERNING CARRIERS LIMITATION OF LIABLITY may increase such initiation of liability by decaring as supplement datage in the particular of participes SUBLECONTROL ON THE REVERSE TO THE SCHIPTER ON HIS AGENT AND INTIAL APPROFILATE BOX         COD       CURRENCY       TOTAL COLLECT       This shipment does NOT contain       This shipment DOES contain         TOTAL OTHER MARKER UNKCOLLECT       INEXCOLLECT INESTINATION       FREE       SIGNATURE OF ISSUING CARRIER OR ITS AGE         COD       CURRENCY CONVERSION NAMES       TOTAL COLLECT       This shipment does NOT contain       This shipment DOES contain										4 1	
PREPAID       WEIGHT CHARGE       COLLECT       PUP         A       PICKUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE       Image: Collect Charges         A       VALUATION CHARGE       DE       DELIVERY CHARGES       DEST. ADVANCE CHARGES       DESCRIPTION OF DEST. ADVANCE       Image: Collect Charges         D       TAX       SHIPPER'S R.F.C.       OTHER CHARGES AND DESCRIPTION       OTHER CHARGES AND DESCRIPTION         Image: Collect Charges       TOTAL OTHER CHARGES DUE AGENT       Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment dangerous goods (hzaradous materials) such part is properly described by name and is in proper condition for carring carried	and the second			n an an the sec							
PREPAID       Welght CHARGE       COLLECT       PUP (KUP CHARGES       ORIGIN ADVANCE CHARGES       DESCRIPTION OF ORIGIN ADVANCE       FRE         A.       VALUATION CHARGE       B.       K.       K.       DEST. ADVANCE CHARGES       DESCRIPTION OF DEST. ADVANCE       TEST. ADVANCE CHARGES       DESCRIPTION OF DEST. ADVANCE       TEST. ADVANCE										· · · · ·	
A.     VALUATION CHARGE B.     C.     DEL DELIVERY CHARGES DEST. ADVANCE CHARGES DESCRIPTION OF DEST. ADVANCE T C D  TAX  TAX  SHIPPER'S R.F.C. (AMOUNT TO BE ENTERED BY SHIPPER)  TOTAL OTHER CHARGES DUE AGENT  TOTAL OTHER CHARGES DUE AGENT  TOTAL OTHER CHARGES DUE CARRIER  COD  CURRENCY  COD  COD  COD  COD  COD  COD  COD  C		WEIGHT CHAR		LECT		HARGES	ORIGIN ADVANC	E CHARGES D	ESCRIPTION OF ORI	GIN ADVANCE	ITE
UNLIDATION CHARGES       USELIVENT CHARGES       DESCHIPTION OF DEST. ADVANCE       Content of the consignment of the consignment of the consignment of the particulars on the face hereof are correct and that insofar as any part of the consignment of the applicable government regulations and, for international shipments, the current International Area coording to the applicable government regulations and, for international shipments, the current International Area coording to the applicable government regulations and, for international shipments, the current International Area coording to the applicable government regulations and, for international shipments, the current International Area are accepted in apparent of the consignment according to the applicable government regulations and, for international shipments, the current International Area are accepted in apparent of the consignment according to the applicable government regulations and, for international shipments, the current International Area are accepted in apparent of the applicable government regulations and, for international shipments, the current International Area are accepted in apparent of the solution to an area coording to apparent are accepted in apparent of the Solution to apparent according to the applicable government regulations. It is agreed that the goods decordined herein are accepted in apparent of the Solution to apparent according to the applicable government regulations. It is agreed that the goods decordined herein are accepted to apparent according to the applicable government regulations. It is agreed that the goods decordined herein are accepted to apparent according to the applicable government regulations. It is agreed that the coord decording an apper on the solution of all apparent accepted to apparent according to the applicable government applicable government applicable government applicable government applicable government applicable government applicable gove	A		005		B.	01145050	K.	01142050			-
D.       TAX       SHIPPER'S R.F.C. (MOUNT TO BE ENTERED BY SHIPPER)       OTHER CHARGES AND DESCRIPTION         I.       TOTAL OTHER CHARGES DUE AGENT       Shipper certifies that the particulars on the face hereof are correct and that insofar as any part of the consignment dangerous goods (hazardous materials) such part is properly described by name and is in proper condition for carring according to the applicable government regulations and, for international shipments, the current International Air according to the applicable government regulations and, for international shipments, the current International Air according to the applicable government regulations and part of the CONDITIONS OF CONTRACT ON THE REVERSE and condition (except as noted) for carriage. SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE and condition (except as noted) for carriage and pay a supplemental charge if re and condition (except as noted) for carriage and pay a supplemental charge if re and condition (except as noted) for carriage and pay a supplemental charge if re printers NAME         COD       CURRENCY         CURRENCY       CURRENCY         TOTAL COLLECT       This shipment does NOT contain         Dangerous Goods.       This shipment DOES contain Dangerous Goods.         CURRENCY CONVERSION RATES       TOTAL COLLECT INDESTINATION CURRENCY         CURRENCY CONVERSION RATES       TOTAL COLLECT INDESTINATION CURRENCY         FOR CARRIERS USE ONLY AT DESTINATION       CHARGES AT DESTINATION         CHARGES AT DESTINATION       TOTAL COLLECT CHARGES			IGE			CHAHGES	DEST. ADVANCE	CHARGES D	ESCRIPTION OF DES	I. ADVANCE	COL
Image: Note of the i			/	2 		R'S R.F.C.	PER)	CHARGES AN	DESCRIPTION		
TOTAL OTHER CHARGES DUE CARRIER       dangerous goods (hazardous materials) such part is properly described by name and is in proper condition for carria according to the applicable government regulations and, for international shipments, the current linemational Air Association's Dangerous Goods Regulations. It is agreed that the goods described herein are accepted in apparent gand condition (or carriage. SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE)         COD       CURRENCY       CURRENCY       Signature of Shipper on His Agent And INITIAL APPROPRIATE BOX         COD       CURRENCY       TOTAL COLLECT       This shipment does NOT contain Dangerous Goods.       This shipment DOES contain Dangerous Goods.         CURRENCY CONVERSION RATES       TOTAL COLLECT       This shipment does NOT contain Dangerous Goods.       This shipment DOES contain Dangerous Goods.         CURRENCY CONVERSION RATES       TOTAL COLLECT NUBSTINATION CURRENCY       Executed on N         CURRENCY CONVERSION RATES       TOTAL COLLECT NUBSTINATION CURRENCY       Executed on N         CURRENCY CONVERSION RATES       TOTAL COLLECT NUBSTINATION CURRENCY       Executed on N         CURRENCY CONVERSION RATES       TOTAL COLLECT IN DESTINATION       Executed on N         COD       CHARGES AT DESTINATION       TOTAL COLLECT CHARGES       SIGNATURE OF ISSUING CARRIER OR ITS AGE	I. TOTAL OT	HER CHARGES	S DUE AGENT		J. Shipper certifie	s that the partici	lars on the face hereof	are correct and	that insofar as any n	art of the consign	men
TOTAL OTHER CHARGES DUE CARRIER       and condition (except as noted) for carriage. SUBJECT TO THE CONDITIONS OF CONTRACT ON THE REVERSE 1         TOTAL OTHER CHARGES DUE CARRIER       and condition (except as noted) for carriage. SUBJECT TO THE CONDENNOT ON THE REVERSE 1         THE SHIPPER'S ATTENTION IS DRAWN OF THE NOTICE CONCERNING CARRIERS AND INITIAL APPROPRIATE BOX       THE SHIPPER'S ATTENTION IS DRAWN OF THE NOTICE CONCERNING CARRIERS INTENTION OF LIABILITY         COD       Image: Concentration of liability by declaring a higher value for carriage and pay a supplemental charge if reprinted not initiation of liability by declaring a higher value for carriage and pay a supplemental charge if reprinted not initiation of liability by declaring a higher value for carriage and pay a supplemental charge if reprinted not initiation of liability by declaring a higher value for carriage and pay a supplemental charge if reprinted not initiation of liability by declaring a higher value for carriage and pay a supplemental charge if reprinted not initiation of liability by declaring a higher value for carriage and pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge if reprinted not include the pay a supplemental charge is supplemental charge in the pay a supplemental charge is suprematcharge is					dangerous goo according to th	ds (hazardous m e applicable gov	aterials) such part is pro- ernment regulations an	operly described id, for internatio	by name and is in pro nal shipments, the cur described herein are	per condition for c rent International	carria Air
CURRENCY       CURRENCY         CURRENCY       CURRENCY         CURRENCY       TOTAL COLLECT         TOTAL COLLECT       This shipment does NOT contain         TOTAL COLLECT       This shipment does NOT contain         CURRENCY CONVERSION RATES       TOTAL COLLECT         CURRENCY CONVERSION RATES       TOTAL COLLECT INDESTINATION         CURRENCY CONVERSION RATES       TOTAL COLLECT INDESTINATION         FOR CARRIERS USE ONLY AT DESTINATION       CHARGES AT DESTINATION         COLLECT CHARGES       TOTAL COLLECT CHARGES	TOTAL OTH	ER CHARGES	DUE CARRIEF		and condition (e THE SHIPPER	S ATTENTION I	for carriage. SUBJECT S DRAWN OF THE NO	TO THE CONDI	TIONS OF CONTRACT	ON THE REVER	ISE I
TOTAL COLLECT       This shipment does NOT contain       This shipment DOES contain         CURRENCY CONVERSION RATES       TOTAL COLLECT       EXECUTED ON       This shipment does NOT contain       This shipment DOES contain         CURRENCY CONVERSION RATES       TOTAL COLLECT IN DESTINATION CURRENCY       EXECUTED ON       COLLECT IN DESTINATION CURRENCY         FOR CARRIERS USE ONLY AT DESTINATION       CHARGES AT DESTINATION       TOTAL COLLECT CHARGES       SIGNATURE OF ISSUING CARRIER OR ITS AGE		1	-		PRINTED NAME	uch infitation of	INADINITY DY DECIAINING A H SIGNAT	URE OF SHIPPER	on his agent and inn	IAL APPROPRIATE	n re BOX
CURRENCY CONVERSION RATES     TOTAL COLLECT IN DESTINATION     EXECUTED ON     Dangerous Goods.       CURRENCY CONVERSION RATES     TOTAL COLLECT IN DESTINATION CURRENCI     EXECUTED ON     Dangerous Goods.       FOR CARRIERS USE ONLY AT DESTINATION (ALL COLLECT CHARGES     CHARGES AT DESTINATION     TOTAL COLLECT CHARGES		URRENCY			<ul> <li></li></ul>	こうしょう あや ちぬ	· · · · ·	二、二、二、二、二、二、二、二、二、二、二、二、二、二、二、二、二、二、二、	a the gas of the		
CURRENCY CONVERSION RATES       TOTAL COLLECT IN DESTINATION CURRENCY       EXECUTED ON 1       AL       Wall and the second of the		DURRENCY	TOTAL CO	LECT Z					This chipmont [		·
FOR CARRIERS USE ONLY AT DESTINATION (ALL COLLECT CHARGES AT DESTINATION)			TOTAL COL			nis shipment angerous Go	does <u>NOT</u> conta oods.	in	This shipment [ Dangerous Goo	DOES contair ids.	 1
AT DESTINATION (ALL COLLECT CHARGES	COD CURRENCY CONVERSION RA		TOTAL COI			his shipment angerous Go	does <u>NOT</u> conta bods.	in	This shipment [ Dangerous Goo	DOES contain	ו ו ו
			TOTAL COL TOTAL COLLECT IN DESTIN		EXECUTED ON (Date)	nis shipment angerous Go (Time) ECT CHARGES	does <u>NOT</u> conta ods.		This shipment [ Dangerous Goo ((0-00) TURE OF ISSUING C	OOES contair ids.	۱ AGE

FORM AC-17U UNIVERSAL UNIFORM AIRBILL PRINTED IN U.S.A. REV 07/10

No 6 CONSIGNEE MEMO



#355693

Citywide Delivery • 440-3351 8421 Flamingo Drive • Anchorage, Alaska 99502

100	×	
To	232	
Collect 🗇	Prepay □ Account □	Advance Charges
Job #	PO#	
	1 Ciste	¥
		142
	257 XX	W
	1152812	
	1152812	
Shipped Sig	1152812	
Shipped Sig	1152812	
Shipped Sig	1152812	Total Charce



## 1152812



## SAMPLE RECEIPT FORM

Review Criteria:	Yes	N/A	No	Comments/Action Taken:
Were <b>custody seals</b> intact? Note # & location if applicable				Exemption permitted if sampler hand carries/delivers.
COC accompanied samples?		H	H	1F
<b>Temperature blank</b> compliant* (i.e., 0-6°C after CF)?			7	Exemption permitted if chilled & collected <8 hrs ago.
If >6 °C, were samples collected <8 hours ago?		Π		Proceed with analysis per IAN
If $<0$ °C, were all sample containers ice free?		$\mathbf{\nabla}$	Ē.	Theeed with analysis per JAIN.
Cooler ID: $\frac{1}{2}$ $(a)$ 7.3 w/ Therm ID: #240				
Cooler ID: <u>w/ Therm ID:</u>				
Cooler ID: @ w/ Therm ID:				
Cooler ID: @ w/ Therm ID:				
Cooler ID: @ w/ Therm ID:				
If samples are 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				Note: Identify containers received at non-compliant
temp blank nor cooler temp can be obtained, note "ambient" or "chilled."				temperature. Use form FS-0029 if more space is needed.
Delivery method (specify all that apply): Client (hand carried)				
$\square$ USPS $\square$ Lynden $\square$ AK Air $\blacksquare$ Alert Courier				
$\Box$ UPS $\Box$ FedEx $\Box$ RAVN $\Box$ C&D Delivery				
$\square$ Carlile $\square$ Pen Air $\square$ Warp Speed $\square$ Other:				
$\rightarrow$ For WO# with airfulls was the WO# & airfull				
info recorded in the Front Counter eLog?	$\checkmark$			
	Yes	N/A	No	
Were samples received within hold time?				Note: Refer to form F-083 "Sample Guide" for hold times.
Do samples <b>match COC</b> * (i.e. sample IDs dates/times collected)?		H		Note: If times differ <1 hr, record details and login per COC.
Were analyses requested unambiguous?		H	H	*
Were samples in good condition (no leaks/cracks/breakage)?			H	
Packing material used (specify all that apply):				
Separate plastic bags Vermiculite Other:				
Were proper containers (type/mass/volume/preservative*) used?				Exemption permitted for metals (e.g., 200.8/6020A).
Were <b>Trin Blanks</b> (i.e. VOAs LL-Hg) in cooler with samples?		H	H	
Were all VOA vials free of headspace (i.e., bubbles $\leq 6$ mm)?	H	H		One Trip Blank container has a bubble greater than
Were all soil VOA's field extracted with MeOH+BEB?			H	6mm.
For preserved waters (other than VOA vials 11 Mercury or				
microbiological analyses) was <b>nH</b> varified and compliant?				
If pH was adjusted were bottles flagged (i.e. stickers)?		H	H	
For special handling (e.g. "MI" soils, foreign soils, lab filter for		V		
dissolved lab extract for volatiles. Paf I ab limited volume)				
uissolveu, lab extract for volatiles, Kel Lab, illitted volutile),		.7		
For <b>DUSU/SHODT Hold Time</b> were COC/Dettles flagged				
accordingly? Was Rush/Short HT email sent if applicable?		J		
For SITE-SPECIFIC OC. e.g. BMS/BMSD/BDUP were				
containers / paperwork flagged accordingly?		$\checkmark$		
For any question answered "No," has the PM been notified and				SRF Completed by: D.C 06/15/2015
the problem resolved (or paperwork put in their bin)?	$\checkmark$			PM notified: JAN
Was <b>PEER REVIEW</b> of sample numbering/labeling completed?			$\overline{\neg}$	Peer Reviewed by: VDL

Additional notes (if applicable):

*Missing one container for DRO/RRO Low Volume Analysis (sample SEEP1-061215 (1152812-001)).

*Sample 1152812-001B does not have the date and time on the container. Sample 1152812-002G does not have a sample ID on the container label (retrieved the sample ID from the container cap).

Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.



## Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1152812001-A	HCL to pH < 2	OK			
1152812001-В	HCL to pH < 2	OK			
1152812001-С	HCL to pH < 2	OK			
1152812001-D	HCL to pH < 2	OK			
1152812001-Е	No Preservative Required	OK			
1152812001-F	No Preservative Required	OK			
1152812002-A	HCL to pH < 2	OK			
1152812002-В	HCL to pH < 2	OK			
1152812002-С	HCL to pH < 2	OK			
1152812002-D	HCL to pH < 2	OK			
1152812002-Е	HCL to pH < 2	OK			
1152812002-F	No Preservative Required	OK			
1152812002-G	No Preservative Required	OK			
1152812003-A	HCL to pH < 2	OK			
1152812003-В	HCL to pH < 2	OK			
1152812003-С	HCL to pH < 2	OK			
1152812004-A	HCL to pH < 2	OK			
1152812004-В	HCL to pH < 2	OK			
1152812004-C	HCL to pH < 2	OK			
1152812004-D	HCL to pH < 2	OK			
1152812004-Е	HCL to pH < 2	OK			
1152812004-F	No Preservative Required	OK			
1152812004-G	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.

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.

BU - The container was received with headspace greater than 6mm.



### Laboratory Report of Analysis

To: SLR Alaska-Anchorage 2700 Gambell St Suite 200 Anchorage, AK 99503 (907)222-1112

Report Number: **1154090** 

Client Project: 105.00151.15005 Red Salmon

Dear Jason Gray,

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

Print Date: 08/12/2015 5:02:56PM

SGS North America Inc.



### **Case Narrative**

## SGS Client: SLR Alaska-Anchorage SGS Project: 1154090 Project Name/Site: 105.00151.15005 Red Salmon Project Contact: Jason Gray

Refer to sample receipt form for information on sample condition.

### SFB4 (1154090006) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene (191%) does not meet QC criteria due to matrix interference. AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (40X).

### SFC7 (1154090008) PS

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

### SFA9 (1154090009) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (20X).

### SWD1 (1154090011) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene (353%) does not meet QC criteria due to matrix interference. AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (10X).

### SWB0 (1154090012) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (40X).

### 1158395001(1281090MS) (1281091) MS

8260B — MS recovery for Hexachlorobutadiene does not meet QC criteria. Refer to LCS for accuracyÁ^ ** a^{ ^} o.

### 1154022001(1280940MSD) (1280942) MSD

8260B — MS/MSD RPD for Chloroethane do not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

### 1158395001(1281090MSD) (1281092) MSD

8260B -- MSD recovery for Hexachlorobutadiene does not meet QC criteria. Refer to LCS for accuracy.

*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: 08/12/2015 5:02:58PM

SGS North America Inc.

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



### 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 <<u>http://www.sgs.com/en/Terms-and-Conditions.aspx></u>. 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 & Microbiology) & 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, 8021B, 8082A, 8260B, 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.
В	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
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
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
Μ	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.
Sample summaries which i All DRO/RRO analyses are	include a result for "Total Solids" have already been adjusted for moisture content.

Print Date: 08/12/2015 5:03:00PM

Note:



Sample Summary										
Client Sample ID	Lab Sample ID	Collected	Received	<u>Matrix</u>						
TP2	1154090001	07/28/2015	07/30/2015	Soil/Solid (dry weight)						
TP3	1154090002	07/28/2015	07/30/2015	Soil/Solid (dry weight)						
SFB1	1154090003	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SFB91	1154090004	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SFC2	1154090005	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SFB4	1154090006	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SFE6	1154090007	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SFC7	1154090008	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SFA9	1154090009	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SWE4	1154090010	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SWD1	1154090011	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
SWB0	1154090012	07/29/2015	07/30/2015	Soil/Solid (dry weight)						
TB1	1154090013	07/28/2015	07/30/2015	Solid/Soil (Wet Weight)						
Method	Method Desc	cription_								
AK102	Diesel/Resid	ual Range Organi	ics							
AK103	Diesel/Resid	ual Range Organi	ics							
AK101	Gasoline Rar	nge Organics (S)								
SM21 2540G	Percent Solic	ls SM2540G								
SW8260B	Volatile Orga	nic Compounds (	S) FIELD EXT							

# SGS

## **Detectable Results Summary**

Client Sample ID: TP3			
Lab Sample ID: 1154090002	Parameter	Result	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	10.2J	mg/Kg
Client Sample ID: SFB1			
Lab Sample ID: 1154090003	Parameter	Posult	Linite
Somivolatilo Organic Evolo	<u>L'arameter</u> Diesel Range Organics	2340	<u>onits</u> ma/Ka
Semivolatile Organic i dels	Residual Range Organics	169	mg/Kg
Volatile Fuels	Gasoline Range Organics	2 09.1	mg/Kg
		2.000	ing/ing
Client Sample ID: SFB91			
Lab Sample ID: 1154090004	Parameter	Result	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	1900	mg/Kg
	Residual Range Organics	166	mg/Kg
Volatile Fuels	Gasoline Range Organics	1.93J	mg/Kg
Client Sample ID: SFC2			
Lab Sample ID: 1154090005	Parameter	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	1220	mg/Kg
-	Residual Range Organics	172	mg/Kg
Volatile Fuels	Gasoline Range Organics	8.35	mg/Kg
Volatile Gas Chromatography/Mass Spectror	<b>n</b> o-Xylene	129	ug/Kg
	P & M -Xylene	68.8J	ug/Kg
Client Sample ID: SFB4			
Lab Sample ID: 1154090006	Parameter	Result	Units
Semivolatile Organic Fuels	Diesel Range Organics	20000	mg/Kg
	Residual Range Organics	495	mg/Kg
Volatile Fuels	Gasoline Range Organics	61.2	mg/Kg
Volatile Gas Chromatography/Mass Spectror	n Ethylbenzene	189	ug/Kg
	o-Xylene	1220	ug/Kg
	P & M -Xylene	811	ug/Kg
	Toluene	84.7	ug/Kg
Client Sample ID: SEE6			
Lab Sample ID: 1154090007	Deremeter	Decult	Lipito
Semivaletile Organia Evale	<u>Parameter</u> Diesel Range Organics	<u>Result</u> 565	<u>Units</u> ma/Ka
Semivolatile Organic Fuels	Residual Range Organics	108	mg/Kg
Volatilo Euolo	Gasoline Range Organics	2 35 1	mg/Kg
	Caconine Hange Organios	2.000	
Client Sample ID: SFC7			
Lab Sample ID: 1154090008	Parameter	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	4840	mg/Kg
	Residual Range Organics	754	mg/Kg
Volatile Fuels	Residual Range Organics Gasoline Range Organics	754 23.0	mg/Kg mg/Kg

Print Date: 08/12/2015 5:03:02PM

SGS North America Inc.

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



## **Detectable Results Summary**

Client Sample ID: SFA9			
Lab Sample ID: 1154090009	Parameter	Result	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	7130	mg/Kg
	Residual Range Organics	747	mg/Kg
Volatile Fuels	Gasoline Range Organics	12.6	mg/Kg
Client Sample ID: SWE4			
Lab Sample ID: 1154090010	Parameter	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	192	mg/Kg
	Residual Range Organics	29.3	mg/Kg
Volatile Fuels	Gasoline Range Organics	1.66J	mg/Kg
Client Sample ID: SWD1			
Lab Sample ID: 1154090011	<u>Parameter</u>	Result	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	4500	mg/Kg
	Residual Range Organics	156	mg/Kg
Volatile Fuels	Gasoline Range Organics	94.5	mg/Kg
Volatile Gas Chromatography/Mass Spectro	<b>m</b> Ethylbenzene	96.7	ug/Kg
	o-Xylene	1010	ug/Kg
	P & M -Xylene	705	ug/Kg
	Toluene	29.1J	ug/Kg
Client Sample ID: SWB0			
Lab Sample ID: 1154090012	Parameter	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	13000	mg/Kg
-	Residual Range Organics	194	mg/Kg
Volatile Fuels	Gasoline Range Organics	16.5	mg/Kg

Print Date: 08/12/2015 5:03:02PM

SGS North America Inc.

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

Results of TP2							
Client Sample ID: <b>TP2</b> Client Project ID: <b>105.00151.15005 Red Salmon</b> Lab Sample ID: 1154090001 Lab Project ID: 1154090		C R M S L	ollection D eceived Da atrix: Soil/ olids (%):8 ocation:	ate: 07/28/ [,] ate: 07/30/1 Solid (dry w 8.3	15 08:30 5 11:56 reight)		
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DE	<u>Allowable</u> <u>Limits</u>	Date Analyzed
Diesel Range Organics	11.3 U	22.5	6.98	mg/Kg	1		08/07/15 17:38
Surrogates				<u>.</u>			
5a Androstane (surr)	74.2	50-150		%	1		08/07/15 17:38
Batch Information Analytical Batch: XFC11994 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/07/15 17:38 Container ID: 1154090001-A		F	Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.1 Vol: 1 mL	5 11:05 87 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 11.3 U	<u>LOQ/CL</u> 22.5	<u>DL</u> 6.98	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 17:38
Surrogates n-Triacontane-d62 (surr)	84.2	50-150		%	1		08/07/15 17:38
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 17:38 Container ID: 1154090001-A		F F F F	Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.1 Vol: 1 mL	5 11:05 87 g		

000

-Results of TP2							
Client Sample ID: <b>TP2</b> Client Project ID: <b>105.00151.15005 Red Salmon</b> Lab Sample ID: 1154090001 Lab Project ID: 1154090		C R M S L	collection Date deceived Date latrix: Soil/ olids (%):8 ocation:	ollection Date: 07/28/15 08:30 eceived Date: 07/30/15 11:56 atrix: Soil/Solid (dry weight) olids (%):88.3 ocation:			
Results by Volatile Fuels			_				
<u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 2.06 U	<u>LOQ/CL</u> 4.11	<u>DL</u> 1.23	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 08/07/15 16:23
Surrogates							
4-Bromofluorobenzene (surr)	107	50-150		%	1		08/07/15 16:23
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 16:23 Container ID: 1154090001-B			Prep Batch: Prep Methoc Prep Date/T Prep Initial V Prep Extract	VXX27686 f: SW5035A ime: 07/28/1 Vt./Vol.: 41.1 Vol: 29.830	5 08:30 43 g 6 mL		

J flagging is activated



Results of TP2

Client Sample ID: <b>TP2</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090001 Lab Project ID: 1154090	C R M S	collection D lecceived Da latrix: Soil/ olids (%):8 ocation:	ate: 07/28/ ate: 07/30/1 /Solid (dry w 8.3	15 08:30 5 11:56 reight)	)		
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome					
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	<u>Allowable</u> Limits	Date Analyzed
Benzene	10.3 ()	20.5	6.41	ug/Kg	1		08/03/15 14:46
Ethylbenzene	20.6 U	41.1	12.8	ug/Kg	1		08/03/15 14:46
o-Xylene	20.6 U	41.1	12.8	ug/Kg	1		08/03/15 14:46
P & M -Xylene	41.1 U	82.2	24.6	ug/Kg	1		08/03/15 14:46
Toluene	20.6 U	41.1	12.8	ug/Kg	1		08/03/15 14:46
Surrogates							
1,2-Dichloroethane-D4 (surr)	118	71-136		%	1		08/03/15 14:46
4-Bromofluorobenzene (surr)	107	55-151		%	1		08/03/15 14:46
Toluene-d8 (surr)	112	85-116		%	1		08/03/15 14:46
Batch Information							
Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 14:46 Container ID: 1154090001-B			Prep Batch: Prep Methoo Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/28/1 Vt./Vol.: 41.1 : Vol: 29.830	5 08:30 43 g 6 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

SGS							
Results of TP3 Client Sample ID: TP3 Client Project ID: 105.00151.15005 Re	ed Salmon	C	ollection Da	ate: 07/28/ [,] ate: 07/30/1	15 09:40 5 11:56		
Lab Sample ID: 1154090002 Lab Project ID: 1154090		M S Lo	latrix: Soil/ olids (%):8 ocation:	Solid (dry w 9.2	eight)		
Results by Semivolatile Organic Fuel	S						
Parameter Diesel Range Organics	<u>Result Qual</u> 10.2 J	<u>LOQ/CL</u> 22.1	<u>DL</u> 6.86	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 17:48
Surrogates 5a Androstane (surr)	84.5	50-150		%	1		08/07/15 17:48
Batch Information Analytical Batch: XFC11994 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/07/15 17:48 Container ID: 1154090002-A		1	Prep Batch: Prep Methoo Prep Date/Ti Prep Initial V Prep Extract	XXX33725 I: SW3550C me: 08/02/1 Vt./Vol.: 30.4 Vol: 1 mL	5 11:05 09 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 11.1 U	<u>LOQ/CL</u> 22.1	<u>DL</u> 6.86	<u>Units</u> mg/Kg	<u>DF</u> 1	Allowable Limits	<u>Date Analyzed</u> 08/07/15 17:48
Surrogates							
n-Triacontane-d62 (surr)	98.6	50-150		%	1		08/07/15 17:48
Batch Information							
Analytical Batch: XFC11994		I	Prep Batch:	XXX33725			
Analyst: AYC		l	Prep Date/Ti	me: 08/02/1	5 11:05		
Analytical Date/Time: 08/07/15 17:48 Container ID: 1154090002-A		F	Prep Initial V Prep Extract	Vt./Vol.: 30.4 Vol: 1 mL	09 g		
Print Date: 08/12/2015 5:03:02PM						J flaggin	g is activated

Client Sample ID: <b>TP3</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090002 Lab Project ID: 1154090	d Salmon	C R M S Lo	ollection Da eceived Da latrix: Soil/ olids (%):89 ocation:	ate: 07/28/ [.] ite: 07/30/1 Solid (dry w 9.2	15 09:40 5 11:56 ⁄eight)		
Results by <b>Volatile Fuels</b> <u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 1.60 U	<u>LOQ/CL</u> 3.19	<u>DL</u> 0.958	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 16:42
<b>urrogates</b> 4-Bromofluorobenzene (surr)	106	50-150		%	1		08/07/15 16:42
Batch Information Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 16:42 Container ID: 1154090002-B		F	Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	VXX27686 I: SW5035A me: 07/28/1 Vt./Vol.: 54.1 Vol: 30.864	5 09:40 83 g 6 mL		

J flagging is activated



-Results of TP3

Client Sample ID: <b>TP3</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090002 Lab Project ID: 1154090	ed Salmon	C R M S L	collection D leceived Da latrix: Soil olids (%):8 ocation:	ate: 07/28/ [,] ate: 07/30/1 /Solid (dry w 9.2	15 09:40 5 11:56 /eight)		
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome					
Parameter Benzene Ethylbenzene o-Xylene P & M -Xylene	<u>Result Qual</u> 8.00 U 15.9 U 15.9 U 31.9 U	LOQ/CL 16.0 31.9 31.9 63.9	<u>DL</u> 4.98 9.96 9.96 19.2	<u>Units</u> ug/Kg ug/Kg ug/Kg ug/Kg	<u>DF</u> 1 1 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/03/15 15:02 08/03/15 15:02 08/03/15 15:02 08/03/15 15:02
Toluene	15.9 U	31.9	9.96	ug/Kg	1		08/03/15 15:02
Surrogates							
1,2-Dichloroethane-D4 (surr) 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	119 110 113	71-136 55-151 85-116		% % %	1 1 1		08/03/15 15:02 08/03/15 15:02 08/03/15 15:02
Batch Information Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 15:02 Container ID: 1154090002-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/28/1 Vt./Vol.: 54.1 t Vol: 30.864	5 09:40 83 g 6 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

ed Salmon	C F M S L	Collection D Received Da Matrix: Soil/ Solids (%):7 Location:				
S		_				
<u>Result Qual</u> 2340	<u>LOQ/CL</u> 102	<u>DL</u> 31.6	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> <u>Limits</u>	<u>Date Analyze</u> 08/07/15 18:3
143	50-150		%	4		08/07/15 18:3
		Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.2 : Vol: 1 mL	5 11:05 282 g		
<u>Result Qual</u> 169	<u>LOQ/CL</u> 102	<u>DL</u> 31.6	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> Limits	<u>Date Analyze</u> 08/07/15 18:3
			5 5			
100	50-150		%	4		08/07/15 18:3
		Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.2 : Vol: 1 mL	5 11:05 282 g		
	ed Salmon s Result Qual 2340 143	ed Salmon Result Qual 10Q/CL 143 50-150 Result Qual 102 143 50-150 100 50-150	ed SalmonCollection D Received Da Matrix: Solid Solids (%):7 Location:sResult Qual 2340LOQ/CL 102DL 31.614350-150Prep Batch: Prep Method Prep Date/T Prep Initial V Prep ExtractResult Qual 169LOQ/CL 102DL 31.610050-150Prep Batch: Prep Method Prep Date/T Prep Initial V Prep ExtractNotePrep Batch: Prep Method Prep Extract10050-150	ad Salmon       Collection Date: 07/30/4         Received Date: 07/30/4       Matrix: Soil/Solid (dry wasolids (%):77.8         Solids (%):77.8       Location:         s       Image: Collection Date: 07/30/4         Matrix: Soil/Solid (dry wasolids (%):77.8       Location:         s       Image: Collection Date: 07/30/4         Matrix: Soil/Solid (dry wasolids (%):77.8       Location:         s       Image: Collection Date: 07/30/4         143       50-150       %         Prep Batch: XXX33725       Prep Method: SW3550C         Prep Date/Time: 08/02/1       Prep Extract Vol: 1 mL         Result Qual       LOQ/CL       DL       Units         169       102       31.6       mg/Kg         100       50-150       %       Prep Batch: XXX33725         Prep Method: SW3550C       Prep Date/Time: 08/02/1       Prep Date/Time: 08/02/1         100       50-150       %       Prep Extract Vol: 30.2         Prep Initial Wt./Vol.: 30.2       Prep Extract Vol: 1 mL       Prep Method: SW3550C	ad SalmonCollection Date: Collection Date: 07/30/15 11:56 Matrix: Solids (%):77.8 Location:sResult QualLOQ/CL 102DL 31.6Units mg/KgDE 414350-150% 44Prep Batch: rep Date/Time: 08/02/15 11:05 Prep Initial WL/Vol.: 30.282 g Prep Extract Vol: 1 mL	ed Salmon       Collection Date: 07/29/15 10:00 Received Date: 07/30/15 11:56 Matrix: Soli/Solid (dry weight) Solids (%):77.8 Location:         Result Qual 2340       LOQ/CL 102       DL 31.6       Units mg/Kg       DE 4       Allowable Limits         143       50-150       %       4         143       50-150       %       4         Prep Batch: XXX33725 Prep Method: SW3550C Prep Date/Time: 08/02/15 11:05 Prep Date/Time: 08/02/15 11:05 Prep Extract Vol: 1 mL       DE       Allowable Limits         Result Qual 169       LOQ/CL 102       DL 31.6       Units mg/Kg       DE       Allowable Limits         100       50-150       %       4       Prep Batch: XXX33725 Prep Method: SW3550C Prep Date/Time: 08/02/15 11:05 Prep Initial WL/Vol: 30.282 g Prep Extract Vol: 1 mL       Prep Batch: XXX33725 Prep Method: SW3550C Prep Date/Time: 08/02/15 11:05 Prep Initial WL/Vol: 30.282 g Prep Extract Vol: 1 mL

Client Sample ID: SFB1 Client Project ID: 105.00151.15005 Red Salmon Lab Sample ID: 1154090003 Lab Project ID: 1154090			Collection D Received Da Matrix: Soil/ Solids (%):7 _ocation:				
Results by <b>Volatile Fuels</b>						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u> 1 70	<u>Units</u>	DF 1	<u>Limits</u>	Date Analyzed
	2.09 J	5.90	1.79	ng/rg	I		00/07/13 17.01
Surrogates 4-Bromofluorobenzene (surr)	104	50-150		%	1		08/07/15 17:01
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 17:01 Container ID: 1154090003-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27686 d: SW5035A ime: 07/29/1 Vt./Vol.: 35.2 : Vol: 32.812	5 10:00 37 g mL		

J flagging is activated

# SGS

Results of SFB1

Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090003 Lab Project ID: 1154090	ed Salmon	R M So Lo	eceived Date: 07/30/15 11:56 atrix: Soil/Solid (dry weight) olids (%):77.8 ocation:						
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome							
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	Allowable Limits	Date Analyzed		
Benzene	14.9 U	29.9	9.33	ug/Kg	1		08/03/15 15:18		
Ethylbenzene	29.9 U	59.8	18.7	ug/Kg	1		08/03/15 15:18		
o-Xylene	29.9 U	59.8	18.7	ug/Kg	1		08/03/15 15:18		
P & M -Xylene	60.0 U	120	35.9	ug/Kg	1		08/03/15 15:18		
Toluene	29.9 0	59.8	18.7	ug/Kg	1		08/03/15 15:18		
Surrogates									
1,2-Dichloroethane-D4 (surr)	118	71-136		%	1		08/03/15 15:18		
4-Bromofluorobenzene (surr)	103	55-151		%	1		08/03/15 15:18		
Toluene-d8 (surr)	113	85-116		%	1		08/03/15 15:18		
Batch Information									
Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 15:18 Container ID: 1154090003-B		F F F F	Prep Batch: VXX27661 Prep Method: SW5035A Prep Date/Time: 07/29/15 10:00 Prep Initial Wt./Vol.: 35.237 g Prep Extract Vol: 32.812 mL						

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

<u>565</u>							
Results of SFB91							
Client Sample ID: SFB91 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090004 Lab Project ID: 1154090	ed Salmon	C R M S L	ollection D eceived Da latrix: Soil/ olids (%):7 ocation:	ate: 07/29/ ate: 07/30/1 /Solid (dry w 7.2	15 10:00 5 11:56 veight)		
Results by Semivolatile Organic Fuel	S						
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 1900	<u>LOQ/CL</u> 103	<u>DL</u> 31.9	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 18:47
Surrogates							
5a Androstane (surr)	127	50-150		%	4		08/07/15 18:47
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/07/15 18:47 Container ID: 1154090004-A		i i i i i i i	Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.1 t Vol: 1 mL	5 11:05 57 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 166	<u>LOQ/CL</u> 103	<u>DL</u> 31.9	<u>Units</u> mg/Kg	<u>DF</u> 4	Allowable Limits	Date Analyzed 08/07/15 18:47
Surrogates n-Triacontane-d62 (surr)	88.4	50-150		%	4		08/07/15 18:47
Batch Information Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 18:47 Container ID: 1154090004-A		1	Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.1 t Vol: 1 mL	5 11:05 57 g		
Print Date: 08/12/2015 5:03:02PM						J flaggin	g is activated

SGS North America Inc.

000

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

1	Col Rec Ma Sol Loc	lection Date ceived Date trix: Soil/So ids (%):77.2 cation:	e: 07/29/1 : 07/30/18 lid (dry we	5 10:00 5 11:56 eight)		
Qual LC J 5.3	9 <u>Q/CL</u> 34	<u>DL</u> 1.60	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 17:21
50	-150		%	1		08/07/15 17:21
	Pr Pr Pr Pr	ep Batch: VX ep Method: S ep Date/Time ep Initial Wt./ ep Extract Vo	KX27686 SW5035A e: 07/29/15 Vol.: 41.83 bl: 34.5191	5 10:00 36 g mL		
	Qual LC J 5.3	Ma Sol Loc J 5.34 50-150 Pr Pr Pr Pr Pr Pr	Matrix: Soil/So         Solids (%):77.2         Location:         Qual       LOQ/CL         J       5.34         50-150         Prep Batch: V2         Prep Method: S         Prep Date/Time         Prep Initial Wt./         Prep Extract Vo	Matrix: Soil/Solid (dry we Solids (%):77.2 Location:         Qual       LOQ/CL       DL       Units         J       5.34       1.60       mg/Kg         50-150       %         Prep Batch: VXX27686 Prep Method: SW5035A         Prep Date/Time: 07/29/15 Prep Initial Wt./Vol.: 41.83         Prep Extract Vol: 34.5191	Matrix:       Soil/Solid (dry weight) Solids (%):77.2 Location:         Qual       LOQ/CL       DL       Units       DF         J       5.34       1.60       mg/Kg       1         50-150       %       1         Prep Batch: VXX27686 Prep Method:         Prep Date/Time:       07/29/15       10:00 Prep Initial Wt./Vol.:         41.836 g Prep Extract Vol:       34.5191 mL	Matrix: Soil/Solid (dry weight) Solids (%):77.2 Location: <u>Allowable</u> Limits <u>Allowable</u> Limits <u>50-150</u> Matrix: Soil/Solid (dry weight) Solids (%):77.2 Location: <u>Allowable</u> Limits <u>50-150</u> % 1 Prep Batch: VXX27686 Prep Method: SW5035A Prep Date/Time: 07/29/15 10:00 Prep Initial Wt./Vol.: 41.836 g Prep Extract Vol: 34.5191 mL

J flagging is activated

# SGS

Results of SFB91

Client Sample ID: SFB91 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090004 Lab Project ID: 1154090	Client Sample ID: <b>SFB91</b> Client Project ID: <b>105.00151.15005 Red Salmon</b> Lab Sample ID: 1154090004 Lab Project ID: 1154090					Collection Date: 07/29/15 10:00 Received Date: 07/30/15 11:56 Matrix: Soil/Solid (dry weight) Solids (%):77.2						
		Le	ocation:									
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_									
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	<u>Allowable</u> <u>Limits</u>	Date Analyzed					
Benzene	13.4 U	26.7	8.33	ug/Kg	1		08/03/15 15:34					
Ethylbenzene	26.7 U	53.4	16.7	ug/Kg	1		08/03/15 15:34					
o-Xylene	26.7 U	53.4	16.7	ug/Kg	1		08/03/15 15:34					
P & M -Xylene	53.5 U	107	32.0	ug/Kg	1		08/03/15 15:34					
Toluene	26.7 U	53.4	16.7	ug/Kg	1		08/03/15 15:34					
Surrogates												
1,2-Dichloroethane-D4 (surr)	116	71-136		%	1		08/03/15 15:34					
4-Bromofluorobenzene (surr)	99.8	55-151		%	1		08/03/15 15:34					
Toluene-d8 (surr)	112	85-116		%	1		08/03/15 15:34					
Batch Information												
Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 15:34 Container ID: 1154090004-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/29/1 Vt./Vol.: 41.8 t Vol: 34.519	5 10:00 336 g 1 mL							

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

<u>363</u>							
Results of SFC2							
Client Sample ID: <b>SFC2</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090005 Lab Project ID: 1154090	ed Salmon	C F N S L	Collection D Received Da Matrix: Soil/ Solids (%):7 ocation:				
Results by Semivolatile Organic Fuel	S						
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 1220	<u>LOQ/CL</u> 104	<u>DL</u> 32.2	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/11/15 12:40
Surrogates							
5a Androstane (surr)	131	50-150		%	4		08/11/15 12:40
Batch Information							
Analytical Batch: XFC12000 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/11/15 12:40 Container ID: 1154090005-A			Prep Batch: Prep Methoo Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.2 Vol: 1 mL	5 11:05 225 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 172	<u>LOQ/CL</u> 25.9	<u>DL</u> 8.04	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 17:58
Surrogates							
n-Triacontane-d62 (surr)	104	50-150		%	1		08/07/15 17:58
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 17:58 Container ID: 1154090005-A			Prep Batch: Prep Methoc Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.2 Vol: 1 mL	5 11:05 225 g		
Print Date: 08/12/2015 5:03:02PM						Iflaggin	a is activated

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Besults of SEC2							
Client Sample ID: SFC2 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090005 Lab Project ID: 1154090	C R M S L	ollection Da eceived Da latrix: Soil/3 olids (%):76 ocation:					
					55	Allowable	
Parameter Gasoline Range Organics	Result Qual 8.35	<u>LOQ/CL</u> 5.46	<u>DL</u> 1.64	<u>Units</u> mg/Kg	<u>DF</u> 1	Limits	Date Analyzed 08/07/15 17:40
Surrogates 4-Bromofluorobenzene (surr)	115	50-150		%	1		08/07/15 17:40
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 17:40 Container ID: 1154090005-B			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	VXX27686 : SW5035A me: 07/29/1 /t./Vol.: 41.5 Vol: 34.735	5 10:05 22 g 6 mL		

J flagging is activated

# SGS

Results of SFC2

Client Sample ID: SFC2 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090005 Lab Project ID: 1154090	ed Salmon	C F S L	Collection D Received Da Matrix: Soil/ Solids (%):7 Location:	ate: 07/29/ ate: 07/30/1 /Solid (dry w 6.6	15 10:05 5 11:56 /eight)	i	
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_				
<u>Parameter</u> Benzene	<u>Result Qual</u> 13.7 U	<u>LOQ/CL</u> 27.3	<u>DL</u> 8.52	<u>Units</u> ug/Kg	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyzed</u> 08/03/15 15:50
Ethylbenzene	27.3 U	54.6	17.0	ug/Kg	1		08/03/15 15:50
o-Xylene	129	54.6	17.0	ug/Kg	1		08/03/15 15:50
P & M -Xylene	68.8 J	109	32.8	ug/Kg	1		08/03/15 15:50
Toluene	27.3 U	54.6	17.0	ug/Kg	1		08/03/15 15:50
Surrogates							
1,2-Dichloroethane-D4 (surr)	118	71-136		%	1		08/03/15 15:50
4-Bromofluorobenzene (surr)	106	55-151		%	1		08/03/15 15:50
Toluene-d8 (surr)	112	85-116		%	1		08/03/15 15:50
Batch Information							
Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 15:50 Container ID: 1154090005-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/29/1 Vt./Vol.: 41.5 Vol: 34.735	5 10:05 522 g 6 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

Client Sample ID: SFB4 Client Project ID: 105.00151.150 .ab Sample ID: 1154090006 .ab Project ID: 1154090		Collection D Received D Matrix: Soil Solids (%):7	0ate: 07/29/ ate: 07/30/1 /Solid (dry w /5.7	15 10:15  5 11:56 /eight)			
Results by <b>Semivolatile Organi</b>	: Fuels						
Parameter Diesel Range Organics	Result Qual 20000	<u>LOQ/CL</u> 1050	<u>DL</u> 325	<u>Units</u> mg/Kg	<u>DF</u> 40	<u>Allowable</u> <u>Limits</u>	<u>Date Analyze</u> 08/11/15 13:0
<b>irrogates</b> ja Androstane (surr)	0 *	50-150		%	40		08/11/15 13:0
Batch Information Analytical Batch: XFC12000 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/11/15 1 Container ID: 1154090006-A	3:00		Prep Batch: Prep Metho Prep Date/T Prep Initial V Prep Extrac	XXX33725 d: SW3550C ïime: 08/02/1 Wt./Vol.: 30.2 t Vol: 1 mL	5 11:05 258 g		
P <u>arameter</u> Residual Range Organics	<u>Result Qual</u> 495	<u>LOQ/CL</u> 105	<u>DL</u> 32.5	<u>Units</u> mg/Kg	<u>DF</u> 4	Allowable Limits	<u>Date Analyze</u> 08/07/15 18:5
irrogates							
n-Triacontane-d62 (surr)	91.6	50-150		%	4		08/07/15 18:5
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 1 Container ID: 1154090006-A	8:57		Prep Batch: Prep Metho Prep Date/T Prep Initial V Prep Extrac	XXX33725 d: SW3550C Time: 08/02/1 Wt./Vol.: 30.2 t Vol: 1 mL	5 11:05 258 g		

SGS North America Inc.

J flagging is activated

SGS								
Results of SFB4 Client Sample ID: SFB4 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090006 Lab Project ID: 1154090	d Salmon		Ca Re M Sa La	ollection D eceived D atrix: Soil olids (%):7 ocation:	ate: 07/29/ [,] ate: 07/30/1 /Solid (dry w /5.7	15 10:15 5 11:56 reight)	i	
						55	Allowable	
Parameter Gasoline Range Organics	<u>Result C</u> 61.2	lual	<u>LOQ/CL</u> 5.50	<u>DL</u> 1.65	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Limits</u>	Date Analyzed 08/07/15 17:59
Surrogates								
4-Bromofluorobenzene (surr)	191	*	50-150		%	1		08/07/15 17:59
Batch Information								
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 17:59 Container ID: 1154090006-B			F F F F	Prep Batch: Prep Metho Prep Date/T Prep Initial \ Prep Extrac	VXX27686 d: SW5035A ïime: 07/29/1 Nt./Vol.: 42.4 t Vol: 35.308	5 10:15 ·23 g 9 mL		

J flagging is activated



Results of SFB4

Client Sample ID: <b>SFB4</b> Client Project ID: <b>105.00151.15005 R</b> 4 Lab Sample ID: 1154090006 Lab Project ID: 1154090	ed Salmon	C F N S L	Collection D Received Da Matrix: Soil/ Solids (%):7 Location:	ate: 07/29/ ate: 07/30/1 /Solid (dry w 5.7	15 10:15 15 11:56 /eight)		
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_				
<u>Parameter</u> Benzene Ethylhonzono	Result Qual 13.8 U	<u>LOQ/CL</u> 27.5	<u>DL</u> 8.58	<u>Units</u> ug/Kg	<u>DF</u> 1	Allowable Limits	Date Analyzed 08/03/15 16:06
o-Xylene P & M -Xylene Toluene	1220 811 84.7	55.0 55.0 110 55.0	17.2 17.2 33.0 17.2	ug/Kg ug/Kg ug/Kg ug/Kg	1 1 1 1		08/03/15 16:06 08/03/15 16:06 08/03/15 16:06 08/03/15 16:06
Surrogates							
1,2-Dichloroethane-D4 (surr) 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	114 100 112	71-136 55-151 85-116		% % %	1 1 1		08/03/15 16:06 08/03/15 16:06 08/03/15 16:06
Batch Information Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 16:06 Container ID: 1154090006-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/29/1 Vt./Vol.: 42.4 t Vol: 35.308	5 10:15 I23 g 9 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

<b>363</b>							
Results of SFE6							
Client Sample ID: SFE6 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090007 Lab Project ID: 1154090	d Salmon	C R M S	ollection Da eceived Da latrix: Soil/ olids (%):74 pocation:	ate: 07/29/ [,] ate: 07/30/1 Solid (dry w 4.5	15 10:18 5 11:56 ⁄eight)		
Results by Semivolatile Organic Fuels	6		_				
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 565	<u>LOQ/CL</u> 26.7	<u>DL</u> 8.29	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 18:07
Surrogates							
5a Androstane (surr)	94.2	50-150		%	1		08/07/15 18:07
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/07/15 18:07 Container ID: 1154090007-A			Prep Batch: Prep Methoc Prep Date/Ti Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.1 Vol: 1 mL	5 11:05 14 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 498	<u>LOQ/CL</u> 26.7	<u>DL</u> 8.29	<u>Units</u> mg/Kg	<u>DF</u> 1	Allowable Limits	Date Analyzed 08/07/15 18:07
Surrogates n-Triacontane-d62 (surr)	86.4	50-150		%	1		08/07/15 18:07
Batch Information Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 18:07 Container ID: 1154090007-A			Prep Batch: Prep Methoc Prep Date/Ti Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.1 Vol: 1 mL	5 11:05 14 g		
Print Date: 08/12/2015 5:03:02PM						J flaggin	g is activated

000

Results of SFE6							
Client Sample ID: SFE6 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090007 Lab Project ID: 1154090	Collection Date: 07/29/15 10:18 Received Date: 07/30/15 11:56 Matrix: Soil/Solid (dry weight) Solids (%):74.5 Location:						
Results by Volatile Fuels						Allowable	
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	Limits	Date Analyzed
Gasoline Range Organics	2.35 J	5.07	1.52	mg/Kg	1		08/07/15 18:18
Surrogates							
4-Bromofluorobenzene (surr)	98.7	50-150		%	1		08/07/15 18:1
Batch Information							
Analytical Batch: VFC12570			Prep Batch:	VXX27686			
Analytical Method: AK101			Prep Method	d: SW5035A	5 10.10		
Analysi. CRD Analytical Date/Time: 08/07/15 18:18			Prep Date/T Prep Initial V	Nt./Vol.: 49.8	5 10.16 888 a		
Container ID: 115/090007-B			Prep Extract	Vol: 37 699	9 mL		

J flagging is activated

# SGS

Results of SFE6

Client Sample ID:SFE6CoClient Project ID:105.00151.15005 Red SalmonRef			Ilection Date: 07/29/15 10:18 ceived Date: 07/30/15 11:56						
Lab Sample ID: 1154090007		Μ	atrix: Soil/Solid (dry weight)						
Lab Project ID: 1154090		S	Solids (%):74.5						
		Lo	ocation:						
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	<u> </u>						
						Allowable			
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	<u>Limits</u>	Date Analyzed		
Benzene	12.7 U	25.3	7.91	ug/Kg	1		08/03/15 16:22		
Ethylbenzene	25.4 U	50.7	15.8	ug/Kg	1		08/03/15 16:22		
o-Xylene	25.4 U	50.7	15.8	ug/Kg	1		08/03/15 16:22		
P & M -Xylene	50.5 U	101	30.4	ug/Kg	1		08/03/15 16:22		
Toluene	25.4 U	50.7	15.8	ug/Kg	1		08/03/15 16:22		
Surrogates									
1,2-Dichloroethane-D4 (surr)	117	71-136		%	1		08/03/15 16:22		
4-Bromofluorobenzene (surr)	105	55-151		%	1		08/03/15 16:22		
Toluene-d8 (surr)	112	85-116		%	1		08/03/15 16:22		
Batch Information									
Analytical Batch: VMS15139		F	Prep Batch:	VXX27661					
Analytical Method: SW8260B		F	Prep Method	d: SW5035A					
Analyst: ST		F	Prep Date/T	ime: 07/29/1	5 10:18				
Analytical Date/Time: 08/03/15 16:22 Container ID: 1154090007-B		i I	Prep Initial V Prep Extract	VI./VOI.: 49.8	688 g 9 ml				
Container ID: 1154090007-B		ľ	Prep Extract	( VOI: 37.699	9 mL				

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

<u>363</u>							
Results of SFC7							
Client Sample ID: SFC7 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090008 Lab Project ID: 1154090	d Salmon	C F N S L	Collection D Received Da Matrix: Soil/ Solids (%):8 ocation:	ate: 07/29/ [,] ate: 07/30/1 ′Solid (dry w 2.7	15 10:22 5 11:56 /eight)		
Results by Semivolatile Organic Fuels	5						
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 4840	<u>LOQ/CL</u> 239	<u>DL</u> 74.2	<u>Units</u> mg/Kg	<u>DF</u> 10	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/11/15 13:20
Surrogates							
5a Androstane (surr)	0 *	50-150		%	10		08/11/15 13:20
Batch Information							
Analytical Batch: XFC12000 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/11/15 13:20 Container ID: 1154090008-A			Prep Batch: Prep Methoc Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.3 : Vol: 1 mL	5 11:05 319 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 754	<u>LOQ/CL</u> 95.8	<u>DL</u> 29.7	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 19:07
Surrogates							
n-Triacontane-d62 (surr)	83.4	50-150		%	4		08/07/15 19:07
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 19:07 Container ID: 1154090008-A			Prep Batch: Prep Methoc Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.3 : Vol: 1 mL	5 11:05 319 g		
Print Date: 08/12/2015 5:03:02DM						Ifloadin	a is activated

SGS North America Inc.

000

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

Results of SFC7							
Client Sample ID: SFC7 Client Project ID: 105.00151.15005 Red Salmon Lab Sample ID: 1154090008 Lab Project ID: 1154090		Collection Date: 07/29/15 10:22 Received Date: 07/30/15 11:56 Matrix: Soil/Solid (dry weight) Solids (%):82.7 Location:					
Results by Volatile Fuels			_				
<u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 23.0	<u>LOQ/CL</u> 6.33	<u>DL</u> 1.90	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed
Surrogates							
4-Bromofluorobenzene (surr)	118	50-150		%	1		08/07/15 18:3
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 18:37 Container ID: 1154090008-B			Prep Batch: Prep Methoo Prep Date/T Prep Initial V Prep Extract	VXX27686 d: SW5035A ime: 07/29/1 Vt./Vol.: 28.6 Vol: 29.963	5 10:22 52 g 6 mL		

J flagging is activated

# SGS

Results of SFC7

Client Sample ID: SFC7 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090008 Lab Project ID: 1154090	Collection D Received Da Matrix: Soila Solids (%):8 Location:	ollection Date: 07/29/15 10:22 eceived Date: 07/30/15 11:56 atrix: Soil/Solid (dry weight) olids (%):82.7 ocation:					
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome					
Parameter Benzene Ethylbenzene o-Xylene P & M -Xylene Toluene Surrogates 1,2-Dichloroethane-D4 (surr) 4-Bromofluorobenzene (surr)	Result Qual 15.9 U 31.6 U 23.4 J 63.5 U 31.6 U 118 106	LOQ/CL 31.7 63.3 63.3 127 63.3 71-136 55-151	<u>DL</u> 9.88 19.8 19.8 38.0 19.8	<u>Units</u> ug/Kg ug/Kg ug/Kg ug/Kg %	<u>DF</u> 1 1 1 1 1	<u>Allowable</u> Limits	Date Analyzed 08/03/15 16:38 08/03/15 16:38 08/03/15 16:38 08/03/15 16:38 08/03/15 16:38 08/03/15 16:38
Toluene-d8 (surr)	111	85-116		%	1		08/03/15 16:38
Batch Information Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 16:38 Container ID: 1154090008-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/29/1 Vt./Vol.: 28.6 : Vol: 29.963	5 10:22 32 g 6 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

Results of SEA9							
Client Sample ID: SFA9 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090009 Lab Project ID: 1154090	d Salmon	C R M S L	Collection D Received Da Matrix: Soil/ Solids (%):8 ocation:	ate: 07/29/ ate: 07/30/1 /Solid (dry w 2.5	15 10:30 5 11:56 /eight)		
Results by Semivolatile Organic Fuels	6						
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 7130	<u>LOQ/CL</u> 477	<u>DL</u> 148	<u>Units</u> mg/Kg	<u>DF</u> 20	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/11/15 13:30
Surrogates 5a Androstane (surr)	0 *	50-150		%	20		08/11/15 13:30
Batch Information Analytical Batch: XFC12000 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/11/15 13:30 Container ID: 1154090009-A			Prep Batch: Prep Methoo Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.4 : Vol: 1 mL	5 11:05 67 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 747	<u>LOQ/CL</u> 95.4	<u>DL</u> 29.6	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> Limits	<u>Date Analyzed</u> 08/07/15 19:17
Surrogates							
n-Triacontane-d62 (surr)	93	50-150		%	4		08/07/15 19:17
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 19:17 Container ID: 1154090009-A			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.4 : Vol: 1 mL	5 11:05 67 g		
Print Date: 08/12/2015 5:03:02PM						J flaggin	g is activated

Results of SFA9							
Client Sample ID: <b>SFA9</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090009 Lab Project ID: 1154090	C R M S L	collection D lecceived Da latrix: Soil/ olids (%):8 ocation:					
Results by <b>Volatile Fuels</b>						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	Limits	Date Analyzed
Gasoline Range Organics	12.6	5.51	1.65	mg/Kg	1		08/07/15 19:54
Surrogates							
4-Bromofluorobenzene (surr)	110	50-150		%	1		08/07/15 19:5
Batch Information							
Analytical Batch: VFC12570			Prep Batch:	VXX27686			
Analytical Method: AK101			Prep Method	d: SW5035A			
Analyst: CRD			Prep Date/T	ime: 07/29/1	5 10:30		
Analytical Date/Time: 08/07/15 19:54			Prep Initial V	vt./vol.: 33.9	18 g		


Results of SFA9

Client Sample ID: <b>SFA9</b> Client Project ID: <b>105.00151.15005 R</b> 4 Lab Sample ID: 1154090009 Lab Project ID: 1154090	ollection Date: 07/29/15 10:30 eceived Date: 07/30/15 11:56 latrix: Soil/Solid (dry weight) olids (%):82.5 ocation:						
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_				
<u>Parameter</u> Benzene Ethylbenzene o-Xylene P & M -Xylene Toluene	<u>Result Qual</u> 13.8 U 27.6 U 27.6 U 55.0 U 27.6 U	LOQ/CL 27.6 55.1 55.1 110 55.1	DL 8.60 17.2 17.2 33.1 17.2	<u>Units</u> ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	<u>DF</u> 1 1 1 1	<u>Allowable</u> Limits	Date Analyzed 08/03/15 16:54 08/03/15 16:54 08/03/15 16:54 08/03/15 16:54 08/03/15 16:54
Surrogates 1,2-Dichloroethane-D4 (surr) 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	117 107 112	71-136 55-151 85-116		% % %	1 1 1		08/03/15 16:54 08/03/15 16:54 08/03/15 16:54
Batch Information Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 16:54 Container ID: 1154090009-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A iime: 07/29/1 Nt./Vol.: 33.9 t Vol: 30.932	5 10:30 98 g mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

- Results of SWE4							
Client Sample ID: SWE4 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090010 Lab Project ID: 1154090	d Salmon	C R M S L	ollection D eceived Da atrix: Soil/ olids (%):8 ocation:				
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	<u>Allowable</u> Limits	Date Analyzed
Diesel Range Organics	192	23.2	7.18	mg/Kg	1		08/07/15 18:17
Surrogates 5a Androstane (surr)	94.5	50-150		%	1		08/07/15 18:17
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/07/15 18:17 Container ID: 1154090010-A		i i i i i i i i i i i i i i i i i i i	Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.0 Vol: 1 mL	5 11:05 196 g		
<u>Parameter</u> Residual Range Organics	<u>Result Qual</u> 29.3	<u>LOQ/CL</u> 23.2	<u>DL</u> 7.18	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 18:17
<b>Surrogates</b> n-Triacontane-d62 (surr)	101	50-150		%	1		08/07/15 18:17
Batch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 18:17 Container ID: 1154090010-A		i i i i i i i i i i i i i i i i i i i	Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.0 Vol: 1 mL	5 11:05 996 g		

Results of <b>SWE4</b> Client Sample ID: <b>SWE4</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090010 Lab Project ID: 1154090	C F M S L	Collection D Received Da Aatrix: Soil Solids (%):8 .ocation:					
Results by <b>Volatile Fuels</b> Parameter	<u>Result Qual</u>	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	<u>Allowable</u> <u>Limits</u>	Date Analyze
Gasoline Range Organics	1.66 J	4.46	1.34	mg/Kg	1		08/07/15 20:1
u <b>rrogates</b> 4-Bromofluorobenzene (surr)	103	50-150		%	1		08/07/15 20:1
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 20:13 Container ID: 1154090010-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27686 d: SW5035A ime: 07/29/1 Vt./Vol.: 39.7 : Vol: 30.529	5 10:35 '2 g 1 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

Results of SWE4

Client Sample ID: SWE4 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090010	Client Sample ID: SWE4 Client Project ID: 105.00151.15005 Red Salmon Lab Sample ID: 1154090010 Lab Project ID: 1154090					Collection Date: 07/29/15 10:35 Received Date: 07/30/15 11:56 Matrix: Soil/Solid (dry weight)						
Lab Project ID: 1154090		S	Solids (%):86.1									
		L	ocation:									
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome										
						Allowable						
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	Limits	Date Analyzed					
Benzene	11.2 U	22.3	6.96	ug/Kg	1		08/03/15 17:10					
Ethylbenzene	22.3 U	44.6	13.9	ug/Kg	1		08/03/15 17:10					
o-Xylene	22.3 U	44.6	13.9	ug/Kg	1		08/03/15 17:10					
P & M -Xylene	44.6 U	89.3	26.8	ug/Kg	1		08/03/15 17:10					
Toluene	22.3 U	44.6	13.9	ug/Kg	1		08/03/15 17:10					
Surrogates												
1,2-Dichloroethane-D4 (surr)	116	71-136		%	1		08/03/15 17:10					
4-Bromofluorobenzene (surr)	105	55-151		%	1		08/03/15 17:10					
Toluene-d8 (surr)	114	85-116		%	1		08/03/15 17:10					
Batch Information												
Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 17:10 Container ID: 1154090010-B				VXX27661 d: SW5035A ime: 07/29/1 Vt./Vol.: 39.7 t Vol: 30.529	5 10:35 '2 g 1 mL							

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

SGS							
Results of SWD1							
Client Sample ID: <b>SWD1</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090011 Lab Project ID: 1154090	od Salmon	Collection Date: 07/29/15 10:40 Received Date: 07/30/15 11:56 Matrix: Soil/Solid (dry weight) Solids (%):90.8 Location:					
Results by Semivolatile Organic Fuels	5						
Parameter Diesel Range Organics	<u>Result Qual</u> 4500	<u>LOQ/CL</u> 220	<u>DL</u> 68.2	<u>Units</u> mg/Kg	<u>DF</u> 10	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 08/11/15 13:40
Surrogates 5a Androstane (surr)	0 *	50-150		%	10		08/11/15 13:40
Batch Information Analytical Batch: XFC12000 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/11/15 13:40 Container ID: 1154090011-A			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.0 t Vol: 1 mL	5 11:05 )5 g		
Parameter Residual Range Organics	<u>Result Qual</u> 156	<u>LOQ/CL</u> 88.0	<u>DL</u> 27.3	<u>Units</u> mg/Kg	<u>DF</u> 4	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 08/07/15 19:27
Surrogates n-Triacontane-d62 (surr)	77.7	50-150		%	4		08/07/15 19:27
Potch Information							
Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 19:27 Container ID: 1154090011-A			Prep Batch: Prep Methoo Prep Date/T Prep Initial V Prep Extract	XXX33725 d: SW3550C ime: 08/02/1 Vt./Vol.: 30.0 t Vol: 1 mL	5 11:05 )5 g		

Print Date: 08/12/2015 5:03:02PM

Results of SWD1		ì					
Client Sample ID: SWD1 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090011 Lab Project ID: 1154090	d Salmon		Collection D Received Da Matrix: Soil Solids (%):9 Location:	vate: 07/29/ ate: 07/30/1 /Solid (dry w 0.8	15 10:40 5 11:56 /eight)		
Results by volatile rueis						Allowable	
Parameter Gasoline Range Organics	<u>Result Qual</u> 94.5	<u>LOQ/CL</u> 4 34	<u>DL</u> 1.30	<u>Units</u> ma/Ka	<u>DF</u> 1	<u>Limits</u>	Date Analyze
Surrogatos	01.0			ing/rtg			00/01/10 20:0
4-Bromofluorobenzene (surr)	353 *	50-150		%	1		08/07/15 20:3
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 20:32			Prep Batch: Prep Method Prep Date/T Prep Initial \ Prep Extrac	VXX27686 d: SW5035A Time: 07/29/1 Nt./Vol.: 35.9	5 10:40 31 g		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

Results of SWD1

Client Sample ID: <b>SWD1</b> Client Project ID: <b>105.00151.15005 R</b> Lab Sample ID: 1154090011 Lab Project ID: 1154090	Collection D Received Da Matrix: Soil/ Solids (%):9 Location:	ate: 07/29/ ate: 07/30/1 /Solid (dry w 0.8	15 10:40  5 11:56 /eight)				
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_				
Parameter Benzene Ethylbenzene o-Xylene P & M -Xylene Toluene	<u>Result Qual</u> 10.9 U 96.7 1010 705 29.1 J	LOQ/CL 21.7 43.4 43.4 86.8 43.4	DL 6.77 13.5 13.5 26.0 13.5	<u>Units</u> ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	<u>DF</u> 1 1 1 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/03/15 17:26 08/03/15 17:26 08/03/15 17:26 08/03/15 17:26 08/03/15 17:26
Surrogates							
1,2-Dichloroethane-D4 (surr) 4-Bromofluorobenzene (surr) Toluene-d8 (surr)	112 106 110	71-136 55-151 85-116		% % %	1 1 1		08/03/15 17:26 08/03/15 17:26 08/03/15 17:26
Batch Information Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 17:26 Container ID: 1154090011-B			Prep Batch: Prep Method Prep Date/T Prep Initial V Prep Extract	VXX27661 d: SW5035A ime: 07/29/1 Nt./Vol.: 35.9 t Vol: 28.306	5 10:40 031 g 1 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

565							
Results of SWB0 Client Sample ID: SWB0 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090012 Lab Project ID: 1154090	od Salmon	C R M S L	collection D teceived Da latrix: Soil olids (%):8 ocation:				
Parameter Diesel Range Organics	Result Qual	<u>LOQ/CL</u> 885	<u>DL</u> 274	<u>Units</u> mg/Kg	<u>DF</u> 40	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 08/11/15 12:50
Surrogates 5a Androstane (surr)	0 *	50-150		%	40		08/11/15 12:50
Batch Information Analytical Batch: XFC12000 Analytical Method: AK102 Analyst: AYC Analytical Date/Time: 08/11/15 12:50 Container ID: 1154090012-A			Prep Batch: Prep Method Prep Date/T Prep Initial \ Prep Extrac	XXX33725 d: SW3550C ïime: 08/02/1 Nt./Vol.: 30.2 t Vol: 1 mL	5 11:05 :89 g		
Parameter Residual Range Organics	<u>Result Qual</u> 194	<u>LOQ/CL</u> 22.1	<u>DL</u> 6.86	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyzed</u> 08/07/15 18:27
Surrogates n-Triacontane-d62 (surr)	87.4	50-150		%	1		08/07/15 18:27
Batch Information Analytical Batch: XFC11994 Analytical Method: AK103 Analyst: AYC Analytical Date/Time: 08/07/15 18:27 Container ID: 1154090012-A			Prep Batch: Prep Methor Prep Date/T Prep Initial \ Prep Extrac	XXX33725 d: SW3550C ïime: 08/02/1 Nt./Vol.: 30.2 t Vol: 1 mL	5 11:05 89 g		
Print Date: 08/12/2015 5:03:02PM						Iflaggin	a is activated

000

J flagging is activated

Besults of SWB0							
Client Sample ID: SWB0 Client Project ID: 105.00151.15005 Re Lab Sample ID: 1154090012 Lab Project ID: 1154090	C R M S L	ollection Da eceived Da atrix: Soil/ olids (%):8 ocation:					
Parameter Gasoline Range Organics	<u>Result Qual</u> 16.5	<u>LOQ/CL</u> 3.98	<u>DL</u> 1.19	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/07/15 20:52
Surrogates 4-Bromofluorobenzene (surr)	118	50-150		%	1		08/07/15 20:52
Batch Information Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 20:52 Container ID: 1154090012-B			Prep Batch: Prep Methoc Prep Date/Ti Prep Initial V Prep Extract	VXX27686 d: SW5035A ime: 07/29/1 Vt./Vol.: 41.0 Vol: 29.288	5 10:45 77 g 2 mL		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

Results of SWB0

Client Sample ID: <b>SWB0</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090012 Lab Project ID: 1154090	Collection Date: 07/29/15 10:45 Received Date: 07/30/15 11:56 Matrix: Soil/Solid (dry weight) Solids (%):89.6 Location:						
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_				
Parameter Benzene Ethylbenzene o-Xylene P & M -Xylene Toluene	<u>Result Qual</u> 9.95 U 19.9 U 19.9 U 39.8 U 19.9 U	LOQ/CL 19.9 39.8 39.8 79.6 39.8	<u>DL</u> 6.21 12.4 12.4 23.9 12.4	<u>Units</u> ug/Kg ug/Kg ug/Kg ug/Kg	<u>DF</u> 1 1 1 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 08/03/15 17:42 08/03/15 17:42 08/03/15 17:42 08/03/15 17:42 08/03/15 17:42
Surrogates							
1,2-Dichloroethane-D4 (surr)	117	71-136		%	1		08/03/15 17:42
4-Bromofluorobenzene (surr)	105	55-151		%	1		08/03/15 17:42
Toluene-d8 (surr)	110	85-116		%	1		08/03/15 17:42
Batch Information Analytical Batch: VMS15139 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 08/03/15 17:42 Craticipar ID: 1154000012 B			Prep Batch: Prep Method Prep Date/T Prep Initial V	VXX27661 d: SW5035A ime: 07/29/1 Vt./Vol.: 41.0	5 10:45 )77 g		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

SGS							
- Results of <b>TB1</b>							
Client Sample ID: <b>TB1</b> Client Project ID: <b>105.00151.15005 Re</b> Lab Sample ID: 1154090013 Lab Project ID: 1154090	Collection Date: 07/28/15 08:30 Received Date: 07/30/15 11:56 Matrix: Solid/Soil (Wet Weight) Solids (%): Location:						
- Results by Volatile Fuels							
Parameter Gasoline Range Organics	<u>Result Qual</u> 1.25 U	<u>LOQ/CL</u> 2.50	<u>DL</u> 0.749	<u>Units</u> mg/Kg	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 08/07/15 16:04
Surrogates							
4-Bromofluorobenzene (surr)	104	50-150		%	1		08/07/15 16:04
Batch Information							
Analytical Batch: VFC12570 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 16:04 Container ID: 1154090013-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	VXX27686 : SW5035A me: 07/28/1 /t./Vol.: 50.0 Vol: 25 mL	5 08:30 997 g		

Print Date: 08/12/2015 5:03:02PM

J flagging is activated



Results of TB1

Results of IB1							
Client Sample ID: <b>TB1</b> Client Project ID: <b>105.00151.15005 R</b> Lab Sample ID: 1154090013 Lab Project ID: 1154090	ed Salmon	C R M S	ollection D eceived Da latrix: Solid olids (%): ocation:				
Results by Volatile Gas Chromatogra	phy/Mass Spec	trome	_				
Parameter Benzene Ethylbenzene o-Xylene P & M -Xylene Toluene <b>Surrogates</b> 1,2-Dichloroethane-D4 (surr)	<u>Result Qual</u> 6.25 U 12.5 U 12.5 U 24.9 U 12.5 U 106	LOQ/CL 12.5 25.0 25.0 49.9 25.0 71-136	<u>DL</u> 3.89 7.78 7.78 15.0 7.78	<u>Units</u> ug/Kg ug/Kg ug/Kg ug/Kg	<u>DF</u> 1 1 1 1	<u>Allowable</u> <u>Limits</u>	Date Analyzed 07/31/15 17:52 07/31/15 17:52 07/31/15 17:52 07/31/15 17:52 07/31/15 17:52 07/31/15 17:52
4-Bromofluorobenzene (surr)	98.5	55-151		%	1		07/31/15 17:52
Batch Information Analytical Batch: VMS15136 Analytical Method: SW8260B Analyst: ST Analytical Date/Time: 07/31/15 17:52 Container ID: 1154090013-A		Prep Batch: Prep Methor Prep Date/T Prep Initial V Prep Extract	VXX27656 d: SW5035A ime: 07/28/1 Vt./Vol.: 50.0 : Vol: 25 mL	5 08:30 097 g			
Cuntainer ID. 1154090015-A				. vui. 23 ML			

Print Date: 08/12/2015 5:03:02PM

J flagging is activated

SGS	

Method Blank					
Blank ID: MB for HBN Blank Lab ID: 128069	l 1715459 [SPT/9678] 8	Matrix	c: Soil/Solid	(dry weight)	
QC for Samples: 1154090001, 11540900 1154090010, 11540900	02, 1154090003, 1154090004, 115 11, 1154090012	i4090005, 1154090006	i, 1154090007	7, 1154090008, 1154090009	),
Results by SM21 254	0G				
Parameter Total Solids	<u>Results</u> 100	LOQ/CL	<u>DL</u>	<u>Units</u> %	
Batch Information					
Analytical Batch: SP Analytical Method: S Instrument: Analyst: A.R Analytical Date/Time	- T9678 SM21 2540G : 7/31/2015 6:55:00PM				

Print Date: 08/12/2015 5:03:16PM



iplicate Sample Summary       Analysis Date: 07/31/2015 18:55         iginal Sample ID: 1280699       Matrix: Soil/Solid (dry weight)         c for Samples:       54090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008         esults by SM21 2540G       Image: Complexity of the second sec								
iginal Sample ID: 1154038008       Analysis Date: 07/31/2015 18:55         iplicate Sample ID: 1280699       Matrix: Soil/Solid (dry weight)         C for Samples:       54090001, 1154090002, 1154090003, 1154090005, 1154090006, 1154090007, 1154090008         esults by SM21 2540G       Image: State	iplicate Sample Summ	nary						
C for Samples:         54090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008         esults by SM21 2540G <u>ME</u> Original         Duplicate       Units       RPD (%)         tal Solids       96.3       96.3       0.08       (< 15 )         tch Information       Analytical Batch: SPT9678       Nalytical Method: SM21 2540G       start analytical Method: SM21 2540G         Analytical Method: SM21 2540G       start analytical Method: SM21 2540G       start analytical Method: SM21 2540G       start analytical Method: SM21 2540G	riginal Sample ID: 1154 uplicate Sample ID: 12		Analysis Date: 07/31/2015 18:55 Matrix: Soil/Solid (dry weight)					
54090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008 esults by SM21 2540G <u>ME</u> Original Duplicate Units <u>RPD (%)</u> <u>RPD CL</u> tal Solids 96.3 96.3 % 0.08 (< 15 ) <b>tch Information</b> Analytical Batch: SPT9678 Analytical Method: SM21 2540G instrument: Analyst: A.R	C for Samples:							
Analytical Batch: SPT9678 Analytical Method: SM21 2540G Analytical Method: SM21 2540G Nalytical Method: SM21 2540G Nalytic	154090001. 115409000	2. 1154090003. 11540	090004. 1154090005.	1154090006. 115	54090007. 1154090	800		
esuits by SM21 2540GMEOriginalDuplicateUnitsRPD (%)RPD CLtal Solids96.396.3%0.08(< 15 )								
MEOriginalDuplicateUnitsRPD (%)RPD CLtal Solids96.396.3%0.08(< 15 )tch InformationAnalytical Batch: SPT9678 Analytical Method: SM21 2540G instrument: Analyst: A.R	Results by SM21 2540G							
ttal Solids 96.3 96.3 % 0.08 (< 15 ) ttch Information Analytical Batch: SPT9678 Analytical Method: SM21 2540G instrument: Analyst: A.R	IAME	Original	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL		
Analytical Batch: SPT9678 Analytical Method: SM21 2540G nstrument: Analyst: A.R	otal Solids	96.3	96.3	%	0.08	(< 15 )		
	Analytical Method: SM21 Instrument: Analyst: A.R	2540G						

Print Date: 08/12/2015 5:03:18PM

SGS North America Inc.



## Duplicate Sample Summary

Original Sample ID: 1154090008 Duplicate Sample ID: 1280700 Analysis Date: 07/31/2015 18:55 Matrix: Soil/Solid (dry weight)

QC for Samples:

1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090010, 1154090011, 1154090012

Results by SM21 2540G					
NAME	Original	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL
Total Solids	82.7	82.3	%	0.48	(< 15 )
Batch Information Analytical Batch: SPT9678 Analytical Method: SM21 Instrument: Analyst: A.R	3 2540G				

Print Date: 08/12/2015 5:03:18PM

SGS North America Inc.

I							
uplicate Sample Summ	nary						
riginal Sample ID: 1158 uplicate Sample ID: 128		Analysis Date: 07/31/2015 18:55 Matrix: Soil/Solid (dry weight)					
C for Samples:							
154090009, 115409001	0, 1154090011, 1154	090012					
esults by SM21 2540G							
IAME	Original	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL		
otal Solids	79.1	79.6	%	0.68	(< 15 )		
Analytical Batch: SPT9678 Analytical Method: SM21 Instrument: Analyst: A.R	8 2540G						

Print Date: 08/12/2015 5:03:18PM

# Method Blank

Blank ID: MB for HBN 1715789 [VXX/27656] Blank Lab ID: 1280938

QC for Samples: 1154090013

#### Results by SW8260B

Parameter	Posults		וח	l Inite
	Iteouito			Onits
Benzene	6.25U	12.5	3.90	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	107	71-136		%
4-Bromofluorobenzene (surr)	95.4	55-151		%
Toluene-d8 (surr)	95.9	85-116		%

### **Batch Information**

Analytical Batch: VMS15136 Analytical Method: SW8260B Instrument: Agilent 7890-75MS Analyst: ST Analytical Date/Time: 7/31/2015 3:21:00PM Prep Batch: VXX27656 Prep Method: SW5035A Prep Date/Time: 7/31/2015 8:00:00AM Prep Initial Wt./Vol.: 50 g Prep Extract Vol: 25 mL

Print Date: 08/12/2015 5:03:20PM

Matrix: Soil/Solid (dry weight)



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1154090 [VXX27656] Blank Spike Lab ID: 1280939 Date Analyzed: 07/31/2015 15:50

Matrix: Soil/Solid (dry weight)

QC for Samples: 1154090013

#### Results by SW8260B

### **Batch Information**

Analytical Batch: VMS15136 Analytical Method: SW8260B Instrument: Agilent 7890-75MS Analyst: ST Prep Batch: VXX27656 Prep Method: SW5035A Prep Date/Time: 07/31/2015 08:00 Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/12/2015 5:03:22PM



#### Matrix Spike Summary

Original Sample ID: 1280940 MS Sample ID: 1280941 MS MSD Sample ID: 1280942 MSD Analysis Date: 07/31/2015 18:24 Analysis Date: 07/31/2015 16:32 Analysis Date: 07/31/2015 16:48 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1154090013

#### Results by SW8260B

		Mat	trix Spike (I	ug/Kg)	Spike	Duplicate	(ug/Kg)			
<u>Parameter</u>	<u>Sample</u>	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Benzene	5.40U	649	647	100	649	682	105	77-121	5.20	(< 20)
Ethylbenzene	10.8U	649	641	99	649	668	103	76-122	4.10	(< 20)
o-Xylene	10.8U	649	647	100	649	671	103	77-123	3.70	(< 20)
P & M -Xylene	21.6U	1300	1280	99	1300	1340	103	77-124	4.20	(< 20)
Toluene	10.8U	649	627	97	649	619	95	77-121	1.20	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		649	649	100	649	671	103	71-136	3.20	
4-Bromofluorobenzene (surr)		1730	1370	79	1730	1420	82	55-151	3.50	
Toluene-d8 (surr)		649	647	100	649	639	99	85-116	1.20	

#### **Batch Information**

Analytical Batch: VMS15136 Analytical Method: SW8260B Instrument: Agilent 7890-75MS Analyst: ST Analytical Date/Time: 7/31/2015 4:32:00PM Prep Batch: VXX27656 Prep Method: Vol. Extraction SW8260 Field Extracted L Prep Date/Time: 7/31/2015 8:00:00AM Prep Initial Wt./Vol.: 57.81g Prep Extract Vol: 25.00mL

Print Date: 08/12/2015 5:03:23PM

### Method Blank

Blank ID: MB for HBN 1715860 [VXX/27661] Blank Lab ID: 1281088 Matrix: Soil/Solid (dry weight)

QC for Samples:

1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090009, 1154090010, 1154090011, 1154090012

Results by SW8260B					
Parameter	Results	1.00/Cl	וח	Units	
Benzene	6.25U	12.5	<u>3.90</u>	ug/Kg	
Ethylbenzene	12.5U	25.0	7.80	ug/Kg	
o-Xylene	12.5U	25.0	7.80	ug/Kg	
P & M -Xylene	25.0U	50.0	15.0	ug/Kg	
Toluene	12.5U	25.0	7.80	ug/Kg	
Surrogates					
1,2-Dichloroethane-D4 (surr)	110	71-136		%	
4-Bromofluorobenzene (surr)	91	55-151		%	
Toluene-d8 (surr)	97.5	85-116		%	

#### **Batch Information**

Analytical Batch: VMS15139 Analytical Method: SW8260B Instrument: VQA 7890/5975 GC/MS Analyst: ST Analytical Date/Time: 8/3/2015 10:59:00AM Prep Batch: VXX27661 Prep Method: SW5035A Prep Date/Time: 8/3/2015 8:00:00AM Prep Initial Wt./Vol.: 50 g Prep Extract Vol: 25 mL

Print Date: 08/12/2015 5:03:24PM



#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1154090 [VXX27661] Blank Spike Lab ID: 1281089 Date Analyzed: 08/03/2015 11:34

Matrix: Soil/Solid (dry weight)

QC for Samples: 1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090009, 1154090010, 1154090011, 1154090012

Results by SW8260B				
	ŀ	Blank Spike	(ug/Kg)	
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>
Benzene	750	767	102	(77-121)
Ethylbenzene	750	749	100	(76-122)
o-Xylene	750	755	101	(77-123)
P & M -Xylene	1500	1480	99	(77-124)
Toluene	750	729	97	(77-121)
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	106	106	(71-136)
4-Bromofluorobenzene (surr)	750	96	96	(55-151)
Toluene-d8 (surr)	750	104	104	(85-116)

#### **Batch Information**

Analytical Batch: VMS15139 Analytical Method: SW8260B Instrument: VQA 7890/5975 GC/MS Analyst: ST Prep Batch: VXX27661 Prep Method: SW5035A Prep Date/Time: 08/03/2015 08:00 Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/12/2015 5:03:25PM



#### Matrix Spike Summary

Original Sample ID: 1281090 MS Sample ID: 1281091 MS MSD Sample ID: 1281092 MSD Analysis Date: 08/03/2015 13:42 Analysis Date: 08/03/2015 12:06 Analysis Date: 08/03/2015 12:22 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090009, 1154090010, 1154090011, 1154090012

Results by SW8260B										
		Mat	rix Spike (ι	ug/Kg)	Spike	e Duplicate	(ug/Kg)			
Parameter	Sample	Spike	Result	<u>Rec (%)</u>	Spike	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Benzene	6.30U	757	791	104	757	780	103	77-121	1.30	(< 20)
Ethylbenzene	12.6U	757	779	103	757	768	101	76-122	1.40	(< 20)
o-Xylene	12.6U	757	764	101	757	766	101	77-123	0.20	(< 20)
P & M -Xylene	25.3U	1510	1510	100	1510	1500	99	77-124	1.10	(< 20)
Toluene	12.6U	757	762	101	757	755	100	77-121	0.86	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		757	781	103	757	788	104	71-136	0.80	
4-Bromofluorobenzene (surr)		2020	1720	85	2020	1760	87	55-151	2.30	
Toluene-d8 (surr)		757	793	105	757	787	104	85-116	0.73	

#### **Batch Information**

Analytical Batch: VMS15139 Analytical Method: SW8260B Instrument: VQA 7890/5975 GC/MS Analyst: ST Analytical Date/Time: 8/3/2015 12:06:00PM Prep Batch: VXX27661 Prep Method: Vol. Extraction SW8260 Field Extracted L Prep Date/Time: 8/3/2015 8:00:00AM Prep Initial Wt./Vol.: 49.54g Prep Extract Vol: 25.00mL

Print Date: 08/12/2015 5:03:27PM

# Method Blank

Blank ID: MB for HBN 1716662 [VXX/27686] Blank Lab ID: 1282341 Matrix: Soil/Solid (dry weight)

QC for Samples:

1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090009, 1154090010, 1154090011, 1154090012, 1154090013

# Results by **AK101**

ParameterRGasoline Range Organics0.	<u>esults</u> 784J	<u>LOQ/CL</u> 2.50	<u>DL</u> 0.750	<u>Units</u> mg/Kg	
Surrogates4-Bromofluorobenzene (surr)10	05	50-150		%	
Batch Information					
Analytical Batch: VFC12570 Analytical Method: AK101 Instrument: Agilent 7890A PID/FII Analyst: CRD	D	Prep Batc Prep Meth Prep Date Prep Initia	h: VXX27686 iod: SW5035A /Time: 8/7/2015 I Wt./Vol.: 50 g	5 8:00:00AM	

Print Date: 08/12/2015 5:03:27PM



Plank Snika Summany													
Blank Spike Summary Blank Spike ID: LCS for HBN Blank Spike Lab ID: 1282344 Date Analyzed: 08/07/2015	1154090 [ , 14:10	VXX2768	] Spike Duplicate ID: LCSD for HBN 1154090 [VXX27686] Spike Duplicate Lab ID: 1282345 Matrix: Spil/Splid (dp/weight)										
QC for Samples: 11540900 11540900	001, 115409 008, 115409	0002, 1154 0009, 1154	1090003, 115 1090010, 115	54090004, 54090011,	115409000 115409001	05, 11540900 12, 11540900	006, 11540900 013	007,					
Results by AK101													
	В	lank Spike	(mg/Kg)	s	pike Duplic	ate (mg/Kg)							
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL				
Gasoline Range Organics	10.0	9.61	96	10.0	9.79	98	(60-120)	1.80	(< 20)				
Surrogates													
4-Bromofluorobenzene (surr)	1.25	107	107	1.25	108	108	(50-150)	0.09					
Batch Information													
Instrument: Agilent 7890A PII Analyst: CRD	D/FID			Pre Spil Dup	p Date/Tim ke Init Wt./\ e Init Wt./\	e: <b>08/07/201</b> /ol.: 10.0 mg /ol.: 10.0 mg	5 08:00 g/Kg Extract /Kg Extract	Vol: 25 mL Vol: 25 mL					

Print Date: 08/12/2015 5:03:28PM

# Method Blank

Blank ID: MB for HBN 1715655 [XXX/33725] Blank Lab ID: 1280753 Matrix: Soil/Solid (dry weight)

QC for Samples:

1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090009, 1154090010, 1154090011, 1154090012

# Results by AK102

Parameter Diesel Range Organics	<u>Results</u> 10.0U	<u>LOQ/CL</u> 20.0	<u>DL</u> 6.20	<u>Units</u> mg/Kg	
<b>Surrogates</b> 5a Androstane (surr)	73.8	60-120		%	
Batch Information					
Analytical Batch: XFC119 Analytical Method: AK102 Instrument: HP 6890 Ser Analyst: AYC Analytical Date/Time: 8/7	994 2 ies II FID SV D R /2015 5:08:00PM	Prep Prep Prep Prep Prep	Batch: XXX33728 Method: SW3550 Date/Time: 8/2/20 Initial Wt./Vol.: 30 Extract Vol: 1 mL	5 IC 015 11:05:26AM 0 g	

Print Date: 08/12/2015 5:03:30PM



Blank Spike Summary												
Blank Spike ID: LCS for HE Blank Spike Lab ID: 12807 Date Analyzed: 08/07/201	3N 1154090 54 I5 17:18	[XXX3372	5]	Spike Duplicate ID: LCSD for HBN 1154090 [XXX33725] Spike Duplicate Lab ID: 1280755 Matrix: Soil/Solid (dry weight)								
QC for Samples: 115409 115409	90001, 115409 90008, 115409	90002, 1154 90009, 1154	4090003, 115 4090010, 115	54090004, 54090011,	115409000 11540900	05, 1154090 12	006, 1154090	007,				
Results by <b>AK102</b>												
	E	Blank Spike	(mg/Kg)	S	pike Duplic	ate (mg/Kg)						
<u>Parameter</u>	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL			
Diesel Range Organics	167	148	89	167	130	78	(75-125)	12.50	(< 20)			
urrogates												
5a Androstane (surr)	3.33	96.8	97	3.33	85	85	(60-120)	13.00				
Batch Information												
Analytical Batch: XFC11994 Analytical Method: AK102	4 s II FID SV D R			Pre Pre Pre	p Batch: X p Method: n Date/Tim	XX33725 SW3550C e [:] 08/02/20/	15 11:05					
Analyst: AYC		-		Spi Duj	ke Init Wt./\ be Init Wt./\	/ol.: 167 mg /ol.: 167 mg	g/Kg Extract	Vol: 1 mL Vol: 1 mL				

Print Date: 08/12/2015 5:03:32PM

# Method Blank

Blank ID: MB for HBN 1715655 [XXX/33725] Blank Lab ID: 1280753 Matrix: Soil/Solid (dry weight)

QC for Samples:

1154090001, 1154090002, 1154090003, 1154090004, 1154090005, 1154090006, 1154090007, 1154090008, 1154090009, 1154090010, 1154090011, 1154090012

### Results by AK103

Parameter Residual Range Organics	<u>Results</u> 10.0U	<u>LOQ/CL</u> 20.0	<u>DL</u> 6.20	<u>Units</u> mg/Kg	
Surrogates					
n-Triacontane-d62 (surr)	83.8	60-120		%	
Batch Information					
Analytical Batch: XFC1199	)4	Prep Bat	ch: XXX33728	5	
Analytical Method: AK103		Prep Met	thod: SW3550	C	
Instrument: HP 6890 Serie	s II FID SV D R	Prep Dat	e/Time: 8/2/20	015 11:05:26AM	
Analyst: AYC		Prep Initi	al Wt./Vol.: 30	) g	
Analytical Date/Time: 8/7/2	2015 5:08:00PM	Prep Ext	ract Vol: 1 mL		

Print Date: 08/12/2015 5:03:34PM



Blank Spike ID: LCS fo Blank Spike Lab ID: 12 Date Analyzed: 08/07	r HBN 1154090		_										
	80754 /2015 17:18	[XXX3372	5]	Spike Duplicate ID: LCSD for HBN 1154090 [XXX33725] Spike Duplicate Lab ID: 1280755 Matrix: Soil/Solid (dry weight)									
QC for Samples: 11	54090001, 115409 54090008, 115409	90002, 1154 90009, 1154	4090003, 115 4090010, 115	54090004, 54090011,	115409000 115409001	)5, 115409  2	0006, 1154090	007,					
Results by AK103													
	E	Blank Spike	(mg/Kg)	S	pike Duplic	ate (mg/Kg	)						
Parameter	Spike	Result	<u>Rec (%)</u>	Spike	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL				
Residual Range Organics	167	123	74	167	112	67	(60-120)	9.40	(< 20)				
Surrogates													
n-Triacontane-d62 (surr)	3.33	86.1	86	3.33	80.3	80	(60-120)	7.00					
Batch Information													
Analytical Batch: XFC1 Analytical Method: AK1 Instrument: HP 6890 Se Analyst: AYC	1994 I03 eries II FID SV D R	1		Pre Pre Pre Spi Dup	p Batch: X p Method: p Date/Tim ke Init Wt./\ pe Init Wt./\	<b>XX33725</b> <b>SW3550C</b> e: <b>08/02/20</b> /ol.: 167 m /ol.: 167 m	0 <b>15 11:05</b> ng/Kg Extract ng/Kg Extract \	Vol: 1 mL /ol: 1 mL					

Print Date: 08/12/2015 5:03:35PM

ons Nationwide	Maryland	New York	na Indiana	a Kentucky	ww.us.sgs.com							REMARKS/ LOC ID											ata Deliverable Requirements:	structions:			hain of Custody Seal: (Circle)	TACT BROKEN ABSENT	attached Sample Receipt Form)	
Locatio	Alaska	New Jersey	North Carolir	West Virgina	M	ons 1 - 5 must be filled out.	elay the onset of analysis.	Preservative		[9] >f	f 4	222											tion 4 DOD Project? Yes Nov Dater ID:	sted Turnaround Time and/or Special In	Otim der à	-	Blank °C: St & DS C	or Ambient [ ]	attached Sample Receipt Form) (See	www.sgs.com/terms-and-conditions
	USUPSITI P					IDac	Omissions may d	Section 3		20 کم ۱۹۱۸۲ ۱۹۱۸۲ ۱۹۶۲ ۱۹۶۲ ۱۹۶۲ ۱۹۶۲ ۱۹۶۲ ۱۹۶۲ ۱۹۶۲ ۱۹۶		So R E	2 C X X X X										Sect	Reque				Laboratory By:	(See	801 http://w
	SGS Nor	CHAIN OF C					(Or P	とり)~ビス-アウタ	еси 11#: 165,08151,15085	ale: ay OSI reconsulting.com	1E#: #:	DATE TIME MATRIX/ mm/dd/yy HH:MM CODE	128/15 0830 5	1 0460 51/8 C/1	0001 Si/bE/L.	[ 1000	1005	(3)	10)8	1623	0201	1 (63) 1	Date Time Received By: 7/3/15 [1] 30	Date Time Received By:		Date Time Received By-		Date Time Received For	7/36/15 / 11 56 /	18 Tel: (907) 562-2343 Fax: (907) 561-53 1405 Tel: (910) 350-1903 Fax: (910) 350-1
	ワリシン			008			CLIENT: 52/2 MENNATIONAL (	CONTACT:	E PROJECT PROJ NAME: Red Sal Went PERW	REPORTS TO: E-M.	UNDICE TO: CAN UNDICE TO:	RESERVED SAMPLE IDENTIFICATION for lab use	C77 8-40	(2)A-B TP3	(3A-B FB1	EQA-B SFB92	8 (5) A- b SFC3	(a) A & SFBH	(1) A-B >FE6	EDH-B 5927	(9)A-BI 5FA9	(10) A - B SWEY	Relinquished By: (1)	Relinquished By: (2)	GLIO	0 Relinquished By: (3)		Relinquished By: (4)	)	[ ] 200 W. Potter Drive Anchorage, AK 995 [ ] 5500 Business Drive Wilmington, NC 28

F083-Kit_Request_and_COC_Templates-Blank Revised 2013-03-24

							*				S								ients:				ircle)	SENT	ot Form)		ink 24
onwide	Naw Vork	Indiana	li lulai la Kentucky	1s.com			lo -				REMARK LOC ID						-		verable Requirem	ns:			Custody Seal: (C	BROKEN AB	ed Sample Receip		1_COC_Templates-Bla Revised 2013-03-
tions Natio	10	ey olina	lina	www.us.sc													 		Data Deliv	Instructio			Chain of 0	WHACT	ee attache		_Request_anc
Loca	Naw lare		West Virg	,	led out	alysis.												ĺ	No	or Special		-	[		orm) (S	tions	F083-Kit
					t be fil	t of an	Ð							;					ject? Yes	ime and/c			408	[]	Receipt F	and-condit	
					2 mus	e onse	reservativ										 		DOD Pro	around T			5:3	Ambient	Sample I	<u>m/terms-</u>	
					- 1 - u	<u>elay th</u>	đ		59]	217 (	073	×	X						on 4 er ID:	sted Turn	مالكر	5	3lank °C:	or	attached	ww.sgs.co	
					oectic	may de			e91	M¥	1260	×	X						Secti	Reque			Temp		(See	http://w	
	200				tions:	sions			(V) (V)	17 \ 02 )	1710		X	X			 		$\sim$			1					
	つ				Instruc	Omis			Type c = 0	G = G = Multi	Incre- nental Solis	0	5	6				_						ry By:			
2							Sectio	# U	o z F	< - z	: m œ w	5	$\sim$	1										Laboratoi	Ň	01 557	
505							ر اا	50% 5	Ating. Com		MATRIX/ MATRIX CODE	~	2	tta					Received By:	Received By:		Received By:		Received For I		x: (907) 561-53( ax: (910) 350-1	
	C	5					- 222-1	08151.1	Slocgase		TIME HH:MM	DPOL	1045	0336					Time	Time	$\overline{\ }$	Time		Time	1156	562-2343 Fa	
					V /	(B)	one no: 96	aech RDI MIT#: 105,	AIL: 5919 y@	0TE #: . #:	DATE mm/dd/yy	21/29/15	J1/20/12	71/28/15					Date 7/30/5	Date	į	Date	$\int$	Date	51114())	18 Tel: (907) 8405 Tel: (910	
					10 loterational	HC IN COLLA FIGHT	N Gory PHC	26 Salmar PER	i Gray E-W	SON Gray P.O	SAMPLE IDENTIFICATION	5W D1	5~ BØ	781					13 11 11 11 11 11 11 11 11 11 11 11 11 1	l By: (2)		l By: (3) 🗸		JBY: (4)		otter Drive Anchorage, AK 995 siness Drive Wilmington. NC 28	
C		2					ر) مرجد ر contact:		⁰⁰ REPORTS T( しょうし		RESERVED for lab use	Q- H(II)	8- H(U)	∾(©)A	) )	oəs			Relinquisher	Relinquished	g goit	0 Relinquished	6 6	Relinquished	14	[ ] 200 W. P [ ] 5500 Bus	

25



# 1154090



# SAMPLE RECEIPT FORM

Review Criteria:	Yes	N/A	No	Comments/Action Taken:
Were <b>custody seals</b> intact? Note # & location, if applicable.	$\checkmark$			Exemption permitted if sampler hand carries/delivers.
COC accompanied samples?	$\checkmark$			2F
<b>Temperature blank</b> compliant* (i.e., 0-6°C after CF)?	$\mathbf{\nabla}$			Exemption permitted if chilled & collected <8 hrs ago.
If >6 °C, were samples collected <8 hours ago?	ЦЦ		Ц	
If $< 0$ °C, were all sample containers ice free?		$\checkmark$		
Cooler ID: $\underline{1}$ @ $\underline{5.9}$ w/ Therm.ID: $\underline{D8}$				
Cooler ID: @ w/ Therm.ID:				
Cooler ID:				
Cooler ID: @ w/ Therm.ID:				
Cooler ID: (a) w/ Therm.ID:				
If samples are received <u>without</u> 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				Note: Identify containers received at non-compliant
temp blank nor cooler temp can be obtained, note "ambient" or "chilled."				temperature. Use form FS-0029 if more space is needed.
Delivery method (specify all that apply): Client (hand carried)				
USPS Lynden AK Air Alert Courier				
$\Box$ UPS $\Box$ FedEx $\Box$ RAVN $\Box$ C&D Delivery				
Carlile Pen Air Warp Speed Other:				
$\rightarrow$ For WO# with airbills, was the WO# & airbill				
info recorded in the Front Counter eLog?				
	V	NT/A	N.	
	Yes	N/A	NO	
Were samples received within hold time?		Ц	H	Note: Refer to form F-085 "Sample Guide" for nota times. Note: If times differ <1hr. record details and login per COC.
Do samples <b>match</b> COC* (i.e., sample IDS, dates/times collected)?		Н	Н	
Were analyses requested unambiguous?		-	-	
Packing material used (specify all that apply): Dubble Wrap				
Separate plastic bags Wermiculite Other:				
Were proper containers (type/mass/volume/preservative*) used?				Exemption permitted for metals (e.g. 200.8/60204)
Were <b>Trin Blanks</b> (i.e. VOAs $II_{2}$ -Hg) in cooler with samples?		Н	H	
Were all VOA vials free of headspace (i.e., hubbles < 6 mm)?			H	
Were all soil VOAs field extracted with MeOH+BFB?			H	
For preserved waters (other than VOA vials LI-Mercury or				
microbiological analyses) was <b>nH verified and compliant</b> ?		J		
If pH was adjusted, were bottles flagged (i.e., stickers)?		Z	Ħ	
For <b>special handling</b> (e.g., "MI" soils, foreign soils, lab filter for				
dissolved, lab extract for volatiles, Ref Lab, limited volume),				
were bottles/paperwork flagged (e.g., sticker)?		$\checkmark$		
For <b>RUSH/SHORT Hold Time</b> , were COC/Bottles flagged				
accordingly? Was Rush/Short HT email sent, if applicable?		$\checkmark$		
For SITE-SPECIFIC QC, e.g. BMS/BMSD/BDUP, were				
containers / paperwork flagged accordingly?		$\checkmark$		
For any question answered "No," has the PM been notified and	_			SRF Completed by: D.C 07/30/2015
the problem resolved (or paperwork put in their bin)?		$\checkmark$		PM notified:
Was <b>PEER REVIEW</b> of <i>sample numbering/labeling completed</i> ?	$\checkmark$			Peer Reviewed by: VDL
Additional notes (if applicable):				

Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.

F102_eSRF_2015_03_31



# Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1154090001-A	No Preservative Required	OK			
1154090001-В	Methanol field pres. 4 C	OK			
1154090002-A	No Preservative Required	OK			
1154090002-В	Methanol field pres. 4 C	OK			
1154090003-A	No Preservative Required	OK			
1154090003-В	Methanol field pres. 4 C	OK			
1154090004-A	No Preservative Required	OK			
1154090004-В	Methanol field pres. 4 C	OK			
1154090005-A	No Preservative Required	OK			
1154090005-В	Methanol field pres. 4 C	OK			
1154090006-A	No Preservative Required	OK			
1154090006-В	Methanol field pres. 4 C	OK			
1154090007-A	No Preservative Required	OK			
1154090007-В	Methanol field pres. 4 C	OK			
1154090008-A	No Preservative Required	OK			
1154090008-В	Methanol field pres. 4 C	OK			
1154090009-A	No Preservative Required	OK			
1154090009-В	Methanol field pres. 4 C	OK			
1154090010-A	No Preservative Required	OK			
1154090010-В	Methanol field pres. 4 C	OK			
1154090011-A	No Preservative Required	OK			
1154090011-В	Methanol field pres. 4 C	OK			
1154090012-A	No Preservative Required	OK			
1154090012-В	Methanol field pres. 4 C	OK			
1154090013-A	Methanol field pres. 4 C	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.

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.

BU - The container was received with headspace greater than 6mm.



#### Laboratory Report of Analysis

To: SLR Alaska-Anchorage 2700 Gambell St Suite 200 Anchorage, AK 99503 (907)222-1112

Report Number: **1154161** 

Client Project: 105.00151.15005NPSI Red Salmon

Dear Jason Gray,

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

Print Date: 08/19/2015 3:41:47PM

SGS North America Inc.



#### **Case Narrative**

### SGS Client: SLR Alaska-Anchorage SGS Project: 1154161 Project Name/Site: 105.00151.15005NPSI Red Salmon Project Contact: Jason Gray

Refer to sample receipt form for information on sample condition.

#### RS-SW1-080315 (1154161006) PS

8270D SIM - PAH LOQs are elevated due to sample dilution. The sample was analyzed at a dilution due to matrix interference with internal standards.

8270D SIM - PAH surrogate recovery for Áerphenyl-d14 (159%) does not meet QC criteria due to sample dilution (5X).

*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: 08/19/2015 3:41:49PM

SGS North America Inc.

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



### 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 <<u>http://www.sgs.com/en/Terms-and-Conditions.aspx></u>. 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 & Microbiology) & 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, 8021B, 8082A, 8260B, 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.
В	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
D	The analyte concentration is the result of a dilution.
DF	Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
F	Indicates value that is greater than or equal to the DL
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
JL	The analyte was positively identified, but the quantitation is a low estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
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
Μ	A matrix effect was present.
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
Q	QC parameter out of acceptance range.
R	Rejected
RPD	Relative Percent Difference
U	Indicates the analyte was analyzed for but not detected.
Sample summaries which i All DRO/RRO analyses are	include a result for "Total Solids" have already been adjusted for moisture content.

Print Date: 08/19/2015 3:41:50PM

Note:



# Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
RS-MW1-080315	1154161001	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
RS-MW2-080315	1154161002	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
RS-MW3-080315	1154161003	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
RS-MW4-080315	1154161004	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
RS-MW99-080315	1154161005	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
RS-SW1-080315	1154161006	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
RS-SW99-080315	1154161007	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)
TB-080315	1154161008	08/03/2015	08/04/2015	Water (Surface, Eff., Ground)

#### <u>Method</u>

8270D SIMS (PAH) AK102 AK103 AK101 SW8260B

### Method Description

8270 PAH SIM Semi-Vol GC/MS Liq/Liq ext. DRO/RRO Low Volume Water DRO/RRO Low Volume Water Gasoline Range Organics (W) Volatile Organic Compounds (W)

Print Date: 08/19/2015 3:41:51PM


# **Detectable Results Summary**

Client Sample ID: RS-MW1-080315			
Lab Sample ID: 1154161001	Parameter_	Result	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	5.49	mg/L
	Residual Range Organics	0.276J	mg/L
Volatile Fuels	Gasoline Range Organics	0.362	mg/L
Volatile Gas Chromatography/Mass Spectro	mBenzene	4.39	ug/L
	Ethylbenzene	7.16	ug/L
	o-Xylene	31.3	ug/L
	P & M -Xylene	28.8	ug/L
	Toluene	6.33	ug/L
Client Sample ID: RS-MW2-080315			
Lab Sample ID: 1154161002	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Semivolatile Organic Fuels	Diesel Range Organics	4.02	mg/L
-	Residual Range Organics	1.05	mg/L
Volatile Fuels	Gasoline Range Organics	0.0379J	mg/L
Volatile Gas Chromatography/Mass Spectro	mBenzene	1.56	ug/L
	P & M -Xylene	0.750J	ug/L
Client Sample ID: RS-MW3-080315			
Lab Sample ID: 1154161003	Parameter	<u>Result</u>	Units
Semivolatile Organic Fuels	Diesel Range Organics	3.25	mg/L
-	Residual Range Organics	0.433J	mg/L
Volatile Gas Chromatography/Mass Spectro	mBenzene	1.42	ug/L
Client Sample ID: RS-MW4-080315			
Lab Sample ID: 1154161004	Parameter	<u>Result</u>	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	2.27	ug/L
-	2-Methylnaphthalene	2.11	ug/L
	Acenaphthene	0.125	ug/L
	Anthracene	0.0218J	ug/L
	Fluorene	0.417	ug/L
	Naphthalene	2.28	ug/L
	Phenanthrene	0.404	ug/L
	Pyrene	0.0245J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.343J	mg/L
Volatile Fuels	Gasoline Range Organics	0.130	mg/L
Volatile Gas Chromatography/Mass Spectro	<b>m</b> Ethylbenzene	3.50	ug/L
	o-Xylene	1.97	ug/L
	P & M -Xylene	6.33	ug/L
	Toluene	0.400J	ug/L

Print Date: 08/19/2015 3:41:52PM

SGS North America Inc.

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



# **Detectable Results Summary**

Client Sample ID: RS-MW99-080315			
Lab Sample ID: 1154161005	Parameter	Result	Units
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	3.62	ug/L
-	2-Methylnaphthalene	3.31	ug/L
	Acenaphthene	0.160	ug/L
	Anthracene	0.0267J	ug/L
	Fluorene	0.641	ug/L
	Naphthalene	3.71	ug/L
	Phenanthrene	0.593	ug/L
	Pyrene	0.0349J	ug/L
Semivolatile Organic Fuels	Diesel Range Organics	0.422J	mg/L
Volatile Fuels	Gasoline Range Organics	0.126	mg/L
Volatile Gas Chromatography/Mass Spect	tromEthylbenzene	3.69	ug/L
	o-Xylene	1.94	ug/L
	P & M -Xylene	6.60	ug/L
	Toluene	0.410J	ug/L
Client Sample ID: RS-SW1-080315			
Lab Sample ID: 1154161006	Deremeter	Deput	Linita
Balynualaar Aramatica CC/MS	<u>Parameter</u> 1-Methylpaphthalene	<u>Result</u> 5 29	Units ug/l
Polynuclear Aromatics GC/MS	2 Methylnaphthalene	2.23	ug/L
		2.01	ug/L
	Anthracono	0.000	ug/L
	Fluoropo	1 60	ug/L
	Nanhthalana	1.09	ug/L
	Phononthrono	4.39	ug/L
	Purana	2.10	ug/L
Volatile Cae Chromategraphy/Mage Speed		0.200	ug/L
volatile Gas Chromatography/mass Spect	Ethylbonzono	7.40	ug/L
		7.49	ug/L
		0.70	ug/L
		10.0	ug/L
Client Sample ID: RS-SW99-080315			
Lab Sample ID: 1154161007	Parameter	<u>Result</u>	<u>Units</u>
Polynuclear Aromatics GC/MS	1-Methylnaphthalene	4.49	ug/L
	2-Methylnaphthalene	1.54	ug/L
	Acenaphthene	0.512	ug/L
	Anthracene	0.142	ug/L
	Fluorene	0.963	ug/L
	Naphthalene	3.63	ug/L
	Phenanthrene	1.15	ug/L
	Pyrene	0.0857	ug/L
Volatile Gas Chromatography/Mass Spect	tromBenzene	24.5	ug/L
	Ethylbenzene	7.02	ug/L
	o-Xylene	8.49	ug/L
	P & M -Xylene	10.2	ug/L

Print Date: 08/19/2015 3:41:52PM

SGS North America Inc.

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

Results by Semivolatile Organic Fuels      Parameter   Res     Diesel Range Organics   5.4	ult Qual						
Parameter Res   Diesel Range Organics 5.	ult Qual						
Diesel Range Organics 5.		LOQ/CL	DL	Units	DF	<u>Allowable</u> Limits	Date Analvzec
	49	0.600	0.180	mg/L	1		08/17/15 15:17
urrogates							
5a Androstane (surr) 99	.3	50-150		%	1		08/17/15 15:17
Batch Information							
Analytical Batch: XFC12017 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 08/17/15 15:17 Container ID: 1154161001-A			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	XXX33862 : SW3520C ne: 08/16/1 't./Vol.: 250 Vol: 1 mL	5 11:45 mL		
Parameter Res Residual Range Organics 0.2	<u>ult Qual</u> 76 J	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	Date Analyzed 08/17/15 15:1
urrogates n-Triacontane-d62 (surr) 98	.6	50-150		%	1		08/17/15 15:1
Batch Information Analytical Batch: XFC12017 Analytical Method: AK103			Prep Batch: Prep Method:	XXX33862 : SW3520C	5 11.45		
Analytical Date/Time: 08/17/15 15:17 Container ID: 1154161001-A			Prep Initial W Prep Extract	't./Vol.: 250 Vol: 1 mL	mL		

J flagging is activated

Results of RS-MW1-080315 Client Sample ID: RS-MW1-080315 Client Project ID: 105.00151.15005NP4 Lab Sample ID: 1154161001	SI Red Salmon	C	Collection Da Received Da Matrix: Wate	te: 08/03/ te: 08/04/ r (Surface	15 19:28 15 15:25 . Eff., Gro	ound)	
Lab Project ID: 1154161		S	ocation:		,, 0.0		
Results by Volatile Fuels							
<u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 0.362	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 08/07/15 00:09
Surrogates							
4-Bromofluorobenzene (surr)	99.6	50-150		%	1		08/07/15 00:09
Batch Information							
Analytical Batch: VFC12566 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 00:09 Container ID: 1154161001-C			Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	VXX27678 : SW5030B me: 08/06/1 /t./Vol.: 5 m Vol: 5 mL	3 15 08:00 IL		

J flagging is activated



Results of RS-MW1-080315

Client Sample ID: **RS-MW1-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161001 Lab Project ID: 1154161 Collection Date: 08/03/15 19:28 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	4.39	0.400	0.120	ug/L	1		08/13/15 01:39
Ethylbenzene	7.16	1.00	0.310	ug/L	1		08/13/15 01:39
o-Xylene	31.3	1.00	0.310	ug/L	1		08/13/15 01:39
P & M -Xylene	28.8	2.00	0.620	ug/L	1		08/13/15 01:39
Toluene	6.33	1.00	0.310	ug/L	1		08/13/15 01:39
Surrogates							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		08/13/15 01:39
4-Bromofluorobenzene (surr)	95.5	85-114		%	1		08/13/15 01:39
Toluene-d8 (surr)	101	89-112		%	1		08/13/15 01:39

#### **Batch Information**

Analytical Batch: VMS15165 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 01:39 Container ID: 1154161001-F Prep Batch: VXX27709 Prep Method: SW5030B Prep Date/Time: 08/12/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated

	5	(	Collection Da	ate: 08/03/	15 17:21		
lient Project ID: <b>105.00151.15005</b> ab Sample ID: 1154161002 ab Project ID: 1154161	NPSI Red Salmon	F M S L	Received Da Matrix: Wate Solids (%): Location:	ite: 08/04/ er (Surface	15 15:25 , Eff., Grc	und)	
esults by Semivolatile Organic F	uels		_				
<u>arameter</u> iesel Range Organics	<u>Result Qual</u> 4.02	<u>LOQ/CL</u> 0.600	<u>DL</u> 0.180	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	<u>Date Analyzed</u> 08/17/15 15:38
<b>rrogates</b> a Androstane (surr)	97	50-150		%	1		08/17/15 15:38
Analytical Batch: XFC12017 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 08/17/15 15:3 Container ID: 1154161002-A	8	Prep Batch. XXX33602 Prep Method: SW3520C Prep Date/Time: 08/16/15 11:45 Prep Initial Wt./Vol.: 250 mL Prep Extract Vol: 1 mL					
<u>arameter</u> esidual Range Organics	<u>Result Qual</u> 1.05	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyzed</u> 08/17/15 15:38
<b>rrogates</b> -Triacontane-d62 (surr)	93.2	50-150		%	1		08/17/15 15:38
atch Information							
Analytical Batch: XFC12017 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 08/17/15 15:3 Container ID: 1154161002-A	8		Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33862 : SW3520C me: 08/16/ [,] /t./Vol.: 250 Vol: 1 mL	; 15 11:45 0 mL		

J flagging is activated

SGS							
Results of RS-MW2-080315							
Client Sample ID: <b>RS-MW2-080315</b> Client Project ID: <b>105.00151.15005NP</b> Lab Sample ID: 1154161002 Lab Project ID: 1154161	SI Red Salmon	C F M S L	Collection Da Received Dat Matrix: Wate Solids (%): ocation:	te: 08/03/ te: 08/04/ [,] r (Surface,	15 17:21 15 15:25 , Eff., Gro	ound)	
Results by Volatile Fuels							
<u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 0.0379 J	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 08/07/15 00:28
Surrogates							
4-Bromofluorobenzene (surr)	84.4	50-150		%	1		08/07/15 00:28
Batch Information Analytical Batch: VFC12566 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 00:28 Container ID: 1154161002-C			Prep Batch: \ Prep Method: Prep Date/Tir Prep Initial W Prep Extract \	VXX27678 SW5030B ne: 08/06/1 t./Vol.: 5 m Vol: 5 mL	5 08:00 L		

J flagging is activated



Results of RS-MW2-080315

Client Sample ID: **RS-MW2-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161002 Lab Project ID: 1154161 Collection Date: 08/03/15 17:21 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	1.56	0.400	0.120	ug/L	1		08/13/15 01:22
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		08/13/15 01:22
o-Xylene	0.500 U	1.00	0.310	ug/L	1		08/13/15 01:22
P & M -Xylene	0.750 J	2.00	0.620	ug/L	1		08/13/15 01:22
Toluene	0.500 U	1.00	0.310	ug/L	1		08/13/15 01:22
Surrogates							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		08/13/15 01:22
4-Bromofluorobenzene (surr)	97.2	85-114		%	1		08/13/15 01:22
Toluene-d8 (surr)	99.7	89-112		%	1		08/13/15 01:22

#### **Batch Information**

Analytical Batch: VMS15165 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 01:22 Container ID: 1154161002-F Prep Batch: VXX27709 Prep Method: SW5030B Prep Date/Time: 08/12/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated

Result by Semivolatile Organic Fuels     Parameter   Result Qual   LOQ/CL   DL   Units   DF   Limits   Date Analyz     Diesel Range Organics   3.25   0.600   0.180   mg/L   1   08/17/15 15:     Surrogates   Sarrogates   Sarrogates   Sarrogates   Sarrogates   Sarrogates   Sarrogates     Analytical Batch:   XFC12017   Prep Batch::   XXX33862   08/17/15 15:59     Analytical Method:   AK102   Prep Method:   SW3520C     Analytical Date/Time:   08/17/15 15:59   Prep Date/Time:   08/16/15 11:45     Container ID:   1154161003-A   Prep Method:   SW3520C     Prep Initial WL/Vol.:   250 mL   Prep Extract Vol: 1 mL   08/17/15 15:59     Surrogates   0.433 J   0.500   0.150   mg/L   1   08/17/15 15:59     Surrogates   n-Triacontane-d62 (surr)   97.8   50-150   %   1   08/17/15 15:59     Batch Information   Analytical Method:   XX33862   Prep Method:   SW3520C     Analytical Date/Time:   08/17/15 15:59   Prep Date/Time:   08/16/15 11:45	Client Sample ID: <b>RS-MW3-080315</b> Client Project ID: <b>105.00151.15005NP</b> Lab Sample ID: 1154161003 Lab Project ID: 1154161	SI Red Salmon		Collection Da Received Da Matrix: Wate Solids (%): Location:	ate: 08/03/ ate: 08/04/ er (Surface	15 14:20 15 15:25 , Eff., Grc	pund)	
Parameter Result Qual LOC/CL DL Dinits Dr Linits Date Analyze   Diesel Range Organics 3.25 0.600 0.180 mg/L 1 08/17/15 15:   urrogates 5a Androstane (surr) 95.4 50-150 % 1 08/17/15 15:   Batch Information Analytical Batch: XFC12017 Prep Batch: XXX33862 Prep Method: SW3520C Prep Date/Time: 08/16/15 11:45   Analytical Date/Time: 08/17/15 15:59 Prep Initial Wt./vol.: 250 mL Prep Extract Vol: 1 mL Date Analyze   Parameter Result Qual LOQ/CL DL Units DF Limits Date Analyze   Parameter Result Qual LOQ/CL DL Units DF Limits Date Analyze   Residual Range Organics 0.433 J 0.500 0.150 mg/L 1 08/17/15 15:   Batch Information Prep Batch: XXX33862 Nalytical Batch: XFC12017 Prep Batch: XXX33862 Prep Date/Time: 08/16/15 11:45   Analytical Batch: XFC12017 Prep Method: SW3520C Prep Date/Time: 08/16/15 11:45 Prep Date/Time: 08/16/15 11:45   Analytical Date/Time: 08/17/15 15:59 Prep Date/Time: 08/16/15 11:45 Prep Date/Time: 08/16/15 11:45   Analytical Date/Time: 08/16/15 15:59 Prep Date/Time: 08/16/15 11:45 <t< th=""><th>Results by <b>Semivolatile Organic Fuels</b></th><th>5 Decult Quel</th><th>1.00/01</th><th></th><th>Lipito</th><th>DE</th><th>Allowable</th><th>Data Analyzad</th></t<>	Results by <b>Semivolatile Organic Fuels</b>	5 Decult Quel	1.00/01		Lipito	DE	Allowable	Data Analyzad
Surrogates   5a Androstane (surr)   95.4   50-150   %   1   08/17/15 15:     Batch Information   Analytical Batch: XFC12017   Prep Batch: XXX33862   Prep Method: SW3520C     Analytical Method: AK102   Prep Date/Time: 08/16/15 11:45   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Initial Wt./vol.: 250 mL   Prep Extract Vol: 1 mL     Parameter   Result Qual   LOQ/CL   DL   Units   DE   Limits   Date Analyzz     Residual Range Organics   0.433 J   0.500   0.150   mg/L   1   08/17/15 15:     Batch Information   Analytical Batch: XFC12017   Prep Batch: XXX33862   Prep Method: SW3520C   Prep Method: SW3520C     Analytical Batch: XFC12017   97.8   50-150   %   1   08/17/15 15:     Batch Information   Prep Method: SW3520C   Prep Method: SW3520C   Prep Method: SW3520C   Prep Method: SW3520C     Analytical Batch: XFC12017   Prep Method: SW3520C   Prep Date/Time: 08/16/15 11:45   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Initial Wt./vol.: 250 mL   Prep Extract Vol.: 1 ml     Container ID: 1154161003-A   Prep Extract Vol.: 1 m	<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 3.25	0.600	<u>DL</u> 0.180	ma/L	<u>DF</u> 1	Limits	08/17/15 15:59
Sa Androstane (surr)     95.4     50-150     %     1     08/17/15 15:       Batch Information     Prep Batch: XXX33862     Prep Method: SW3520C     Prep Method: SW3520C     Prep Method: SW3520C       Analytical Batch: XFC12017     Prep Date/Time: 08/17/15 15:59     Prep Date/Time: 08/16/15 11:45     Prep Initial WL/Vol.: 250 mL       Parameter     Result Qual     LOQ/CL     DL     Units     DF     Limits     Date Analyzz       Parameter     Result Qual     LOQ/CL     DL     Units     DF     Limits     Date Analyzz       Residual Range Organics     0.433 J     0.500     0.150     mg/L     1     08/17/15 15:       Batch Information     Prep Batch: XXX33862     Prep Method: SW3520C     Prep Batch: XXX33862     Prep Batch: XXX33862     Prep Batch: XXX33862     Prep Pate/15 11:45     Prep Pate/15 11:45       Batch Information     Prep Date/Time: 08/17/15 15:59     Prep Date/Time: 08/16/15 11:45     Prep Date/15 11:45     Prep Date/15 11:45       Container ID:     1154161003-A     Prep Date/Time: 08/16/15 11:45     Prep Pi Initial WL/Vol: 250 mL     Prep Date/15 11:45	urrogatos				0			
Batch Information     Analytical Batch: XFC12017     Analytical Method: AK102     Analytical Method: AK102     Analytical Method: AK102     Analytical Date/Time: 08/17/15 15:59     Container ID: 1154161003-A     Parameter     Result Qual   LOQ/CL     DL   Units     DE   Limits     Date Analyz:     Residual Range Organics   0.433 J     0.500   0.150     m-Triacontane-d62 (surr)   97.8     50-150   %     Malytical Batch: XFC12017     Analytical Batch: XFC12017     Analytical Batch: XFC12017     Analytical Batch: XFC12017     Analytical Method: AK103     Analytical Date/Time: 08/17/15 15:59     Prep Batch: XXX33862     Prep Method: SW3520C     Prep Method: SW3520C     Prep Method: SW3520C     Prep Method: SW3520C     Analytical Date/Time: 08/17/15 15:59     Container ID: 1154161003-A	5a Androstane (surr)	95.4	50-150		%	1		08/17/15 15:59
Analytical Batch: XFC12017   Prep Batch: XXX33862     Analytical Method: AK102   Prep Method: SW3520C     Analytical Date/Time: 08/17/15 15:59   Prep Date/Time: 08/16/15 11:45     Container ID: 1154161003-A   Prep Date/Time: 08/16/15 11:45     Parameter   Result Qual   LOQ/CL   DL   Units   DF     Prep Extract Vol: 1 mL   08/17/15 15:59   Date Analyze     Parameter   Result Qual   LOQ/CL   DL   Units   DF   Limits   Date Analyze     Residual Range Organics   0.433 J   0.500   0.150   mg/L   1   08/17/15 15:     Batch Information   Analytical Batch: XFC12017   Prep Batch: XXX33862   Prep Method: SW3520C     Analytical Batch: XFC12017   Prep Method: SW3520C   Prep Method: SW3520C     Analytical Date/Time: 08/17/15 15:59   Prep Method: SW3520C   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Date/Time: 08/16/15 11:45   Prep Date/Time: 08/16/15 11:45     Container ID: 1154161003-A   Prep Extract Vol: 1 ml   Prep Extract Vol: 1 ml	Batch Information							
Parameter   Result Qual   LOQ/CL   DL   Units   DF   Limits   Date Analyze     Residual Range Organics   0.433 J   0.500   0.150   mg/L   1   08/17/15 15:     Surrogates   n-Triacontane-d62 (surr)   97.8   50-150   %   1   08/17/15 15:     Batch Information   Analytical Batch: XFC12017   Prep Batch: XXX33862   Prep Method: SW3520C   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Initial Wt./vol.: 250 mL   Prep Extract Vol: 1 ml	Analytical Batch: XFC12017 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 08/17/15 15:59 Container ID: 1154161003-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33862 I: SW3520C me: 08/16/1 Vt./Vol.: 250 Vol: 1 mL	; I5 11:45 I mL		
Residual Range Organics     0.433 J     0.500     0.150     mg/L     1     08/17/15 15:       Surrogates     n-Triacontane-d62 (surr)     97.8     50-150     %     1     08/17/15 15:       Batch Information     Prep Batch: XXX33862     Prep Method: SW3520C     Prep Method: SW3520C     Prep Date/Time: 08/16/15 11:45     Prep Date/Time: 08/16/15 11:45     Prep Initial Wt./Vol.: 250 mL     Prep Initial Wt./Vol.: 250 mL	Parameter	<u>Result Qual</u>	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Batch Information   97.8   50-150   %   1   08/17/15 15:     Batch Information   Analytical Batch: XFC12017   Prep Batch: XXX33862   Prep Method: SW3520C     Analytical Method: AK103   Prep Date/Time: 08/16/15 11:45   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Initial Wt./Vol.: 250 mL     Container ID: 1154161003-A   Prep Extract Vol: 1 ml	Residual Range Organics	0.433 J	0.500	0.150	mg/L	1		08/17/15 15:59
n-Triacontane-d62 (surr)   97.8   50-150   %   1   08/17/15 15:     Batch Information   Analytical Batch: XFC12017   Prep Batch: XXX33862   Prep Method: SW3520C     Analytical Method: AK103   Prep Method: SW3520C   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Initial Wt./Vol.: 250 mL     Container ID: 1154161003-A   Prep Extract Vol: 1 ml	urrogates							
Batch Information     Analytical Batch: XFC12017   Prep Batch: XXX33862     Analytical Method: AK103   Prep Method: SW3520C     Analyst: KJO   Prep Date/Time: 08/16/15 11:45     Analytical Date/Time: 08/17/15 15:59   Prep Initial Wt./Vol.: 250 mL     Container ID: 1154161003-A   Prep Extract Vol: 1 ml	n-Triacontane-d62 (surr)	97.8	50-150		%	1		08/17/15 15:59
	Batch Information Analytical Batch: XFC12017 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 08/17/15 15:59 Container ID: 1154161003-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial V Prep Extract	XXX33862 I: SW3520C me: 08/16/1 Vt./Vol.: 250 Vol: 1 mL	; 15 11:45 1 mL		

J flagging is activated

SGS								
Results of RS-MW3-080315								
Client Sample ID: <b>RS-MW3-080315</b> Client Project ID: <b>105.00151.15005NP</b> Lab Sample ID: 1154161003 Lab Project ID: 1154161	SI Red Salmon	Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:						
Results by Volatile Fuels						Alla		
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	<u>Allowable</u> Limits	Date Analyzed	
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		08/07/15 00:47	
Surrogates								
4-Bromofluorobenzene (surr)	84.7	50-150		%	1		08/07/15 00:47	
Batch Information Analytical Batch: VFC12566 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 00:47 Container ID: 1154161003-C			Prep Batch: ` Prep Method: Prep Date/Tir Prep Initial W Prep Extract `	VXX27678 SW5030B ne: 08/06/1 t./Vol.: 5 m Vol: 5 mL	5 08:00 L			

J flagging is activated



Results of RS-MW3-080315

Client Sample ID: **RS-MW3-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161003 Lab Project ID: 1154161 Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	DF	Limits	Date Analyzed
Benzene	1.42	0.400	0.120	ug/L	1		08/13/15 19:34
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		08/13/15 19:34
o-Xylene	0.500 U	1.00	0.310	ug/L	1		08/13/15 19:34
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		08/13/15 19:34
Toluene	0.500 U	1.00	0.310	ug/L	1		08/13/15 19:34
Surrogates							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		08/13/15 19:34
4-Bromofluorobenzene (surr)	106	85-114		%	1		08/13/15 19:34
Toluene-d8 (surr)	102	89-112		%	1		08/13/15 19:34

#### **Batch Information**

Analytical Batch: VMS15171 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 19:34 Container ID: 1154161003-F Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 08/13/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated



Results of RS-MW4-080315

Client Sample ID: **RS-MW4-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161004 Lab Project ID: 1154161 Collection Date: 08/03/15 16:05 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable	
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	Limits	Date Analyzed
1-Methylnaphthalene	2.27	0.0529	0.0159	ug/L	1		08/07/15 19:35
2-Methylnaphthalene	2.11	0.0529	0.0159	ug/L	1		08/07/15 19:35
Acenaphthene	0.125	0.0529	0.0159	ug/L	1		08/07/15 19:35
Acenaphthylene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Anthracene	0.0218 J	0.0529	0.0159	ug/L	1		08/07/15 19:35
Benzo(a)Anthracene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Benzo[a]pyrene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Benzo[b]Fluoranthene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Benzo[g,h,i]perylene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Benzo[k]fluoranthene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Chrysene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Dibenzo[a,h]anthracene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Fluoranthene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Fluorene	0.417	0.0529	0.0159	ug/L	1		08/07/15 19:35
Indeno[1,2,3-c,d] pyrene	0.0265 U	0.0529	0.0159	ug/L	1		08/07/15 19:35
Naphthalene	2.28	0.106	0.0328	ug/L	1		08/07/15 19:35
Phenanthrene	0.404	0.0529	0.0159	ug/L	1		08/07/15 19:35
Pyrene	0.0245 J	0.0529	0.0159	ug/L	1		08/07/15 19:35
Surrogates							
2-Fluorobiphenyl (surr)	72.1	53-106		%	1		08/07/15 19:35
Terphenyl-d14 (surr)	110	58-132		%	1		08/07/15 19:35

### **Batch Information**

Analytical Batch: XMS8849 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 08/07/15 19:35 Container ID: 1154161004-I Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/15 10:10 Prep Initial Wt./Vol.: 945 mL Prep Extract Vol: 1 mL

Print Date: 08/19/2015 3:41:53PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated

Client Sample ID: <b>RS-MW4-080315</b> Client Project ID: <b>105.00151.15005NPSI Red Salmon</b> Lab Sample ID: 1154161004 Lab Project ID: 1154161			Collection Date: 08/03/15 16:05 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%):						
,			Location:						
Results by Semivolatile Organic Fuels	•		_						
Parameter_	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	<u>Allowable</u> Limits	Date Analyzed		
Diesel Range Organics	0.343 J	0.625	0.188	mg/L	1		08/17/15 16:19		
urrogates									
5a Androstane (surr)	88.9	50-150		%	1		08/17/15 16:19		
Batch Information									
Analytical Batch: XFC12017 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 08/17/15 16:19 Container ID: 1154161004-A			Prep Batch: Prep Method Prep Date/Ti Prep Initial W Prep Extract	XXX33862 I: SW35200 me: 08/16/ /t./Vol.: 240 Vol: 1 mL	) 15 11:45 ) mL				
						Allowable			
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Limits</u>	Date Analyzed		
Residual Range Organics	0.261 U	0.521	0.156	mg/L	1		08/17/15 16:19		
urrogates n-Triacontane-d62 (surr)	94	50-150		%	1		08/17/15 16:1		
(,					-				
Batch Information									
Analytical Batch: XFC12017 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 08/17/15 16:19 Container ID: 1154161004-A		Prep Batch: XXX33862 Prep Method: SW3520C Prep Date/Time: 08/16/15 11:45 Prep Initial Wt./Vol.: 240 mL Prep Extract Vol: 1 mL							

J flagging is activated

Results of RS-MW4-080315 Client Sample ID: RS-MW4-080315 Client Project ID: 105.00151.15005NP	- SI Red Salmon	C	Collection Da	te: 08/03/ te: 08/04/'	'15 16:05 15 15:25				
Lab Sample ID: 1154161004		Matrix: Water (Surface, Eff., Ground)							
		L	ocation:						
Results by Volatile Fuels									
<u>Parameter</u> Gasoline Range Organics	<u>Result Qual</u> 0.130	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 08/07/15 01:06		
Surrogates				Ū					
4-Bromofluorobenzene (surr)	99.3	50-150		%	1		08/07/15 01:06		
Batch Information									
Analytical Batch: VFC12566 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 01:06 Container ID: 1154161004-C		Prep Batch: VXX27678 Prep Method: SW5030B Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL							

J flagging is activated



#### Results of RS-MW4-080315

Client Sample ID: **RS-MW4-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161004 Lab Project ID: 1154161 Collection Date: 08/03/15 16:05 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		08/13/15 19:51
Ethylbenzene	3.50	1.00	0.310	ug/L	1		08/13/15 19:51
o-Xylene	1.97	1.00	0.310	ug/L	1		08/13/15 19:51
P & M -Xylene	6.33	2.00	0.620	ug/L	1		08/13/15 19:51
Toluene	0.400 J	1.00	0.310	ug/L	1		08/13/15 19:51
Surrogates							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		08/13/15 19:51
4-Bromofluorobenzene (surr)	96.8	85-114		%	1		08/13/15 19:51
Toluene-d8 (surr)	101	89-112		%	1		08/13/15 19:51

#### **Batch Information**

Analytical Batch: VMS15171 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 19:51 Container ID: 1154161004-F Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 08/13/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated



#### Results of RS-MW99-080315

Client Sample ID: **RS-MW99-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161005 Lab Project ID: 1154161 Collection Date: 08/03/15 16:05 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
1-Methylnaphthalene	3.62	0.270	0.0811	ug/L	5		08/12/15 16:12
2-Methylnaphthalene	3.31	0.270	0.0811	ug/L	5		08/12/15 16:12
Acenaphthene	0.160	0.0541	0.0162	ug/L	1		08/07/15 19:53
Acenaphthylene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Anthracene	0.0267 J	0.0541	0.0162	ug/L	1		08/07/15 19:53
Benzo(a)Anthracene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Benzo[a]pyrene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Benzo[b]Fluoranthene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Benzo[g,h,i]perylene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Benzo[k]fluoranthene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Chrysene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Dibenzo[a,h]anthracene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Fluoranthene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Fluorene	0.641	0.0541	0.0162	ug/L	1		08/07/15 19:53
Indeno[1,2,3-c,d] pyrene	0.0271 U	0.0541	0.0162	ug/L	1		08/07/15 19:53
Naphthalene	3.71	0.541	0.168	ug/L	5		08/12/15 16:12
Phenanthrene	0.593	0.0541	0.0162	ug/L	1		08/07/15 19:53
Pyrene	0.0349 J	0.0541	0.0162	ug/L	1		08/07/15 19:53
Surrogates							
2-Fluorobiphenyl (surr)	75.5	53-106		%	1		08/07/15 19:53
Terphenyl-d14 (surr)	111	58-132		%	1		08/07/15 19:53

#### **Batch Information**

Analytical Batch: XMS8849 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 08/07/15 19:53 Container ID: 1154161005-I

Analytical Batch: XMS8851 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 08/12/15 16:12 Container ID: 1154161005-I Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/15 10:10 Prep Initial Wt./Vol.: 925 mL Prep Extract Vol: 1 mL

Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/15 10:10 Prep Initial Wt./Vol.: 925 mL Prep Extract Vol: 1 mL

Print Date: 08/19/2015 3:41:53PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated

Results of RS-MW99-080315	-							
Client Sample ID: <b>RS-MW99-080315</b> Client Project ID: <b>105.00151.15005NPSI Red Salmon</b> Lab Sample ID: 1154161005 Lab Project ID: 1154161			Collection Date: 08/03/15 16:0 Received Date: 08/04/15 15:29 Matrix: Water (Surface, Eff., G Solids (%): Location:			und)		
Results by Semivolatile Organic Fuels	5		_					
<u>Parameter</u> Diesel Range Organics	<u>Result Qual</u> 0.422 J	<u>LOQ/CL</u> 0.600	<u>DL</u> 0.180	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	Date Analyzed 08/17/15 16:40	
Surrogates 5a Androstane (surr)	88.4	50-150		%	1		08/17/15 16:40	
Batch Information								
Analytical Batch: XFC12017 Analytical Method: AK102 Analyst: KJO Analytical Date/Time: 08/17/15 16:40 Container ID: 1154161005-A		Prep Batch: XXX33862 Prep Method: SW3520C Prep Date/Time: 08/16/15 11:45 Prep Initial Wt./Vol.: 250 mL Prep Extract Vol: 1 mL						
Parameter Residual Range Organics	<u>ResultQual</u> 0.250 U	<u>LOQ/CL</u> 0.500	<u>DL</u> 0.150	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	<u>Date Analyzed</u> 08/17/15 16:40	
Surrogates	00.0	50 450		0/	4		00/17/15 10:40	
n-Triacontane-062 (Sufr)	92.2	50-150		%	1		08/17/15 16:40	
Batch Information								
Analytical Batch: XFC12017 Analytical Method: AK103 Analyst: KJO Analytical Date/Time: 08/17/15 16:40 Container ID: 1154161005-A			Prep Batch: Prep Method Prep Date/Tin Prep Initial W Prep Extract	XXX33862 : SW35200 me: 08/16/ /t./Vol.: 250 Vol: 1 mL	;  5 11:45   mL			

J flagging is activated

Results of RS-MW99-080315										
Client Sample ID: <b>RS-MW99-080315</b> Client Project ID: <b>105.00151.15005NP</b>	SI Red Salmon	Received Date: 08/03/15 16:05 Received Date: 08/04/15 15:25								
Lab Sample ID: 1154161005		Matrix: Water (Surface, Eff., Ground)								
Lab Project ID. 1154161		L	olids (%): .ocation:							
Results by Volatile Fuels										
Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable	Date Analyzed			
Gasoline Range Organics	0.126	0.100	0.0310	mg/L	1		08/07/15 01:25			
Surrogates										
4-Bromofluorobenzene (surr)	98.7	50-150		%	1		08/07/15 01:25			
Batch Information										
Analytical Batch: VFC12566 Analytical Method: AK101 Analyst: CRD Analytical Date/Time: 08/07/15 01:25 Container ID: 1154161005-C		Prep Batch: VXX27678 Prep Method: SW5030B Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL								

J flagging is activated



#### Results of RS-MW99-080315

Client Sample ID: **RS-MW99-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161005 Lab Project ID: 1154161 Collection Date: 08/03/15 16:05 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		08/13/15 20:07
Ethylbenzene	3.69	1.00	0.310	ug/L	1		08/13/15 20:07
o-Xylene	1.94	1.00	0.310	ug/L	1		08/13/15 20:07
P & M -Xylene	6.60	2.00	0.620	ug/L	1		08/13/15 20:07
Toluene	0.410 J	1.00	0.310	ug/L	1		08/13/15 20:07
Surrogates							
1,2-Dichloroethane-D4 (surr)	107	81-118		%	1		08/13/15 20:07
4-Bromofluorobenzene (surr)	96.1	85-114		%	1		08/13/15 20:07
Toluene-d8 (surr)	101	89-112		%	1		08/13/15 20:07

#### **Batch Information**

Analytical Batch: VMS15171 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 20:07 Container ID: 1154161005-F Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 08/13/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated



Results of RS-SW1-080315

Client Sample ID: **RS-SW1-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161006 Lab Project ID: 1154161 Collection Date: 08/03/15 18:29 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable
<u>Parameter</u>	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	Limits Date Analyzed
1-Methylnaphthalene	5.29	0.260	0.0781	ug/L	5	08/17/15 10:48
2-Methylnaphthalene	2.51	0.260	0.0781	ug/L	5	08/17/15 10:48
Acenaphthene	0.866	0.260	0.0781	ug/L	5	08/17/15 10:48
Acenaphthylene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Anthracene	0.259 J	0.260	0.0781	ug/L	5	08/17/15 10:48
Benzo(a)Anthracene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Benzo[a]pyrene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Benzo[b]Fluoranthene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Benzo[g,h,i]perylene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Benzo[k]fluoranthene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Chrysene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Dibenzo[a,h]anthracene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Fluoranthene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Fluorene	1.69	0.260	0.0781	ug/L	5	08/17/15 10:48
Indeno[1,2,3-c,d] pyrene	0.130 U	0.260	0.0781	ug/L	5	08/17/15 10:48
Naphthalene	4.39	0.521	0.161	ug/L	5	08/17/15 10:48
Phenanthrene	2.16	0.260	0.0781	ug/L	5	08/17/15 10:48
Pyrene	0.286	0.260	0.0781	ug/L	5	08/17/15 10:48
Surrogates						
2-Fluorobiphenyl (surr)	102	53-106		%	5	08/17/15 10:48
Terphenyl-d14 (surr)	159 *	58-132		%	5	08/17/15 10:48

### **Batch Information**

Analytical Batch: XMS8863 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 08/17/15 10:48 Container ID: 1154161006-D Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/15 10:10 Prep Initial Wt./Vol.: 960 mL Prep Extract Vol: 1 mL

Print Date: 08/19/2015 3:41:53PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated



Results of RS-SW1-080315

Client Sample ID: **RS-SW1-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161006 Lab Project ID: 1154161 Collection Date: 08/03/15 18:29 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	28.2	0.400	0.120	ug/L	1		08/13/15 20:24
Ethylbenzene	7.49	1.00	0.310	ug/L	1		08/13/15 20:24
o-Xylene	8.76	1.00	0.310	ug/L	1		08/13/15 20:24
P & M -Xylene	10.8	2.00	0.620	ug/L	1		08/13/15 20:24
Toluene	0.500 U	1.00	0.310	ug/L	1		08/13/15 20:24
Surrogates							
1,2-Dichloroethane-D4 (surr)	114	81-118		%	1		08/13/15 20:24
4-Bromofluorobenzene (surr)	98.9	85-114		%	1		08/13/15 20:24
Toluene-d8 (surr)	98.2	89-112		%	1		08/13/15 20:24

#### **Batch Information**

Analytical Batch: VMS15171 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 20:24 Container ID: 1154161006-B Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 08/13/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated



Results of RS-SW99-080315

Client Sample ID: **RS-SW99-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161007 Lab Project ID: 1154161 Collection Date: 08/03/15 18:29 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Polynuclear Aromatics GC/MS

						Allowable	
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	<u>Limits</u>	Date Analyzed
1-Methylnaphthalene	4.49	0.262	0.0785	ug/L	5		08/12/15 16:30
2-Methylnaphthalene	1.54	0.0524	0.0157	ug/L	1		08/07/15 20:28
Acenaphthene	0.512	0.0524	0.0157	ug/L	1		08/07/15 20:28
Acenaphthylene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Anthracene	0.142	0.0524	0.0157	ug/L	1		08/07/15 20:28
Benzo(a)Anthracene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Benzo[a]pyrene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Benzo[b]Fluoranthene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Benzo[g,h,i]perylene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Benzo[k]fluoranthene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Chrysene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Dibenzo[a,h]anthracene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Fluoranthene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Fluorene	0.963	0.0524	0.0157	ug/L	1		08/07/15 20:28
Indeno[1,2,3-c,d] pyrene	0.0262 U	0.0524	0.0157	ug/L	1		08/07/15 20:28
Naphthalene	3.63	0.524	0.162	ug/L	5		08/12/15 16:30
Phenanthrene	1.15	0.0524	0.0157	ug/L	1		08/07/15 20:28
Pyrene	0.0857	0.0524	0.0157	ug/L	1		08/07/15 20:28
Surrogates							
2-Fluorobiphenyl (surr)	69.5	53-106		%	1		08/07/15 20:28
Terphenyl-d14 (surr)	107	58-132		%	1		08/07/15 20:28

### **Batch Information**

Analytical Batch: XMS8849 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 08/07/15 20:28 Container ID: 1154161007-D

Analytical Batch: XMS8851 Analytical Method: 8270D SIMS (PAH) Analyst: SP Analytical Date/Time: 08/12/15 16:30 Container ID: 1154161007-D Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/15 10:10 Prep Initial Wt./Vol.: 955 mL Prep Extract Vol: 1 mL

Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/15 10:10 Prep Initial Wt./Vol.: 955 mL Prep Extract Vol: 1 mL

Print Date: 08/19/2015 3:41:53PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com J flagging is activated

Member of SGS Group

00 - 6 40



#### Results of RS-SW99-080315

Client Sample ID: **RS-SW99-080315** Client Project ID: **105.00151.15005NPSI Red Salmon** Lab Sample ID: 1154161007 Lab Project ID: 1154161 Collection Date: 08/03/15 18:29 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	24.5	0.400	0.120	ug/L	1		08/13/15 20:41
Ethylbenzene	7.02	1.00	0.310	ug/L	1		08/13/15 20:41
o-Xylene	8.49	1.00	0.310	ug/L	1		08/13/15 20:41
P & M -Xylene	10.2	2.00	0.620	ug/L	1		08/13/15 20:41
Toluene	0.500 U	1.00	0.310	ug/L	1		08/13/15 20:41
Surrogates							
1,2-Dichloroethane-D4 (surr)	108	81-118		%	1		08/13/15 20:41
4-Bromofluorobenzene (surr)	101	85-114		%	1		08/13/15 20:41
Toluene-d8 (surr)	96.3	89-112		%	1		08/13/15 20:41

#### **Batch Information**

Analytical Batch: VMS15171 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 20:41 Container ID: 1154161007-B Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 08/13/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated

Client Sample ID: <b>TB-080315</b> Client Project ID: <b>105.00151.15005NPSI Red Salmon</b> Lab Sample ID: 1154161008 Lab Project ID: 1154161		Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:				
Result Qual 0.0500 U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 08/06/15 23:12
87.4	50-150		%	1		08/06/15 23:12
Prep Batch: VXX27678 Prep Method: SW5030B Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL						
F	Red Salmon	Red Salmon     C       Red Salmon     R       M     S       C     C       M     S       C     C       M     S       C     C       M     S       C     C       M     S       C     C       M     S       C     C       R     C       S     L       C     C       R     L       C     C       R     L       L     C       N     S       L     C       N     S       L     C       N     S       N     S       N     S       N     S       R     S       S     S       S     S       S     S       S     S       S     S  S     S <td>Red Salmon   Collection Date     Received Date   Matrix: Wate     Solids (%):   Location:     Location:   Location:     Result Qual   LOQ/CL   DL     0.0500 U   0.100   0.0310     87.4   50-150   Prep Batch: \Prep Method:     Prep Date/Tir   Prep Initial W     Prep Extract \Prep Extract \Prep Pate/Tir</td> <td>Red Salmon   Collection Date: 08/03/ Received Date: 08/04/' Matrix: Water (Surface Solids (%): Location:     Result Qual   LOQ/CL   DL   Units     0.0500 U   0.100   0.0310   mg/L     87.4   50-150   %     Prep Batch: VXX27678   Prep Method: SW5030B     Prep Date/Time: 08/06/1   Prep Initial Wt./Vol.: 5 mL</td> <td>Red Salmon   Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Gro Solids (%): Location:     Result Qual   LOQ/CL   DL   Units   DF     0.0500 U   0.100   0.0310   mg/L   1     87.4   50-150   %   1     Prep Batch: VXX27678 Prep Method: SW5030B     Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL     Prep Extract Vol: 5 mL</td> <td>Red Salmon   Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:     Result Qual   LOQ/CL   DL   Units   DF     Allowable   Limits     0.0500 U   0.100   0.0310   mg/L   1     87.4   50-150   %   1     Prep Batch: VXX27678 Prep Method: SW5030B Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL</td>	Red Salmon   Collection Date     Received Date   Matrix: Wate     Solids (%):   Location:     Location:   Location:     Result Qual   LOQ/CL   DL     0.0500 U   0.100   0.0310     87.4   50-150   Prep Batch: \Prep Method:     Prep Date/Tir   Prep Initial W     Prep Extract \Prep Extract \Prep Pate/Tir	Red Salmon   Collection Date: 08/03/ Received Date: 08/04/' Matrix: Water (Surface Solids (%): Location:     Result Qual   LOQ/CL   DL   Units     0.0500 U   0.100   0.0310   mg/L     87.4   50-150   %     Prep Batch: VXX27678   Prep Method: SW5030B     Prep Date/Time: 08/06/1   Prep Initial Wt./Vol.: 5 mL	Red Salmon   Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Gro Solids (%): Location:     Result Qual   LOQ/CL   DL   Units   DF     0.0500 U   0.100   0.0310   mg/L   1     87.4   50-150   %   1     Prep Batch: VXX27678 Prep Method: SW5030B     Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL     Prep Extract Vol: 5 mL	Red Salmon   Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:     Result Qual   LOQ/CL   DL   Units   DF     Allowable   Limits     0.0500 U   0.100   0.0310   mg/L   1     87.4   50-150   %   1     Prep Batch: VXX27678 Prep Method: SW5030B Prep Date/Time: 08/06/15 08:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

000

J flagging is activated



Results of TB-080315

Client Sample ID: TB-080315
Client Project ID: 105.00151.15005NPSI Red Salmon
Lab Sample ID: 1154161008
Lab Project ID: 1154161

Collection Date: 08/03/15 14:20 Received Date: 08/04/15 15:25 Matrix: Water (Surface, Eff., Ground) Solids (%): Location:

# Results by Volatile Gas Chromatography/Mass Spectrome

						Allowable	
<u>Parameter</u>	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		08/13/15 18:31
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		08/13/15 18:31
o-Xylene	0.500 U	1.00	0.310	ug/L	1		08/13/15 18:31
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		08/13/15 18:31
Toluene	0.500 U	1.00	0.310	ug/L	1		08/13/15 18:31
Surrogates							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		08/13/15 18:31
4-Bromofluorobenzene (surr)	102	85-114		%	1		08/13/15 18:31
Toluene-d8 (surr)	101	89-112		%	1		08/13/15 18:31

#### **Batch Information**

Analytical Batch: VMS15168 Analytical Method: SW8260B Analyst: NRB Analytical Date/Time: 08/13/15 18:31 Container ID: 1154161008-B Prep Batch: VXX27715 Prep Method: SW5030B Prep Date/Time: 08/13/15 06:00 Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:53PM

J flagging is activated

# SGS

I		1						
Method Blank								
Blank ID: MB for HBN 1716174 Blank Lab ID: 1281999	4 [VXX/27678]	Matrix: Water (Surface, Eff., Ground)						
QC for Samples: 1154161001, 1154161002, 11541	61003, 1154161004, 115	4161005, 1154161008						
Results by AK101								
Parameter Gasoline Range Organics	<u>Results</u> 0.0500U	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L				
Surrogates 4-Bromofluorobenzene (surr)	88	50-150		%				
Batch Information								
Analytical Batch: VFC12566 Analytical Method: AK101 Instrument: Agilent 7890 PID/ Analyst: CRD Analytical Date/Time: 8/6/2019	FID 5 9:36:00PM	Prep Bat Prep Met Prep Dat Prep Initi Prep Ext	ch: VXX27678 hod: SW5030E e/Time: 8/6/20 ⁻ al Wt./Vol.: 5 m ract Vol: 5 mL	3 15 8:00:00AM nL				

Print Date: 08/19/2015 3:41:55PM



# Blank Spike Summary

Blank Spike ID: LCS for HBN 1154161 [VXX27678] Blank Spike Lab ID: 1282002 Date Analyzed: 08/06/2015 20:58 Spike Duplicate ID: LCSD for HBN 1154161 [VXX27678] Spike Duplicate Lab ID: 1282003 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161001, 1154161002, 1154161003, 1154161004, 1154161005, 1154161008

Results by AK101			_						
	I	Blank Spike	e (mg/L)	S	pike Dupli				
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Gasoline Range Organics	1.00	1.02	102	1.00	0.946	95	(60-120)	7.60	(< 20 )
urrogates									
4-Bromofluorobenzene (surr)	0.0500	87.7	88	0.0500	89.8	90	(50-150)	2.40	
Batch Information Analytical Batch: VFC12566 Analytical Method: AK101 Instrument: Agilent 7890 PID Analyst: CRD	/FID			Prep Prep Prep Spik	Batch: V Method: Date/Tim e Init Wt A	XX27678 SW5030B e: 08/06/201 /ol.: 1.00 mg	<b>5 08:00</b> g/L Extract V	/ol: 5 mL	

Print Date: 08/19/2015 3:41:56PM

# Method Blank

SG:

Blank ID: MB for HBN 1716983 [VXX/27709] Blank Lab ID: 1283415 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161001, 1154161002

### Results by SW8260B

D #			
Results	LOQ/CL	<u>DL</u>	<u>Units</u>
0.200U	0.400	0.120	ug/L
0.500U	1.00	0.310	ug/L
0.500U	1.00	0.310	ug/L
1.00U	2.00	0.620	ug/L
0.500U	1.00	0.310	ug/L
103	81-118		%
97.8	85-114		%
98.8	89-112		%
	103 98.8	Results     LOCACE       0.200U     0.400       0.500U     1.00       0.500U     1.00       1.00U     2.00       0.500U     1.00       1.00U     2.00       0.500U     1.00       1.00U     81-118       97.8     85-114       98.8     89-112	Results     ECCRCL     DL       0.200U     0.400     0.120       0.500U     1.00     0.310       0.500U     1.00     0.310       1.00U     2.00     0.620       0.500U     1.00     0.310       1.00U     2.00     0.620       0.500U     1.00     0.310       103     81-118       97.8     85-114       98.8     89-112

# **Batch Information**

Analytical Batch: VMS15165 Analytical Method: SW8260B Instrument: VPA 780/5975 GC/MS Analyst: NRB Analytical Date/Time: 8/12/2015 5:33:00PM Prep Batch: VXX27709 Prep Method: SW5030B Prep Date/Time: 8/12/2015 6:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:41:58PM



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1154161 [VXX27709] Blank Spike Lab ID: 1283416 Date Analyzed: 08/12/2015 18:45 Spike Duplicate ID: LCSD for HBN 1154161 [VXX27709] Spike Duplicate Lab ID: 1283417 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161001, 1154161002

#### Results by SW8260B

		Blank Spike	e (ug/L)	;	Spike Dupli	cate (ug/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	Spike	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Benzene	30	27.6	92	30	28.5	95	(79-120)	3.40	(< 20)
Ethylbenzene	30	28.3	94	30	28.4	95	(79-121)	0.14	(< 20)
o-Xylene	30	29.8	99	30	29.3	98	(78-122)	1.60	(< 20)
P & M -Xylene	60	58.1	97	60	58.1	97	(80-121)	0.02	(< 20)
Toluene	30	26.5	88	30	26.3	88	(80-121)	0.72	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	97.4	97	30	102	102	(81-118)	4.40	
4-Bromofluorobenzene (surr)	30	97.1	97	30	101	101	(85-114)	3.80	
Toluene-d8 (surr)	30	99	99	30	97.4	97	(89-112)	1.60	

#### **Batch Information**

Analytical Batch: VMS15165 Analytical Method: SW8260B Instrument: VPA 780/5975 GC/MS Analyst: NRB Prep Batch: VXX27709 Prep Method: SW5030B Prep Date/Time: 08/12/2015 06:00 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/19/2015 3:42:00PM

# SGS

# Method Blank

Blank ID: MB for HBN 1717070 [VXX/27715] Blank Lab ID: 1283619

QC for Samples: 1154161008

#### Results by SW8260B

Parameter	<u>Results</u>	LOQ/CL	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	101	89-112		%

# **Batch Information**

Analytical Batch: VMS15168 Analytical Method: SW8260B Instrument: VPA 780/5975 GC/MS Analyst: NRB Analytical Date/Time: 8/13/2015 2:57:00PM Prep Batch: VXX27715 Prep Method: SW5030B Prep Date/Time: 8/13/2015 6:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Matrix: Water (Surface, Eff., Ground)

Print Date: 08/19/2015 3:42:02PM



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1154161 [VXX27715] Blank Spike Lab ID: 1283620 Date Analyzed: 08/13/2015 16:12 Spike Duplicate ID: LCSD for HBN 1154161 [VXX27715] Spike Duplicate Lab ID: 1283621 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161008

#### Results by SW8260B

		Blank Spike	e (ug/L)	:	Spike Dupli	cate (ug/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
Benzene	30	26.9	90	30	26.8	89	(79-120)	0.26	(< 20)
Ethylbenzene	30	28.4	95	30	28.6	95	(79-121)	0.67	(< 20)
o-Xylene	30	29.3	98	30	29.4	98	(78-122)	0.31	(< 20)
P & M -Xylene	60	57.7	96	60	58.0	97	(80-121)	0.40	(< 20)
Toluene	30	26.9	90	30	27.0	90	(80-121)	0.48	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	98.4	98	30	97.5	98	(81-118)	0.88	
4-Bromofluorobenzene (surr)	30	98.6	99	30	99.6	100	(85-114)	1.00	
Toluene-d8 (surr)	30	102	102	30	102	102	(89-112)	0.65	

#### **Batch Information**

Analytical Batch: VMS15168 Analytical Method: SW8260B Instrument: VPA 780/5975 GC/MS Analyst: NRB Prep Batch: VXX27715 Prep Method: SW5030B Prep Date/Time: 08/13/2015 06:00 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/19/2015 3:42:04PM

# SGS

# Method Blank

Blank ID: MB for HBN 1717083 [VXX/27718] Blank Lab ID: 1283688 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1154161003, 1154161004, 1154161005, 1154161006, 1154161007

Results by SW8260B				
Parameter	Results	LOQ/CL	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	104	85-114		%
Toluene-d8 (surr)	101	89-112		%

Analytical Batch: VMS15171 Analytical Method: SW8260B Instrument: HP 5890 Series II MS3 VNA Analyst: NRB Analytical Date/Time: 8/13/2015 2:54:00PM

Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 8/13/2015 6:00:00AM Prep Initial Wt./Vol.: 5 mL Prep Extract Vol: 5 mL

Print Date: 08/19/2015 3:42:05PM



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1154161 [VXX27718] Blank Spike Lab ID: 1283689 Date Analyzed: 08/13/2015 16:09 Spike Duplicate ID: LCSD for HBN 1154161 [VXX27718] Spike Duplicate Lab ID: 1283690 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161003, 1154161004, 1154161005, 1154161006, 1154161007

#### Results by SW8260B Blank Spike (ug/L) Spike Duplicate (ug/L) Parameter <u>Spike</u> Result Rec (%) <u>Spike</u> Result Rec (%) CL <u>RPD (%)</u> RPD CL Benzene 30 32.3 108 30 31.1 104 (79-120) 3.90 (< 20) Ethylbenzene 30 32.5 108 30 31.1 104 4.50 (79-121) (< 20) o-Xylene 30 33.8 113 30 32.6 109 (78-122) 3.60 (< 20) P & M -Xylene 67.4 112 106 5.40 60 60 63.8 (80-121) (< 20) Toluene 29.9 100 30 29.8 (80-121) 0.44 30 99 (< 20) Surrogates 1,2-Dichloroethane-D4 (surr) 30 98.4 98 30 97 97 (81-118) 1.40 4-Bromofluorobenzene (surr) 30 97.7 98 30 95.9 96 (85-114) 1.90 Toluene-d8 (surr) 100 30 101 0.53 30 100 101 (89-112)

#### **Batch Information**

Analytical Batch: VMS15171 Analytical Method: SW8260B Instrument: HP 5890 Series II MS3 VNA Analyst: NRB Prep Batch: VXX27718 Prep Method: SW5030B Prep Date/Time: 08/13/2015 06:00 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 08/19/2015 3:42:06PM

# SGS

# Method Blank

Blank ID: MB for HBN 1716057 [XXX/33764] Blank Lab ID: 1281642 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161005, 1154161006, 1154161007

#### Results by 8270D SIMS (PAH)

Parameter	Results	LOQ/CL	DL	<u>Units</u>	
1-Methylnaphthalene	0.0227J	0.0500	0.0150	ug/L	
2-Methylnaphthalene	0.0204J	0.0500	0.0150	ug/L	
Acenaphthene	0.0250U	0.0500	0.0150	ug/L	
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L	
Anthracene	0.0250U	0.0500	0.0150	ug/L	
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L	
Benzo[a]pyrene	0.0250U	0.0500	0.0150	ug/L	
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L	
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L	
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L	
Chrysene	0.0250U	0.0500	0.0150	ug/L	
Dibenzo[a,h]anthracene	0.0250U	0.0500	0.0150	ug/L	
Fluoranthene	0.0250U	0.0500	0.0150	ug/L	
Fluorene	0.0250U	0.0500	0.0150	ug/L	
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L	
Naphthalene	0.0517J	0.100	0.0310	ug/L	
Phenanthrene	0.0250U	0.0500	0.0150	ug/L	
Pyrene	0.0250U	0.0500	0.0150	ug/L	
Surrogates					
2-Fluorobiphenyl (surr)	85.1	53-106		%	
Terphenyl-d14 (surr)	115	58-132		%	

# **Batch Information**

Analytical Batch: XMS8851 Analytical Method: 8270D SIMS (PAH) Instrument: HP 6890/5973 MS SVQA Analyst: SP Analytical Date/Time: 8/12/2015 11:19:00AM Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 8/6/2015 10:10:35AM Prep Initial Wt./Vol.: 1000 mL Prep Extract Vol: 1 mL

Print Date: 08/19/2015 3:42:07PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com



#### **Blank Spike Summary**

Blank Spike ID: LCS for HBN 1154161 [XXX33764] Blank Spike Lab ID: 1281643 Date Analyzed: 08/12/2015 11:36 Spike Duplicate ID: LCSD for HBN 1154161 [XXX33764] Spike Duplicate Lab ID: 1281644 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161004, 1154161005, 1154161006, 1154161007

#### Results by 8270D SIMS (PAH)

		Blank Spike	e (ug/L)	S	Spike Dupli	cate (ug/L)			
<u>Parameter</u>	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
1-Methylnaphthalene	0.5	0.368	74	0.5	0.406	81	(41-115)	9.80	(< 20)
2-Methylnaphthalene	0.5	0.341	68	0.5	0.379	76	(39-114)	10.70	(< 20)
Acenaphthene	0.5	0.360	72	0.5	0.363	73	(48-114)	0.88	(< 20)
Acenaphthylene	0.5	0.374	75	0.5	0.388	78	(35-121)	3.80	(< 20)
Anthracene	0.5	0.419	84	0.5	0.407	82	(53-119)	2.80	(< 20)
Benzo(a)Anthracene	0.5	0.515	103	0.5	0.506	101	(59-120)	1.90	(< 20)
Benzo[a]pyrene	0.5	0.462	92	0.5	0.454	91	(53-120)	1.90	(< 20)
Benzo[b]Fluoranthene	0.5	0.484	97	0.5	0.482	96	(53-126)	0.43	(< 20)
Benzo[g,h,i]perylene	0.5	0.465	93	0.5	0.464	93	(44-128)	0.34	(< 20)
Benzo[k]fluoranthene	0.5	0.443	89	0.5	0.476	95	(54-125)	7.20	(< 20)
Chrysene	0.5	0.541	108	0.5	0.502	100	(57-120)	7.40	(< 20)
Dibenzo[a,h]anthracene	0.5	0.529	106	0.5	0.501	100	(44-131)	5.40	(< 20)
Fluoranthene	0.5	0.492	98	0.5	0.458	92	(58-120)	7.30	(< 20)
Fluorene	0.5	0.403	81	0.5	0.413	83	(50-118)	2.40	(< 20)
Indeno[1,2,3-c,d] pyrene	0.5	0.530	106	0.5	0.502	100	(48-130)	5.50	(< 20)
Naphthalene	0.5	0.374	75	0.5	0.415	83	(43-114)	10.40	(< 20)
Phenanthrene	0.5	0.412	82	0.5	0.415	83	(53-115)	0.71	(< 20)
Pyrene	0.5	0.470	94	0.5	0.455	91	(53-121)	3.20	(< 20)
Surrogates									
2-Fluorobiphenyl (surr)	0.5	78	78	0.5	76.7	77	(53-106)	1.70	
Terphenyl-d14 (surr)	0.5	117	117	0.5	108	108	(58-132)	7.60	

# **Batch Information**

Analytical Batch: XMS8851 Analytical Method: 8270D SIMS (PAH) Instrument: HP 6890/5973 MS SVQA Analyst: SP Prep Batch: XXX33764 Prep Method: SW3520C Prep Date/Time: 08/06/2015 10:10 Spike Init Wt./Vol.: 0.5 ug/L Extract Vol: 1 mL Dupe Init Wt./Vol.: 0.5 ug/L Extract Vol: 1 mL

Print Date: 08/19/2015 3:42:08PM

200 West Potter Drive Anchorage, AK 95518 t 907.562.2343 f 907.561.5301 www.us.sgs.com

# SGS

Method Blank					
Blank ID: MB for HBN 171 Blank Lab ID: 1283927	17316 [XXX/33862]	Matrix	: Water (Surfa	ce, Eff., Ground)	
QC for Samples: 1154161001, 1154161002, 1	154161003, 1154161004, 115	54161005			
Results by <b>AK102</b>					
Parameter	<u>Results</u>	LOQ/CL	<u>DL</u>	Units	
Diesel Range Organics	0.300U	0.600	0.180	mg/L	
Surrogates					
5a Androstane (surr)	100	60-120		%	
Batch Information					
Analytical Batch: XFC12	017	Prep Bat	ch: XXX33862		
Analytical Method: AK10	2	Prep Met	thod: SW35200	5	
Instrument: HP 7890A	FID SV E F	Prep Dat	e/Time: 8/16/2	015 11:45:45AM	
Analyst: KJO	17/2015 12:12:00DM	Prep Initi Brop Ext	al Wt./Vol.: 250	) mL	
Analytical Date/Time. 6/1	1772015 12.12.00PW	Prep Ext			


#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1154161 [XXX33862] Blank Spike Lab ID: 1283928 Date Analyzed: 08/17/2015 12:33 Spike Duplicate ID: LCSD for HBN 1154161 [XXX33862] Spike Duplicate Lab ID: 1283929 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161001, 1154161002, 1154161003, 1154161004, 1154161005

<u>e Result</u> 22.6	<u>Rec (%)</u> 113	<u>Spike</u> 20	Result	Rec (%)	CL		
22.6	113	20			OL	<u>RPD (%)</u>	<u>RPD C</u>
100		20	22.7	114	(75-125)	0.43	(< 20)
400							
108	108	0.4	108	108	(60-120)	0.57	
		Pre	o Batch: X	XX33862			
_		Pre	o Method:	SW3520C			
F		1.100		00/40/00/			
		Pie	o Date/Time	e: 08/16/201	5 11:45	l. 1 ml	
	F		Pre	Prep Batch: XX Prep Method:	Prep Batch: XXX33862 Prep Method: SW3520C	Prep Batch: XXX33862 Prep Method: SW3520C	Prep Batch: XXX33862 Prep Method: SW3520C

Print Date: 08/19/2015 3:42:11PM

# SGS

<u>DL</u> 0.150	<u>Units</u> mg/L
	%
XXX33862	
d: SW3520C	11.45.45014
Wt./Vol.: 250 mL	11.45.45AW
t Vol: 1 mL	
	XXX33862 d: SW3520C ïme: 8/16/2015 Nt./Vol.: 250 mL t Vol: 1 mL



#### Blank Spike Summary

Blank Spike ID: LCS for HBN 1154161 [XXX33862] Blank Spike Lab ID: 1283928 Date Analyzed: 08/17/2015 12:33 Spike Duplicate ID: LCSD for HBN 1154161 [XXX33862] Spike Duplicate Lab ID: 1283929 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1154161001, 1154161002, 1154161003, 1154161004, 1154161005

·····		Blank Spike	(ma/L)	ç	Spike Dupli	cate (mg/L)			
Parameter	Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Residual Range Organics	20	18.1	91	20	17.9	90	(60-120)	0.98	(< 20 )
irrogates									
n-Triacontane-d62 (surr)	0.4	102	102	0.4	108	108	(60-120)	6.60	
Batch Information									
Analytical Batch: XFC12017				Pre	p Batch: X	XX33862			
Analytical Method: AK103				Pre	p Method:	SW3520C			
Instrument: HP 7890A FID SV E F Prep Date/Time: 08/16/2015 11:45									
Analyst. KJO				Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL					

Print Date: 08/19/2015 3:42:13PM

5	
G	
5	

SGS North America Inc. CHAIN OF CUSTODY RECORD



Maryland New York

Locations Nationwide

Indiana

Alaska New Jersey North Carolina

-					actructi	suc.				West \	/irgina <u>www.us.</u>	Kentucky sgs.com	
CLIENT: SLR Triternation	21 Corp	ocati	20	-	Omissi		ecuons av dela	y the or	inution and a	analysis	ur.	Pade	~
- CONTACT: A/CX WING	E NO: 719,2	128,01	20	Section	3			Presei	vative				-
DEPROJECT DEPROJECT PROJECT PR				# U	1.7H	17н	/ 17H						
REPORTS TO: E-MAIL Joséon Stores	Jgraye	SLACON	sulfing c	0 Z +	S los								
INVOICE TO: QUOTE	:#: 10\40\&	1 1000		< - :	רער. ערער גערע	1	VIS () >			<u></u>			
RESERVED SAMPLE IDENTIFICATION T	DATE DATE	TIME	MATRIX/ MATRIX CODE	z m ct ov 	ンバスタ / つ む <u>()</u> 音 絵 ^幕 希	91210 1210 1210	442 1928 1719					REMARK	S/
[]A-H RS-MW1-080315 0	8/03/15+ 10	928	35	8			 						
(2) A - 41 RS-MWZ-080315-	<u></u>	121	<u> </u>	8									
~(3) A - H RS-MW3-080315	-	420		8									
5(4)A-J RS-MW 4-080315		605		0				Ń					
25A-J RS-MW99-0803157		605	K	01	Y	*	X 						
6 A-E RS-SWI-080315	×́	829	SÚ	5			X.						
(7)A-E RS-SW99-080315	/	829	SW	2	<u> </u>		× 						
(B)A-C TR-080315-	- +	420	TB	7B /	A	×	×					Trip Bla	2
Relinquished By: (1)	te w ^{\$/\#/\$} CM	Je F	teceived By:				Section		Project?	Yes Mg	Data De	iverable Requirem	ents:
all all si	14/15- 0	730	alle	100	1/12/h	134	Cooler IC			I	Leve	1H	
Relinquished By: (2) Da	te Tim - /ビデル・ し	le I I I I I I I I I I I I I I I I I I I	teceived By:				Requested	Turnarou	nd Time a	nd/or Spec	ial Instruct	ons:	
0     0       0     0       0     0       0     0       0     0       0     0	te Tim		teceived By:				Stan	dard	T#1				
S						1	emp Blar	¥ دن لک	6 <del>4</del> L.	3.8	Chain o	Custody Seal: (C	ircle)
Pa Relinquished By: (4)	SU/15	<u>ارت</u> ارت	teceived For	Laboratory	By:		(See atts	or Amt	ient []	7   Fermi	(INTACT	BROKEN AB	SENT
		-	2			-	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		1.2221 214	11 1 21111	(vous vous	נישטעי שולווושם שם	111111111

F083-Kit_Request_and_COC_Templates-Blank Revised 2013-03-24

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

200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301
 5500 Business Drive Willmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557



#### **Returned Bottles Inventory**

Name of individual returning bottles:			Date Received:	815 1	2015
Client Name:	SLR		Received by:	D.C TI	
Project Name:	Red S	amon	SGS PM:	JN	
	1-L	14			2010 00 million 2010 000 000 000 000 000 000 000 000 00
Je:	500-ml				
Valgeı	250-ml or 8-oz	B			
PE/I	125-ml or 4-oz				
HD	60-ml or 2-oz				
	other				
	1-L				
	500-ml				
glase	250-ml or 8-oz				
mber	125-ml or 4-oz with or without <u>se</u> pta				
5	40-ml VOA vial	33			
	other				
Subtotal:		60			

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

Amount to Invoice Client \$: <u>240</u> wo#: <u>115</u>



# 1154161



### SAMPLE RECEIPT FORM

Review Criteria:	Yes	N/A	No	Comments/Action Taken:
Were <b>custody seals</b> intact? Note # & location, if applicable.	$\checkmark$			Exemption permitted if sampler hand carries/delivers.
COC accompanied samples?	$\checkmark$			1F
<b>Temperature blank</b> compliant* (i.e., 0-6°C after CF)?			Ц	Exemption permitted if chilled & collected <8 hrs ago.
If >6 °C, were samples collected <8 hours ago?			Н	
If $<0$ °C, were all sample containers ice free?		V		
Cooler ID: $\frac{1}{2}$ $(a) \frac{5.7}{3.3}$ W/ Inerm.ID: $\frac{238}{71}$				
Cooler ID: $(\underline{u}, \underline{s.s}, \underline{w})$ Therm ID: $(\underline{v}, \underline{s.s}, \underline{w})$				
Cooler ID: @ w/ Therm ID:				
Cooler ID: (W) Therm.ID:				
If samples are 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				Note: Identify containers received at non-compliant temperature Use form FS-0029 if more space is needed
Temp blank <u>nor</u> cooler temp can be obtained, note "ambient" or "chilled.				icmperutare. Use form 15-0029 if more space is nectuca.
USPS U vnden U K Air U Alert Courier				
$\square UPS$ $\square FedEx$ $\square RAVN$ $\square C&D Delivery$				
Carlile Pen Air Warp Speed Other				
$\rightarrow$ For WO# with airbills, was the WO# & airbill				
info recorded in the Front Counter eLog?		$\checkmark$		
	Yes	N/A	No	
Were samples received within hold time?		Ц	Ц	Note: Refer to form F-083 "Sample Guide" for hold times. Note: If times differ < 1hr record details and login per COC
Do samples <b>match COC</b> * (i.e., sample IDs, dates/times collected)?		H	Ц	Note. If times utifer sint, record actuals and login per coc.
Were analyses requested unambiguous?		┝┥	┝┝┥	
Packing material used (specify all that apply):				
Separate plastic hags Vermiculite Other				
Were <b>proper containers</b> (type/mass/volume/preservative*) used?				Exemption permitted for metals (e.g., 200.8/6020A).
Were <b>Trip Blanks</b> (i.e., VOAs, LL-Hg) in cooler with samples?		H	H	
Were all VOA vials free of headspace (i.e., bubbles $\leq 6 \text{ mm}$ )?				
Were all soil VOAs field extracted with MeOH+BFB?		$\checkmark$		
For preserved waters (other than VOA vials, LL-Mercury or				
microbiological analyses), was pH verified and compliant?				
If pH was adjusted, were bottles flagged (i.e., stickers)?		$\checkmark$		
For <b>special handling</b> (e.g., "MI" soils, foreign soils, lab filter for				Trip Blank Limited Volume
dissolved, lab extract for volatiles, Ref Lab, limited volume),				
were bottles/paperwork flagged (e.g., sticker)?				
For <b>KUSH/SHOKT Hold Time</b> , were COC/Boules Hagged				
For SITE-SPECIFIC OC e g RMS/RMSD/RDUP were		<b>V</b>		
containers / nanerwork flagged accordingly?		$\mathbf{J}$		
<b>For any question answered "No.</b> " has the PM been notified and		ليكت		SRF Completed by: D.C 08/04/2015
the problem resolved (or paperwork put in their bin)?		$\checkmark$		PM notified:
Was PEER REVIEW of sample numbering/labeling completed?				Peer Reviewed by: EDJ
Additional notes (if applicable):				

Note to Client: Any "no" answer above indicates non-compliance with standard procedures and may impact data quality.



#### Sample Containers and Preservatives

Container Id	Preservative	Container Condition	Container Id	Preservative	Container Condition
1154161001-A	HCL to pH < 2	OK	1154161005-I	No Preservative Required	OK
1154161001-В	HCL to pH < 2	OK	1154161005-J	No Preservative Required	OK
1154161001-С	HCL to pH < 2	OK	1154161006-A	HCL to pH < 2	OK
1154161001-D	HCL to pH < 2	OK	1154161006-В	HCL to pH < 2	OK
1154161001-Е	HCL to pH < 2	OK	1154161006-C	HCL to pH < 2	OK
1154161001-F	HCL to pH < 2	OK	1154161006-D	No Preservative Required	OK
1154161001-G	HCL to pH < 2	OK	1154161006-Е	No Preservative Required	OK
1154161001-Н	HCL to pH < 2	OK	1154161007-A	HCL to pH < 2	OK
1154161002-A	HCL to pH < 2	OK	1154161007-В	HCL to pH < 2	OK
1154161002-В	HCL to pH < 2	OK	1154161007-С	HCL to pH < 2	OK
1154161002-С	HCL to pH < 2	OK	1154161007-D	No Preservative Required	OK
1154161002-D	HCL to pH < 2	OK	1154161007-Е	No Preservative Required	OK
1154161002-Е	HCL to pH < 2	OK	1154161008-A	HCL to pH < 2	OK
1154161002-F	HCL to pH < 2	OK	1154161008-В	HCL to pH < 2	OK
1154161002-G	HCL to pH < 2	OK	1154161008-C	HCL to pH < 2	OK
1154161002-Н	HCL to pH < 2	OK			
1154161003-A	HCL to pH < 2	OK			
1154161003-В	HCL to pH < 2	OK			
1154161003-С	HCL to pH < 2	OK			
1154161003-D	HCL to pH < 2	OK			
1154161003-Е	HCL to pH < 2	OK			
1154161003-F	HCL to pH < 2	OK			
1154161003 <b>-</b> G	HCL to pH < 2	OK			
1154161003-Н	HCL to pH < 2	OK			
1154161004-A	HCL to pH < 2	OK			
1154161004-В	HCL to pH < 2	OK			
1154161004-С	HCL to pH < 2	OK			
1154161004-D	HCL to pH < 2	OK			
1154161004-Е	HCL to pH < 2	OK			
1154161004-F	HCL to pH < 2	OK			
1154161004-G	HCL to pH < 2	OK			
1154161004-Н	HCL to pH < 2	OK			
1154161004-I	No Preservative Required	OK			
1154161004-J	No Preservative Required	OK			
1154161005-A	HCL to pH < 2	OK			
1154161005-В	HCL to pH < 2	OK			
1154161005-С	HCL to pH < 2	OK			
1154161005-D	HCL to $pH < 2$	OK			
1154161005-Е	HCL to $pH < 2$	OK			
1154161005-F	HCL to $pH < 2$	OK			
1154161005-G	HCL to $pH < 2$	OK			
1154161005-Н	HCL to $pH < 2$	OK			

Container Id

Preservative

Container Condition

Container Id

Preservative

Container Condition

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.

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.

BU - The container was received with headspace greater than 6mm.

# **APPENDIX E**

# DATA QUALITY ASSESSMENT AND ADEC LABORATORY CHECKLIST

Data Quality Assessment (DQA) Soil and Groundwater Assessment and Remediation Red Salmon Facility, Naknek, Alaska

This Data Quality Assessment (DQA) was	Prepared By:	Jason Gray, SLR
	Reviewed By:	Jennifer McLean, SLR

SLR International Corporation, (SLR) conducted a Data Quality Assessment (DQA) for the laboratory data generated by the associated 2015 Soil and Groundwater Assessment and Remediation of the Red Salmon Facility located in Naknek, Alaska. The DQA covers all laboratory analysis of soil, groundwater, surface water and seep water samples collected for the project from June 12th through August 8th of 2015. Samples were collected in accordance with the Final Work Plan for Soil and Groundwater Assessment and Remediation Red Salmon Facility, Naknek, Alaska (SLR 2015). The analytical method specifications for glassware, preservation, and holding time requirements for the analysis methods that were utilized are summarized in Table 1.

Parameter (Method)	Media	Container Volume	Container Material	Preservative	Hold time (days)	Trip Blank ¹
GRO/BTEX ² (AK101/SW8260)	Soil	1 x 4 oz	Glass	MeOH 4°C (±2°)	14	Required
DRO/RRO (AK102/AK103)	Soil	1 x 4 oz	Glass	4°C (±2°)	14	Not Required
Total Solids (SM21 25240G)	Soil	1 x 4 oz	Glass	4°C (±2°)	14	Not Required
GRO (AK101)	Water	3 x 40 ml	Glass	HCl 4°C (±2°)	14	Required
BTEX (SW8260)	Water	3 x 40 ml	Glass	HCl 4°C (±2°)	14	Required
DRO/RRO (AK102/AK103)	Water	2 x 250 ml	Glass	HCl 4°C (±2°)	14	Not Required
PAH (8270D- SIM)	Water	2 x 1L	Glass	4°C (±2°)	7	Not Required

#### Table 1 Summary of Sample Containers and Preservatives

Notes:

1 - A trip blank is required for this type of analysis with the trip blank included on the COC.

2-A separate, unpreserved jar is required for total solids for this analysis.

 $\pm$  - plus or minus

BTEX - benzene, toluene, ethylbenzene, and total xylenes

°C - degrees Celsius

DRO – diesel range organics

GRO – gasoline range organics

MeOH – methanol

ml – Milliliters

oz – ounce

PAH SIM – polynuclear aromatic hydrocarbons selective ion monitoring RRO – residual range organics

SGS North America, Inc. (SGS) laboratory in Anchorage, Alaska provided the analytical support for this project and performed the analysis of all project samples. SGS maintains a current Alaska Department of Environmental Conservation (ADEC) Contaminated Sites approval number (UST-005) for analytical methods of interest. Laboratory final reports were presented as Level II deliverables and include the documentation of each delivery group chain-of-custody (COC) and sample receipt condition. A Microsoft Access compatible electronic data deliverable (EDD) was also provided for each report. The laboratory electronic PDF reports along the EDD are provided on CD as Attachment 2. Table 2 provides the SGS work order number, samples and corresponding cooler receipt information.

Lab SDG Number	Sample Matix	Samples	Requested Analyses	Date Received by Lab	Temperature Blank
1152812	Seep water samples	SEEP1-061215(Primary), SEEP1-061215DUP, SEEP2-061215	DRO/RRO, GRO/BTEX, PAH SIM,	6/15/2015	7.3°C
1154090	Soil Samples	TP2,TP3,SFB1(Primary), SFB91 (Blind Duplicate of SFB1), SFC2, SFB4, SFE6, SFC7, SFA9, SWE4, SWD1, SWB0	GRO/BTEX, DRO/RRO, Total Solids	7/2/2015	5.9°C
	Ground	RS-MW1, RS-MW2, RS-MW3	DRO/RRO, GRO/BTEX,		
1154161	Water	RS-MW4 (Primary), RS-MW99 (Blind Duplicate of RS-MW4)	DRO/RRO, GRO/BTEX, PAH SIM,	8/4/2015	Cooler 1, 5.7°C Cooler 2, 3.3°C
	Surface Water	RS-SW1 (Primary), RS-SW99 (Blind Duplicate of RS-SW1),	BTEX, PAH SIM,		

 Table 2
 Summary of Work Orders, Samples and Cooler Receipt Information

The analytical data was reviewed for consistency with the project Workplan and with *ADEC Technical Memorandum, Environmental Laboratory Data and Quality Assurance* (ADEC 2009a) requirements. An ADEC Laboratory Data Review Checklist was completed for each analytical work order reviewed, and is included as Attachment 1 to this DQA. A review for any anomalies to the project requirements for precision, accuracy, representativeness, comparability, completeness and sensitivity (PARCCS) is provided below for the three laboratory work orders containing the 2015 Red Salmon project samples referenced in Table 2.

#### **Application of Data Flags**

A range of potential data qualifiers which could be applied to sample results is presented in Table 3. Data flags were appended to the data if necessary to indicate quality control anomalies.

Qualifier	Description
	One or more laboratory quality control criteria (for example, laboratory control sample
Q	(LCS) recovery or surrogate spike recovery) failed. Where applicable, an "H", "L", or "N"
	was appended to indicate positive, negative, or unknown bias, respectively.
	Estimated: The analyte was positively identified but the result was outside the calibration
J	range, between the limit of quantitation (LOQ) and the detection limit (DL); the quantitation
	was an estimate.
	The concentration was an estimate due to a sample matrix quality control failure. Where
М	applicable, an "H", "L", or "N" will be appended to indicate positive, negative, or unknown
	bias, respectively.
	Blank contamination: The analyte was positively identified in the blank (e.g., trip blank
р	and/or method blank) associated with the sample and the concentration reported for the
Б	sample was less than five times that of the blank (ten times for metals and common
	laboratory contaminants methylene chloride and acetone).
Р	Sample preservation requirements were not satisfied.
HT	Sample holding time requirements were not met.

Table 3Data Qualifiers

A discussion of the project data quality relative to PARCCS goals and summary of any anomalies or failures requiring data qualifiers follows.

#### Sample Receipt, Preservation (Temperature and Chemical), and Hold Time

Cooler receipt temperatures were considered acceptable between "not frozen" and 6.0°C for all analyses provided there was no evidence of freezing noted by the receiving laboratory. Individual cooler receipt temperatures are listed in Table 2. The Seep water samples contained in SDG 1152812 were received at a temperature of 7.2°C, slightly above the required preservation temperature. Remote site shipping logistics resulted in three days travel time between shipment from the cooler at the site and subsequent receipt at the laboratory and may have contributed to the resulting cooler temperature. The DRO/RRO, GRO/BTEX and PAH results the seep samples of this report were flagged as "P" to indicate a temperature preservation anomaly. Additionally within SDG 1152812, as documented on the laboratory cooler receipt form, one of the two containers for DRO/RRO sample SEEP1-061215 indicated on the COC was not physically present in in cooler and there were two anomalies with sample container labeling. The laboratory was able to sufficiently determine the sample IDs corresponding with COC and sufficient volume of DRO/RRO sample was still available from the one container received for sample SEEP1-061215 to perform the analysis. One of the three trip blank BTEX vials contained a bubble >6mm in size, the trip blank analysis was successfully completed utilizing the other two bubble free containers for this sample. The Seep samples from this report are useable as qualified for the purpose of screening for potential contamination sources, these same seeps were subsequently re-sampled for confirmation as part of report 1154161.

Report SDG 1154161 contained 8 samples documented on a single COC was delivered in two coolers without documentation of which samples were present in which cooler. While both cooler temperature blanks were within acceptable range and the trip blank sample was free of GRO/BTEX contamination, it is recommended that separate COCs should be prepared for each cooler in order to document the association of samples. All other sample receipt, preservation, and holding time requirements were met and no other flagging of samples for receipt, preservation or hold time issues was required.

#### 1.1 PRECISION

Analytical batch precision was evaluated using the Relative Percent Difference (RPD) between the results for the Laboratory Control Sample (LCS) and Laboratory Control Sample Duplicate (LCSD), and/or from the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) as applicable. A field duplicate sample was requested and analyzed from each applicable matrix for each delivery of samples. The project duplicate samples consisted of two seep surface water samples, a single groundwater sample and a single soil sample.

#### LCS/LCSD and MS/MSD RPD

LCS/LCSD and MS/MSD pairs were prepared and analyzed at the appropriate frequency for the methods requested within the batches containing the analytical samples from the project. GRO and DRO/RRO soil sample batches contained a LCS/LCSD sample pair for the evaluation of batch precision. BTEX soil batches contained a MS/MSD sample set prepared from non-project samples. No project specific MS/MSD samples were required by the project workplan. All LCS/LCSD and MS/MSD sample pairs had RPD within precision control limits demonstrating acceptable laboratory batch precision. All of the project sample results are useable as intended with respect to batch precision without requiring qualification for batch precision exceedances.

#### **Field Duplicates**

The Association of primary and duplicate field samples is shown in table 2. Note that the sample duplicate of primary sample SEEP1-061215 was identified on the COC and not submitted as a blind sample, the other two water samples and the soil sample from subsequent sample deliveries were submitted blind to the laboratory. One duplicate soil sample was submitted with 11 primary soil samples, slightly below the recommended 1 in 10 duplicate sample frequency. All Duplicate soil sample results were within ADEC recommended 50% RPD criteria. Surface and Ground Water duplicate samples were submitted well above the 1 per 10 primary sample recommended frequency. The water samples show in table 4 had results in excess of the ADEC recommended 30% RPD criteria indicating potentially non-homogenous samples for these duplicate pairs. The individual water sample analyte results that were in exceedance of the 30% RPD criteria was flagged as M (matrix effects) to indicate the potential for variability of the analyte at the sample location. The higher of each of the duplicate pair result should be used for verifying compliance with cleanup levels, the date is otherwise usable as flagged.

						Dup	Data
SAMPLE ID	SAMPLE	ANALYTE	ANALYTICAL	RESULT	LAB	RPD	Flag
BS-MW4-080315	Primary	1-Methylnaphthalene	8270D SIMS (PAH)	2 27	-	46%	м
RS-MW99-080315	Duplicate	1-Methylnaphthalene	8270D SIMS (PAH)	3.62	_	46%	M
RS-MW4-080315	Primary	2-Methylnaphthalene	8270D SIMS (PAH)	2.11	_	40%	м
RS-MW99-080315	Duplicate	2-Methylnaphthalene	8270D SIMS (PAH)	3 31	_	44%	M
RS-MW4-080315	Primary	Fluorene	8270D SIMS (PAH)	0.417	_	47%	M
RS-MW99-080315	Duplicate	Fluorene	8270D SIMS (PAH)	0.641	=	42%	M
RS-MW4-080315	Primary	Naphthalene	8270D SIMS (PAH)	2.28	=	48%	M
RS-MW99-080315	Duplicate	Naphthalene	8270D SIMS (PAH)	3.71	=	48%	M
RS-MW4-080315	Primary	Phenanthrene	8270D SIMS (PAH)	0.404	_	38%	M
RS-MW99-080315	Duplicate	Phenanthrene	8270D SIMS (PAH)	0.593	=	38%	M
RS-MW4-080315	Primary	Pyrene	8270D SIMS (PAH)	0.0245	T	35%	м
RS-MW99-080315	Duplicate	Pyrene	8270D SIMS (PAH)	0.0349	T	35%	M
RS-SW1-080315	Primary	2-Methylnaphthalene	8270D SIMS (PAH)	2.51	=	48%	M
RS-SW99-080315	Duplicate	2-Methylnaphthalene	8270D SIMS (PAH)	1 54	_	48%	М
RS-SW1-080315	Primary	Acenaphthene	8270D SIMS (PAH)	0.866	_	51%	M
RS-SW99-080315	Duplicate	Acenaphthene	8270D SIMS (PAH)	0.512	=	51%	M
RS-SW1-080315	Primary	Anthracene	8270D SIMS (PAH)	0.259	T	58%	M
RS-SW99-080315	Duplicate	Anthracene	8270D SIMS (PAH)	0.142	=	58%	M
RS-SW1-080315	Primary	Fluorene	8270D SIMS (PAH)	1.69	_	55%	М
RS-SW99-080315	Duplicate	Fluorene	8270D SIMS (PAH)	0.963	=	55%	M
RS-SW1-080315	Primary	Phenanthrene	8270D SIMS (PAH)	2.16	_	61%	М
RS-SW99-080315	Duplicate	Phenanthrene	8270D SIMS (PAH)	1.15	=	61%	M
RS-SW1-080315	Primary	Pvrene	8270D SIMS (PAH)	0.286	=	108%	M
RS-SW99-080315	Duplicate	Pyrene	8270D SIMS (PAH)	0.0857	=	108%	М
SEEP1-061215	Primary	RRO	AK103	2.05	=	51%	M
SEEP1DUP061215	Duplicate	RRO	AK103	3.46	=	51%	М
SEEP1-061215	Primary	Anthracene	8270D SIMS (PAH)	0.257	=	48%	М
SEEP1DUP061215	Duplicate	Anthracene	8270D SIMS (PAH)	0.418	=	48%	М
SEEP1-061215	Primary	Benzo[a]pyrene	8270D SIMS (PAH)	0.0467	J	32%	М
SEEP1DUP061215	Duplicate	Benzo[a]pyrene	8270D SIMS (PAH)	0.0643	=	32%	М
SEEP1-061215	Primary	Benzo[g,h,i]perylene	8270D SIMS (PAH)	0.0219	J	56%	М
SEEP1DUP061215	Duplicate	Benzo[g,h,i]perylene	8270D SIMS (PAH)	0.039	J	56%	М
SEEP1-061215	Primary	Chrysene	8270D SIMS (PAH)	0.189	=	37%	М
SEEP1DUP061215	Duplicate	Chrysene	8270D SIMS (PAH)	0.275	=	37%	М
SEEP1-061215	Primary	Naphthalene	8270D SIMS (PAH)	5.06	=	61%	М
SEEP1DUP061215	Duplicate	Naphthalene	8270D SIMS (PAH)	2.69	=	61%	М

#### Table 4 Blind Duplicate Water Sample Results in exceedance of 30% RPD Criteria

#### **1.2 ACCURACY**

Accuracy of analytical results for the project was evaluated from laboratory QC samples including LCS, LCS/LCSD and MS/MSD spiked analyte recovery, surrogate recovery, and internal standards. Accuracy was also evaluated by determining whether any deviations to method or laboratory requirements for continuing calibration verification (CCV) or initial calibration verification (ICV) were noted in the case narrative or present in the data deliverables.

#### **Continuing Calibration Verification (CCV)**

The case narratives noted no failures of the CCV sample. The laboratory included CCV information in the electronic data deliverable which documented acceptable CCV performance within control limits.

#### Surrogates

Sample spiked surrogate recoveries were all reported within QC limits except as noted below in Table 5.

SAMPLE ID	MATRIX	Surrogate	ANALYTICAL METHOD	Extract Dilution Level	PERCENT RECOVERED (%)	REC LIMIT LOW	REC LIMIT HIGH	Data Flag
SWD1	Soil	4-Bromofluorobenzene	AK101	1	353	50	150	QH
SFB4	Soil	4-Bromofluorobenzene	AK101	1	191	50	150	QH
SFA9	Soil	5a Androstane	AK102	20	0	50	150	
SFB4	Soil	5a Androstane	AK102	40	0	50	150	
SFC7	Soil	5a Androstane	AK102	10	0	50	150	
SWB0	Soil	5a Androstane	AK102	40	0	50	150	
SWD1	Soil	5a Androstane	AK102	10	0	50	150	
RS-SW1-080315	Water	Terphenyl-d14	8270D SIM	5	159	58	132	

#### Table 5 Samples with Exceedances of Surrogate Recovery Criteria

Two of the AK101 GRO soil samples analyzed at original undiluted extract concentration experienced high surrogate recovery, likely due in part background sample hydrocarbon matrix effects interfering with quantitation of the spiked surrogate peak. These results are flagged as QH to indicate a potential for high bias to the samples GRO result as demonstrated by the surrogate recovery. Five of the AK102 DRO soil samples and one 8270D PAH water samples were analyzed from extracts diluted 5X or more due to high background levels of hydrocarbon present in the sample. Accurate quantitation of surrogates is not typically obtained from samples with sufficiently high background levels of hydrocarbon to require extract dilution. No data flags were applied to these DRO or PAH samples exhibiting this interference of surrogate recovery performance typical for high background hydrocarbon samples.

Impact of the flagged sample results on use of the sample GRO data is minimal. While there is a potential for a high bias to the associated GRO results for flagged samples, any such high bias conservatively ensures that the sample GRO result is not actually higher than reported. The

surrogate recovery criteria were otherwise met and no other data was flagged for exceeding surrogate recovery limits.

#### LCS and LCS/LCSD Recovery

A single LCS or a LCS/LCSD pair as applicable for the method were analyzed at the appropriate frequency for each of the analytical sample batches containing project samples. All associated LCS and LCSD and percent recoveries were within acceptable limits demonstrating acceptable batch accuracy. No associated project field samples required data flags due to LCS or LCS/LCSD recovery exceedances.

#### **Internal Standards**

No internal standards were noted in the case narratives as being outside of acceptance limits. Internal standard performance was not otherwise presented in the report or in the electronic data deliverable. Internal standards criteria were considered met.

#### **1.3 REPRESENTATIVENESS**

The data deliverables were consistent with the site conditions. Samples were collected from planned locations according to the 2015 Red Salmon project workplan and following ADEC recommended sampling protocols.

#### **1.4 COMPARABILITY**

Samples were all submitted to SGS laboratory which utilized approved Standard Methods, ADEC and EPA SW-846 methodology to perform the requested analysis. The data for this project were considered to be comparable.

#### **1.5 COMPLETENESS**

Completeness was measured as the number of usable results versus the total number of results. The data set was 100% complete with no omissions or rejections with respect to analysis. The information fulfilled the data quality objectives and was considered usable for the intended purposes, as qualified.

#### **1.6 SENSITIVITY**

Sensitivity was measured by evaluating if the Limit of Detection (LOD) was less than the associated project cleanup level. Additionally, sensitivity was evaluated by assessing method blank and trip blank results.

#### Method Blanks

One method blank was analyzed for every analytical batch of twenty samples or less. No target analytes were detected above the LOD in any of the associated batch method blank samples with exception of Naphthalene detected in PAH method batch xxx33764 slightly above the LOD but below the Limit of Quantitation (LOQ) as shown in table 6. Additionally, analytes 1-Methylnaphthalene and 2-Methylnaphthalene were detected in this same method blank sample below the LOQ but above the LOQ. All of the associated batch field sample results for these three

PAH analytes were well above 10X the level detected in the MB sample, therefor the field sample results were not qualified as potentially impacted by this method blank contamination.

Additionally, one GRO batch MB sample had analytes detected above the detection limit (DL) but below the LOD as shown in Table 6. Five of the associated field sample GRO results from this same batch had similar levels of GRO detected within 5X the level of the MB sample as shown in table 7. These GRO samples results were data flagged as B to indicate to potential for similar contamination as observed in the method blank impacting field sample result.

SAMPLE ID	LAB SAMPLE ID	SAMPLE TYPE	ANL BATCH	PREP BATCH	ANALYTE	ANALYTICAL METHOD	RESULT	LAB FLAG	UNITS	Data Flag
MB for HBN 171666										
[VXX/27686]	1282341	MB	VFC12570	VXX27686	GRO	AK101	0.78	J	mg/Kg	В
MB for HBN 171605										
[XXX/33764]	1281642	MB	XMS8851	XXX33764	Naphthalene	8270D SIMS	0.051	J	ug/L	В
MB for HBN 171605										
[XXX/33764]	1281642	MB	XMS8851	XXX33764	1-Methylnaphthalene	8270D SIMS	0.022	J	ug/L	В
MB for HBN 171605										
[XXX/33764]	1281642	MB	XMS8851	XXX33764	2-Methylnaphthalene	8270D SIMS	0.020	J	ug/L	В

Table 6 – Method Blank Contamination

Table 7– Field Samples Results Impacted by Method Blank Contamination

SAMPLE	LAB SAMPLE	SAMPLE	ANL	PREP		ANALYTICAL		LAB		Data
ID	ID	TYPE	BATCH	BATCH	ANALYTE	METHOD	RESULT	FLAG	UNITS	Flag
SFB1	1154090003	Primary	VFC12570	VXX27686	GRO	AK101	2.09	J	mg/Kg	В
SFB91	1154090004	Duplicate	VFC12570	VXX27686	GRO	AK101	1.93	J	mg/Kg	В
SFE6	1154090007	Primary	VFC12570	VXX27686	GRO	AK101	2.35	J	mg/Kg	В
SWE4	1154090010	Primary	VFC12570	VXX27686	GRO	AK101	1.66	J	mg/Kg	В

#### **Trip Blanks**

One trip blank was analyzed from each of the sample coolers submitted with volatile analyses (GRO/BTEX). No contamination was detected in any of the GRO/BTEX trip blank samples.

#### **Reporting Limits**

For results of non-detect, LODs were evaluated against ADEC regulatory criteria for GRO, BTEX, PAH, DRO, and RRO analytes from 18 AAC 75.341 Tables B1 and B2 for under 40 inch Zone Method Two Soil cleanup levels (June, 2015) and for 18 AAC 75.341 Tables C for groundwater cleanup levels. The LOD for all target analytes were all well below project goals.

#### 1.7 SUMMARY

The data were considered of good quality and usable with several qualifications noted. No data were rejected. Table 8 contains a listing of all field sample data that was validation flagged. Project goals were considered met.

#### Table 8 – Final Summary of Qualified Field Sample Data

SAMPLE ID         SDC         ID         ANAL YE         METHOD         RESULT.         FLAG         LOD         UTIN         FLAG           RS.MW4-080315         11514161         115416100         2-Methynaphtalene         82700 SIMS         2.11         =         0.0265         ugL         M           RS.MW4-080315         1154161         115416104         Inspection         82700 SIMS         0.417         =         0.0265         ugL         M           RS.MW4-080315         1154161         115416104         Premambrane         82700 SIMS         0.044         =         0.0265         ugL         M           RS.MW4-080315         1154161         115416100         Premambrane         82700 SIMS         0.044         =         0.0271         ugL         M           RS.MW99-080315         1154161         115416100         Premambrane         82700 SIMS         0.331         =         0.0271         ugL         M           RS.MW99-080315         1154161         115416100         Preme         82700 SIMS         0.349         J         0.0271         ugL         M           RS.MW99-080315         1154161         1154161000         Preme         82700 SIMS         0.593         =         0.0271	FIELD		LAB SAMPLE		ANALYSIS		LAB RESULT			DATA
Rs.MW.4480315         1154161         11541610         1-Methynaphtalene         82700 SIMS         2.27         =         0.0265         ugL         M           RS.MW.4080315         1154161         11541610         Pleuorene         82700 SIMS         0.417         =         0.0265         ugL         M           RS.MW.4080315         1154161         115416104         Pleuambrene         82700 SIMS         0.404         =         0.0265         ugL         M           RS.MW.4080315         1154161         115416104         Pleuambrene         82700 SIMS         0.404         =         0.0265         ugL         M           RS.MW.990.00315         1154161         1154161005         1.Methynaphtalene         82700 SIMS         3.31         =         0.135         ugL         M           RS.MW.990.00315         1154161         1154161005         Plenumbrene         82700 SIMS         0.371         =         0.0271         ugL         M           RS.MW.990.0151         1154161         1154161005         Plenumbrene         82700 SIMS         0.0349         J         0.0271         ugL         M           RS.WW.900315         1154161         1154161005         Pleuambrene         82700 SIMS         0.514	SAMPLE ID	SDG	ID	ANALYTE	METHOD	RESULT	FLAG	LOD	UNITS	<b>FLAG</b> ¹
Rs-MW4-08015         1154161         11541610         124metynaphtalene         82700 SIMS         2.11         =         0.0265         ugL         M           Rs-MW4-080155         1154161         115416104         Naphtalene         82700 SIMS         0.404         =         0.0265         ugL         M           Rs-MW4-080155         1154161         115416104         Pyrene         82700 SIMS         0.0245         J         0.0265         ugL         M           Rs-MW4-080151         1154161         1154161005         Putenathrene         82700 SIMS         0.0245         J         0.0265         ugL         M           Rs-MW90-080115         1154161         1154161005         Putenetne         82700 SIMS         0.631         =         0.0271         ugL         M           Rs-MW90-080115         1154161         1154161005         Putenetne         82700 SIMS         0.371         =         0.0271         ugL         M           Rs-MW90-080115         1154161         1154161005         Putenetne         82700 SIMS         0.593         =         0.0271         ugL         M           Rs-MW90-08015         1154161         1154161000         Anthracene         82700 SIMS         0.505         = <td>RS-MW4-080315</td> <td>1154161</td> <td>1154161004</td> <td>1-Methylnaphthalene</td> <td>8270D SIMS</td> <td>2.27</td> <td>=</td> <td>0.0265</td> <td>ug/L</td> <td>М</td>	RS-MW4-080315	1154161	1154161004	1-Methylnaphthalene	8270D SIMS	2.27	=	0.0265	ug/L	М
RS-MV4-080315         1154161         1154161004         Fluorene         82700 SIMS         0.417         =         0.0265         ug/L         M           RS-MV4-080315         1154161         1154161004         Prene         82700 SIMS         0.0404         -         0.0265         ug/L         M           RS-MV4-080315         1154161         1154161005         1-Methynaphthalene         8270D SIMS         0.0245         J         0.0265         ug/L         M           RS-MV90-080315         1154161         1154161005         1-Methynaphthalene         8270D SIMS         0.6411         =         0.0271         ug/L         M           RS-MV90-080315         1154161         1154161005         Panerne         8270D SIMS         0.6411         =         0.0271         ug/L         M           RS-MV90-080315         1154161         1154161005         Phenarhtene         8270D SIMS         0.0349         J         0.0271         ug/L         M           RS-SW1-080315         1154161         1154161005         Panerne         8270D SIMS         0.349         J         0.0271         ug/L         M           RS-SW1-080315         1154161         1154161005         Anthracnee         8270D SIMS         0.318 <td>RS-MW4-080315</td> <td>1154161</td> <td>1154161004</td> <td>2-Methylnaphthalene</td> <td>8270D SIMS</td> <td>2.11</td> <td>=</td> <td>0.0265</td> <td>ug/L</td> <td>М</td>	RS-MW4-080315	1154161	1154161004	2-Methylnaphthalene	8270D SIMS	2.11	=	0.0265	ug/L	М
Rs-Mw4-080315         1154161         1154161004         Naphtalene         82700 SIMS         2.28         =         0.033         ug/L         M           Rs-Mw4-080315         1154161         1154161004         Prene         8270D SIMS         0.0404         =         0.0265         ug/L         M           Rs-MW9-080315         1154161         1154161005         Prene         8270D SIMS         0.041         =         0.135         ug/L         M           Rs-MW9-080315         1154161         1154161005         Patenty prene         8270D SIMS         0.641         =         0.0271         ug/L         M           Rs-MW9-080315         1154161         1154161005         Phenambrene         8270D SIMS         0.549         J         0.0271         ug/L         M           Rs-MW9-080315         1154161         1154161005         Prene         8270D SIMS         0.549         J         0.0271         ug/L         M           Rs-SW1-080315         1154161         1154161006         Ammerene         8270D SIMS         0.259         J         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Prene         8270D SIMS         0.256         =         0	RS-MW4-080315	1154161	1154161004	Fluorene	8270D SIMS	0.417	=	0.0265	ug/L	М
RS-MV4-080315         1154161         1154161         1154161         1154161004         Prene         82700 SIMS         0.044         -         0.0265         ug/L         M           RS-MV49-080315         1154161         1154161005         1-Methynaphtalene         8270D SIMS         3.62         =         0.135         ug/L         M           RS-MV99-080315         1154161         1154161005         Panchanphtalene         8270D SIMS         3.31         =         0.0271         ug/L         M           RS-MV99-080315         1154161         1154161005         Panchanhane         8270D SIMS         0.593         =         0.0271         ug/L         M           RS-MV99-080315         1154161         1154161005         Prene         8270D SIMS         0.6393         =         0.0271         ug/L         M           RS-MV-080315         1154161         1154161005         Prene         8270D SIMS         0.639         J         0.0271         ug/L         M           RS-SW1-080315         1154161         1154161006         Acenaphthene         8270D SIMS         1.69         =         0.13         ug/L         M           RS-SW1-080315         1154161         1154161006         Prene         8270D	RS-MW4-080315	1154161	1154161004	Naphthalene	8270D SIMS	2.28	=	0.053	ug/L	М
Rs-Mv4-080315         1154101         11541001         Pyrene         8270D SIMS         0.0245         1         0.0265         ug/L         M           Rs-Mv9-080315         1154101         115410005         2-Methylanphthalene         8270D SIMS         3.31         =         0.135         ug/L         M           Rs-Mv9-080315         1154161         1154161005         Naphthalene         8270D SIMS         0.041         =         0.0271         ug/L         M           Rs-Mv9-080315         1154161         1154161005         Naphthalene         8270D SIMS         0.593         =         0.0271         ug/L         M           Rs-Mv9-080315         1154161         1154161005         Pyrene         8270D SIMS         0.549         J         0.10271         ug/L         M           Rs-Mv9-080315         1154161         1154161006         Accmaphthene         8270D SIMS         0.250         I         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Pyrene         8270D SIMS         0.266         =         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Pyrene         8270D SIMS         0.164         =	RS-MW4-080315	1154161	1154161004	Phenanthrene	8270D SIMS	0.404	=	0.0265	ug/L	М
Rs-MW99-080315         1154161         11541610         1Methylnaphthalene         8270D SIMS         3.62         =         0.135         ug/L         M           Rs-MW99-080315         1154161         1154161005         Flourme         8270D SIMS         0.611         =         0.0271         ug/L         M           Rs-MW99-080315         1154161         1154161005         Phenanthrene         8270D SIMS         0.593         =         0.0271         ug/L         M           Rs-MW99-080315         1154161         1154161005         Phenanthrene         8270D SIMS         0.593         =         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Anthracene         8270D SIMS         0.259         J         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Phenanthrene         8270D SIMS         0.259         J         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Phenanthrene         8270D SIMS         0.259         J         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161007         Phenanthrene         8270D SIMS         0.216	RS-MW4-080315	1154161	1154161004	Pyrene	8270D SIMS	0.0245	J	0.0265	ug/L	М
RS-MW99-080315         1154161         1154161         1154161005         2-Methylaphthalene         8270D SIMS         0.041          0.0271         ug/L         M           RS-MW99-080315         1154161         1154161005         Naphthalene         8270D SIMS         0.731         =         0.0271         ug/L         M           RS-MW99-080315         1154161         1154161005         Parene         8270D SIMS         0.0349         J         0.0271         ug/L         M           RS-SW1-080315         1154161         1154161006         Acenaphthene         8270D SIMS         0.0349         J         0.0271         ug/L         M           RS-SW1-080315         1154161         1154161006         Acenaphthene         8270D SIMS         0.269         J         0.13         ug/L         M           RS-SW1-080315         1154161         1154161006         Phorene         8270D SIMS         0.269         J         0.13         ug/L         M           RS-SW1-080315         1154161         1154161007         Peorene         8270D SIMS         0.262         ug/L         M           RS-SW9-080315         1154161         1154161007         Acenaphthene         8270D SIMS         0.142         =	RS-MW99-080315	1154161	1154161005	1-Methylnaphthalene	8270D SIMS	3.62	=	0.135	ug/L	М
RS-MW99-080315         1154161         115416100         Fluorene         8270D SIMS         0.641         =         0.0271         ug/.         M           RS-MW99-080315         1154161         1154161005         Psenauhrene         8270D SIMS         0.371         =         0.0271         ug/.         M           RS-MW99-080315         1154161         1154161005         Psenauhrene         8270D SIMS         0.0349         J         0.0271         ug/.         M           RS-SW1-080315         1154161         1154161006         Acemphthene         8270D SIMS         0.259         J         0.13         ug/.         M           RS-SW1-080315         1154161         1154161006         Puenene         8270D SIMS         0.259         J         0.13         ug/.         M           RS-SW1-080315         1154161         1154161006         Puenene         8270D SIMS         0.259         J         0.132         ug/.         M           RS-SW1-080315         1154161         1154161007         Acemphthene         8270D SIMS         0.259         J         0.022         ug/.         M           RS-SW9-080315         1154161         115416107         Acemphthene         8270D SIMS         0.151         = <td>RS-MW99-080315</td> <td>1154161</td> <td>1154161005</td> <td>2-Methylnaphthalene</td> <td>8270D SIMS</td> <td>3.31</td> <td>=</td> <td>0.135</td> <td>ug/L</td> <td>М</td>	RS-MW99-080315	1154161	1154161005	2-Methylnaphthalene	8270D SIMS	3.31	=	0.135	ug/L	М
RS-MW99-080315         1154161         1154161005         Nephthalenee         8270D SIMS         0.71         =         0.271         ug/L         M           RS-MW99-080315         1154161         1154161005         Pyrene         8270D SIMS         0.0349         J         0.0271         ug/L         M           RS-MW90-080315         1154161         1154161006         Achtyhnaphthalene         8270D SIMS         0.231         =         0.031         ug/L         M           RS-SW1-080315         1154161         1154161006         Achtynaphthalene         8270D SIMS         0.286         =         0.131         ug/L         M           RS-SW1-080315         1154161         1154161006         Phrenaphtrene         8270D SIMS         0.286         =         0.131         ug/L         M           RS-SW9-080315         1154161         1154161007         2-methyhaphthalene         8270D SIMS         0.142         =         0.0262         ug/L         M           RS-SW9-080315         1154161         115416107         Porene         8270D SIMS         0.142         =         0.0262         ug/L         M           RS-SW9-080315         1154161         115416107         Porene         8270D SIMS         0.142	RS-MW99-080315	1154161	1154161005	Fluorene	8270D SIMS	0.641	=	0.0271	ug/L	М
Rs.MW99.080315         1154161         1154160         Phenamhrene         8270D SIMS         0.03340         J         0.0271         ug/L         M           Rs.SW1-080315         1154161         11541600         2-Methylnaphthalene         8270D SIMS         0.03340         J         0.0371         ug/L         M           Rs.SW1-080315         1154161         115416006         Acemaphthene         8270D SIMS         0.266         -         0.13         ug/L         M           Rs.SW1-080315         1154161         115416006         Florenne         8270D SIMS         0.286         -         0.13         ug/L         M           Rs.SW1-080315         1154161         11541600         Pyrenne         8270D SIMS         0.286         -         0.13         ug/L         M           Rs.SW9-080315         1154161         115416007         Acemphthene         8270D SIMS         0.286         -         0.022         ug/L         M           Rs.SW9-080315         1154161         115416007         Acemphthene         8270D SIMS         0.131         ug/L         M           Rs.SW9-080315         1154161         115416007         Phrenathrene         8270D SIMS         0.142         -         0.0262         u	RS-MW99-080315	1154161	1154161005	Naphthalene	8270D SIMS	3.71	=	0.271	ug/L	М
Rs-MW99-080151         1154161         1154161005         2>metry hanghthalene         8270D SIMS         0.21         =         0.13         ug/L         M           RS-SW1-080315         1154161         1154161006         Acenaphthene         8270D SIMS         0.266         =         0.13         ug/L         M           RS-SW1-080315         1154161         1154161006         Florene         8270D SIMS         0.259         J         0.13         ug/L         M           RS-SW1-080315         1154161         1154161006         Florene         8270D SIMS         1.61         =         0.13         ug/L         M           RS-SW1-080315         1154161         1154161007         Penemathrene         8270D SIMS         0.266         =         0.13         ug/L         M           RS-SW9-080315         1154161         1154161007         Acenaphthene         8270D SIMS         0.512         =         0.0262         ug/L         M           RS-SW9-080315         1154161         1154161007         Phorene         8270D SIMS         0.512         =         0.0262         ug/L         M           RS-SW9-080315         1154161         1154161007         Phorene         8270D SIMS         0.512         = <td>RS-MW99-080315</td> <td>1154161</td> <td>1154161005</td> <td>Phenanthrene</td> <td>8270D SIMS</td> <td>0.593</td> <td>=</td> <td>0.0271</td> <td>ug/L</td> <td>М</td>	RS-MW99-080315	1154161	1154161005	Phenanthrene	8270D SIMS	0.593	=	0.0271	ug/L	М
Rs-SW1-080315         1154161         115416100         A-dethylapphthalene         8270D SIMS         0.21         =         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Acenaphthene         8270D SIMS         0.259         J         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Phenathrene         8270D SIMS         0.259         J         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161006         Phenathrene         8270D SIMS         0.266         =         0.13         ug/L         M           Rs-SW1-080315         1154161         1154161007         Acenaphthene         8270D SIMS         0.512         =         0.0262         ug/L         M           Rs-SW9-080315         1154161         1154161007         Acenaphthene         8270D SIMS         0.132         =         0.0262         ug/L         M           Rs-SW9-080315         1154161         1154161007         Phenathrene         8270D SIMS         0.136         =         0.0262         ug/L         M           Rs-SW9-080315         1154161         1154161007         Phenene         8270D SIMS         0.047	RS-MW99-080315	1154161	1154161005	Pyrene	8270D SIMS	0.0349	J	0.0271	ug/L	М
RS-SW1-080315         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161         1154161	RS-SW1-080315	1154161	1154161006	2-Methylnaphthalene	8270D SIMS	2.51	=	0.13	ug/L	М
Rs.Sw1-080315         1154161         1154161006         Anthracene         8270D SIMS         0.229         J         0.13         ug/L         M           Rs.Sw1-080315         1154161         1154161006         Phenanthrene         8270D SIMS         2.16         =         0.13         ug/L         M           Rs.Sw1-080315         1154161         1154161006         Phenanthrene         8270D SIMS         0.286         =         0.13         ug/L         M           Rs.Sw1-080315         1154161         1154161007         Acenaphthene         8270D SIMS         0.512         =         0.0262         ug/L         M           Rs.Sw99-080315         1154161         1154161007         Anthracene         8270D SIMS         0.612         =         0.0262         ug/L         M           Rs.Sw99-080315         1154161         1154161007         Puenene         8270D SIMS         0.142         =         0.0262         ug/L         M           Rs.Sw99-080315         1154161         1154161007         Puene         8270D SIMS         0.142         =         0.0262         ug/L         M           Rs.Sw99-080315         1154161         1154161007         Puene         8270D SIMS         0.472         =	RS-SW1-080315	1154161	1154161006	Acenaphthene	8270D SIMS	0.866	=	0.13	ug/L	М
RS-SW1-080315         1154161         1154161006         Fluorene         8270D SIMS $1.69$ =         0.13         ug/L         M           RS-SW1-080315         1154161         1154161006         Pyrene         8270D SIMS $2.16$ =         0.13         ug/L         M           RS-SW1-080315         1154161         1154161007         Acenaphthene         8270D SIMS $0.266$ =         0.0262         ug/L         M           RS-SW9-080315         1154161         1154161007         Acenaphthene         8270D SIMS $0.142$ =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Acenaphthene         8270D SIMS $0.142$ =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Pyrene         8270D SIMS         0.063         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Pyrene         8270D SIMS         0.0857         =         0.0262         ug/L         M           RS-SW99-080315         1154121         1152812001         Acenaphthene         8270D SIMS         0.816	RS-SW1-080315	1154161	1154161006	Anthracene	8270D SIMS	0.259	J	0.13	ug/L	М
RS-SW1-080315         1154161         1154161006         Phenamthrene         8270D SIMS         2.16         =         0.13         ug/L         M           RS-SW1-080315         1154161         11541610007         Pwethylnaphthalene         8270D SIMS         0.286         =         0.032         ug/L         M           RS-SW99-080315         1154161         1154161007         Acenaphthene         8270D SIMS         0.512         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Antracene         8270D SIMS         0.963         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Phenanthrene         8270D SIMS         0.0463         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Pyrene         8270D SIMS         0.0857         =         0.0262         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthalene         8270D SIMS         0.816         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthplane         8270D SIMS         0.8	RS-SW1-080315	1154161	1154161006	Fluorene	8270D SIMS	1.69	=	0.13	ug/L	М
RS-SW1-08031511541611154161000Pyrene8270D SIMS0.286=0.13ug/LMRS-SW99-08031511541611154161007 $2$ -Methylnaphthalene8270D SIMS0.512=0.0262ug/LMRS-SW99-08031511541611154161007Arcnaphtene8270D SIMS0.142=0.0262ug/LMRS-SW99-08031511541611154161007Fluorene8270D SIMS0.142=0.0262ug/LMRS-SW99-08031511541611154161007Phramtrene8270D SIMS0.063=0.0262ug/LMRS-SW99-08031511541611154161007Pyrene8270D SIMS0.0857=0.0262ug/LMRS-SW99-08031511541611154161007Pyrene8270D SIMS0.0857=0.0262ug/LPSEEP1-06121511528121152812001 $2$ -Methylnaphthalene8270D SIMS0.816=0.0278ug/LPSEEP1-06121511528121152812001 $2$ -Methylnaphthalene8270D SIMS0.472=0.0278ug/LPSEEP1-06121511528121152812001Accnaphthylene8270D SIMS0.0472=0.0278ug/LPSEEP1-06121511528121152812001Benzo(a)Anthracene8270D SIMS0.0467J0.0278ug/LPSEEP1-06121511528121152812001Benzo(a)Anthracene8270D SIMS0.0467J0.0278ug/LP<	RS-SW1-080315	1154161	1154161006	Phenanthrene	8270D SIMS	2.16	=	0.13	ug/L	М
RS-SW99-080315         1154161         1154161         1154161         1154161         1154161         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Accamphthene         8270D SIMS         0.512         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Fluorene         8270D SIMS         0.963         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Procene         8270D SIMS         0.963         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Pyrene         8270D SIMS         0.0877         =         0.0262         ug/L         M           SEEP1-061215         1152812         1152812001         1-Methylanphtalene         8270D SIMS         0.816         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Accanphthylene         8270D SIMS         0.472         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Accanphthylene         8270D SIMS         0.477         =	RS-SW1-080315	1154161	1154161006	Pyrene	8270D SIMS	0.286	=	0.13	ug/L	М
RS-SW99-080315         1154161         1154161         1154161         1154161         1154161         1154161007         Andracene         8270D SIMS         0.142         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Fluorene         8270D SIMS         0.142         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Prene         8270D SIMS         0.152         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Prene         8270D SIMS         0.857         =         0.0262         ug/L         M           SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0.816         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0.472         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Anthracene         8270D SIMS         0.257         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001	RS-SW99-080315	1154161	1154161007	2-Methylnaphthalene	8270D SIMS	1.54	=	0.0262	ug/L	М
RS-SW99-08031511541611154161007Anthracene8270D SIMS $0.142$ = $0.0262$ $ug/L$ MRS-SW99-08031511541611154161007Fluorene8270D SIMS $0.15$ = $0.0262$ $ug/L$ MRS-SW99-08031511541611154161007Pyrene8270D SIMS $0.0857$ = $0.0262$ $ug/L$ MRS-SW99-08031511541611154161007Pyrene8270D SIMS $0.0857$ = $0.0262$ $ug/L$ MSEEP1-061215115281211528120012-Methylnaphthalene8270D SIMS $5.49$ = $0.139$ $ug/L$ PSEEP1-061215115281211528120012-Methylnaphthalene8270D SIMS $0.816$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Acenaphthene8270D SIMS $0.0467$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Benzo(a)phyrene8270D SIMS $0.0467$ J $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Benzo(a)phyrene8270D SIMS $0.0467$	RS-SW99-080315	1154161	1154161007	Acenaphthene	8270D SIMS	0.512	=	0.0262	ug/L	М
RS-SW99-08031511541611154161007Fluorene8270D SIMS $0.963$ = $0.0262$ $ug/L$ MRS-SW99-08031511541611154161007Prene8270D SIMS $1.15$ = $0.0262$ $ug/L$ MRS-SW99-08031511516111541611154161007Pyrene8270D SIMS $0.0857$ = $0.0262$ $ug/L$ MSEEP1-061215115281211528120011-Methylnaphthalene8270D SIMS $0.0857$ = $0.139$ $ug/L$ PSEEP1-06121511528121152812001Acenaphthylene8270D SIMS $0.472$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Acenaphthylene8270D SIMS $0.472$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Acenaphthylene8270D SIMS $0.0477$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Benzo(a)Anthracene8270D SIMS $0.0467$ J $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Benzo(a)Anthracene8270D SIMS $0.010$ <td>RS-SW99-080315</td> <td>1154161</td> <td>1154161007</td> <td>Anthracene</td> <td>8270D SIMS</td> <td>0.142</td> <td>=</td> <td>0.0262</td> <td>ug/L</td> <td>М</td>	RS-SW99-080315	1154161	1154161007	Anthracene	8270D SIMS	0.142	=	0.0262	ug/L	М
RS-SW99-080315         1154161         1154161         1154161         1154161007         Phenanthrene         8270D SIMS         0.0877         =         0.0262         ug/L         M           RS-SW99-080315         1154161         1154161007         Pyrene         8270D SIMS         0.0877         =         0.0262         ug/L         M           SEEP1-061215         1152812         1152812001         2-Methylnaphthalene         8270D SIMS         0.816         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthene         8270D SIMS         0.472         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0.257         =         0.0278         ug/L         P,           SEEP1-061215         1152812         1152812001         Benzo(a)Anthracene         8270D SIMS         0.0287         ug/L         P,         M           SEEP1-061215         1152812         1152812001         Benzo[b]Fluoranthene         8270D SIMS         0.0278         ug/L         P,           SEEP1-061215         1152812         1152812001         Benzo[k]hluoranthene         8270D SIMS	RS-SW99-080315	1154161	1154161007	Fluorene	8270D SIMS	0.963	=	0.0262	ug/L	М
RS-SW99-080315       1154161       1154161007       Pyrene       8270D SIMS       0.0857       =       0.0262       ug/L       M         SEEP1-061215       1152812       1152812001       1-Methylnaphthalene       8270D SIMS       5.49       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Acenaphthylene       8270D SIMS       0.472       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Acenaphthylene       8270D SIMS       0.472       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Acenaphthylene       8270D SIMS       0.472       =       0.0278       ug/L       P,         SEEP1-061215       1152812       1152812001       Benzo(a)Anthracene       8270D SIMS       0.0887       =       0.0278       ug/L       P,M         SEEP1-061215       1152812       1152812001       Benzo(a)Anthracene       8270D SIMS       0.0467       J       0.0278       ug/L       P,M         SEEP1-061215       1152812       1152812001       Benzo[k]hilperylene       8270D SIMS       0.0219       J       0.0278       ug/L       P,M         S	RS-SW99-080315	1154161	1154161007	Phenanthrene	8270D SIMS	1.15	=	0.0262	ug/L	М
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	RS-SW99-080315	1154161	1154161007	Pyrene	8270D SIMS	0.0857	=	0.0262	ug/L	М
SEEP1-061215         1152812         1152812001         2-Methylnaphthalene         8270D SIMS         0.816         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthene         8270D SIMS         0.472         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0.472         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0.0257         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo(a)Anthracene         8270D SIMS         0.0467         J         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo(g,h,i)perylene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Dibenzo(a,h)anthracene         8270D SIMS0	SEEP1-061215	1152812	1152812001	1-Methylnaphthalene	8270D SIMS	5.49	=	0.139	ug/L	Р
SEEP1-061215         1152812         1152812001         Acenaphthene         8270D SIMS         0.472         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Antracene         8270D SIMS         0.257         =         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo(a)Antracene         8270D SIMS         0.0467         J         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo[g]prene         8270D SIMS         0         U         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo[g]h]perylene         8270D SIMS         0         U         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS         0	SEEP1-061215	1152812	1152812001	2-Methylnaphthalene	8270D SIMS	0.816	=	0.0278	ug/L	Р
SEEP1-061215         1152812         1152812001         Acenaphthylene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Anthracene         8270D SIMS         0.257         =         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo(a)Anthracene         8270D SIMS         0.0887         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo(a)Anthracene         8270D SIMS         0.0467         J         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo[g],h]perylene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Phenzo[a,h]anthracene         8270D SIMS         0 <td>SEEP1-061215</td> <td>1152812</td> <td>1152812001</td> <td>Acenaphthene</td> <td>8270D SIMS</td> <td>0.472</td> <td>=</td> <td>0.0278</td> <td>ug/L</td> <td>Р</td>	SEEP1-061215	1152812	1152812001	Acenaphthene	8270D SIMS	0.472	=	0.0278	ug/L	Р
SEEP1-061215         1152812         115281201         Anthracene         8270D SIMS         0.257         =         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo(a)Anthracene         8270D SIMS         0.0887         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo[a]pyrene         8270D SIMS         0.0467         J         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo[s]hi]perylene         8270D SIMS         0.0219         J         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo[s]hi]perylene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0.189         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Dibenzo[a,h]anthracene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Pioranthene         8270D SIMS	SEEP1-061215	1152812	1152812001	Acenaphthylene	8270D SIMS	0	U	0.0278	ug/L	Р
SEEP1-061215         1152812         115281201         Benzo(a)Anthracene         8270D SIMS         0.0887         =         0.0278         ug/L         P           SEEP1-061215         1152812         115281201         Benzo[a]pyrene         8270D SIMS         0.0467         J         0.0278         ug/L         P,M           SEEP1-061215         1152812         115281201         Benzo[b]Fluoranthene         8270D SIMS         0         U         0.0278         ug/L         P,M           SEEP1-061215         1152812         115281201         Benzo[k]fluoranthene         8270D SIMS         0.0219         J         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0.189         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         115281201         Pluoranthene         8270D SIMS         0.6998         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluorene         8270D SIMS         0.699<	SEEP1-061215	1152812	1152812001	Anthracene	8270D SIMS	0.257	=	0.0278	ug/L	P,M
SEEP1-061215         1152812         115281201         Benzo[a]pyrene         8270D SIMS         0.0467         J         0.0278         ug/L         P,M           SEEP1-061215         1152812         115281201         Benzo[b]Fluoranthene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo[k]fluoranthene         8270D SIMS         0         U         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo[k]fluoranthene         8270D SIMS         0         U         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0.189         =         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Dibenzo[a,h]anthracene         8270D SIMS         0.0698         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS         0.6998         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS </td <td>SEEP1-061215</td> <td>1152812</td> <td>1152812001</td> <td>Benzo(a)Anthracene</td> <td>8270D SIMS</td> <td>0.0887</td> <td>=</td> <td>0.0278</td> <td>ug/L</td> <td>Р</td>	SEEP1-061215	1152812	1152812001	Benzo(a)Anthracene	8270D SIMS	0.0887	=	0.0278	ug/L	Р
SEEP1-061215         1152812         1152812001         Benzo[b]Fluranthene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Benzo[g,h,i]perylene         8270D SIMS         0.0219         J         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Benzo[g,h,i]perylene         8270D SIMS         0         U         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Chrysene         8270D SIMS         0.189         =         0.0278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Dibenzo[a,h]anthracene         8270D SIMS         0.189         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS         0.0698         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS         0.895         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Indeno[1,2,3-c,d] pyrene	SEEP1-061215	1152812	1152812001	Benzo[a]pyrene	8270D SIMS	0.0467	J	0.0278	ug/L	P,M
SEEP1-06121511528121152812001Benzo[g,h,i]perylene8270D SIMS $0.0219$ J $0.0278$ $ug/L$ P,MSEEP1-06121511528121152812001Benzo[k]fluoranthene8270D SIMS $0$ U $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Chrysene8270D SIMS $0.189$ = $0.0278$ $ug/L$ P,MSEEP1-06121511528121152812001Dibenzo[a,h]anthracene8270D SIMS $0$ U $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Fluoranthene8270D SIMS $0.0698$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Fluoranthene8270D SIMS $0.0698$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Fluorene8270D SIMS $0.895$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Indeno[1,2,3-c,d] pyrene8270D SIMS $0.0078$ $ug/L$ PSEEP1-06121511528121152812001Naphthalene8270D SIMS $0.457$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Pyrene8270D SIMS $0.457$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001GROAK101 $0.294$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001RROAK1032.05= $0.284$ $mg/L$ P </td <td>SEEP1-061215</td> <td>1152812</td> <td>1152812001</td> <td>Benzo[b]Fluoranthene</td> <td>8270D SIMS</td> <td>0</td> <td>U</td> <td>0.0278</td> <td>ug/L</td> <td>Р</td>	SEEP1-061215	1152812	1152812001	Benzo[b]Fluoranthene	8270D SIMS	0	U	0.0278	ug/L	Р
SEEP1-0612151152812115281201Benzo[k]fluoranthene8270D SIMS0U0.0278ug/LPSEEP1-06121511528121152812001Chrysene8270D SIMS0.189=0.0278ug/LP,MSEEP1-06121511528121152812001Dibenzo[a,h]anthracene8270D SIMS0U0.0278ug/LPSEEP1-06121511528121152812001Fluoranthene8270D SIMS0.0698=0.0278ug/LPSEEP1-06121511528121152812001Fluorene8270D SIMS0.0698=0.0278ug/LPSEEP1-06121511528121152812001Indeno[1,2,3-c,d] pyrene8270D SIMS0U0.0278ug/LPSEEP1-06121511528121152812001Naphthalene8270D SIMS0U0.0278ug/LPSEEP1-06121511528121152812001Naphthalene8270D SIMS0U0.0278ug/LPSEEP1-06121511528121152812001Phenanthrene8270D SIMS1.24=0.0278ug/LPSEEP1-06121511528121152812001Pyrene8270D SIMS0.457=0.0278ug/LPSEEP1-06121511528121152812001GROAK1010.294=0.05mg/LPSEEP1-06121511528121152812001RROAK1024.86=0.341mg/LPSEEP1-06121511528121152812001RRO </td <td>SEEP1-061215</td> <td>1152812</td> <td>1152812001</td> <td>Benzo[g,h,i]perylene</td> <td>8270D SIMS</td> <td>0.0219</td> <td>J</td> <td>0.0278</td> <td>ug/L</td> <td>P,M</td>	SEEP1-061215	1152812	1152812001	Benzo[g,h,i]perylene	8270D SIMS	0.0219	J	0.0278	ug/L	P,M
SEEP1-06121511528121152812001Chrysene8270D SIMS $0.189$ = $0.0278$ $ug/L$ P,MSEEP1-06121511528121152812001Dibenzo[a,h]anthracene8270D SIMS0U $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Fluoranthene8270D SIMS $0.0698$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Fluorene8270D SIMS $0.0698$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Fluorene8270D SIMS $0.895$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Indeno[1,2,3-c,d] pyrene8270D SIMS $0$ U $0.0278$ $ug/L$ PSEEP1-06121511528121152812001Naphthalene8270D SIMS $5.06$ = $0.278$ $ug/L$ PSEEP1-06121511528121152812001Phenanthrene8270D SIMS $0.457$ = $0.0278$ $ug/L$ PSEEP1-06121511528121152812001GROAK101 $0.294$ = $0.057$ $mg/L$ PSEEP1-06121511528121152812001DROAK1024.86= $0.341$ $mg/L$ PSEEP1-06121511528121152812001RROAK1032.05= $0.284$ $mg/L$ PSEEP1-06121511528121152812001BenzeneSW8021B35.4= $0.25$ $ug/L$ PSEEP1-061215 <td>SEEP1-061215</td> <td>1152812</td> <td>1152812001</td> <td>Benzo[k]fluoranthene</td> <td>8270D SIMS</td> <td>0</td> <td>U</td> <td>0.0278</td> <td>ug/L</td> <td>P</td>	SEEP1-061215	1152812	1152812001	Benzo[k]fluoranthene	8270D SIMS	0	U	0.0278	ug/L	P
SEEP1-061215         1152812         115281201         Dibenzo[a,h]anthracene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS         0.0698         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluorene         8270D SIMS         0.895         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Indeno[1,2,3-c,d] pyrene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Naphthalene         8270D SIMS         5.06         =         0.278         ug/L         P,M           SEEP1-061215         1152812         1152812001         Naphthalene         8270D SIMS         0.457         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Pyrene         8270D SIMS         0.457         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         GRO         AK101         0.294         =<	SEEP1-061215	1152812	1152812001	Chrysene	8270D SIMS	0.189	=	0.0278	ug/L	P,M
SEEP1-061215         1152812         1152812001         Fluoranthene         8270D SIMS         0.0698         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Fluorene         8270D SIMS         0.895         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Indeno[1,2,3-c,d] pyrene         8270D SIMS         0         U         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         Naphthalene         8270D SIMS         5.06         =         0.278         ug/L         P           SEEP1-061215         1152812         1152812001         Naphthalene         8270D SIMS         5.06         =         0.278         ug/L         P           SEEP1-061215         1152812         1152812001         Naphthalene         8270D SIMS         0.457         =         0.0278         ug/L         P           SEEP1-061215         1152812         1152812001         GRO         AK101         0.294         =         0.057         mg/L         P           SEEP1-061215         1152812         1152812001         GRO         AK102         4.86         =         0.3	SEEP1-061215	1152812	1152812001	Dibenzo[a,h]anthracene	8270D SIMS	0	U	0.0278	ug/L	P
SEEP1-061215       1152812       1152812001       Fluorene       8270D SIMS       0.895       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Indeno[1,2,3-c,d] pyrene       8270D SIMS       0       U       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Naphthalene       8270D SIMS       5.06       =       0.278       ug/L       P,M         SEEP1-061215       1152812       1152812001       Prene       8270D SIMS       1.24       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Pyrene       8270D SIMS       0.457       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.057       mg/L       P         SEEP1-061215       1152812       1152812001       GRO       AK102       4.86       =       0.341       mg/L       P         SEEP1-061215       1152812       1152812001       RRO       AK103       2.05       =       0.284       mg/L       P,M         SEEP1-061215       1152812       1152812001       Benzene	SEEP1-061215	1152812	1152812001	Fluoranthene	8270D SIMS	0.0698	=	0.0278	ug/L	Р
SEEP1-061215       1152812       1152812001       Indeno[1,2,3-c,d] pyrene       8270D SIMS       0       U       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Naphthalene       8270D SIMS       5.06       =       0.278       ug/L       P,M         SEEP1-061215       1152812       1152812001       Phenanthrene       8270D SIMS       1.24       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Pyrene       8270D SIMS       0.457       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.057       mg/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.057       mg/L       P         SEEP1-061215       1152812       1152812001       BRO       AK102       4.86       =       0.341       mg/L       P         SEEP1-061215       1152812       1152812001       Benzene       SW8021B       35.4       =       0.25       ug/L       P         SEEP1-061215       1152812       1152812001       ethylbenzene	SEEP1-061215	1152812	1152812001	Fluorene	8270D SIMS	0.895	=	0.0278	ug/L	Р
SEEP1-061215       1152812       1152812001       Naphthalene       8270D SIMS       5.06       =       0.278       ug/L       P,M         SEEP1-061215       1152812       1152812001       Phenanthrene       8270D SIMS       1.24       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Pyrene       8270D SIMS       0.457       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.057       mg/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.057       mg/L       P         SEEP1-061215       1152812       1152812001       DRO       AK102       4.86       =       0.341       mg/L       P         SEEP1-061215       1152812       1152812001       RRO       AK103       2.05       =       0.284       mg/L       P,M         SEEP1-061215       1152812       1152812001       Benzene       SW8021B       35.4       =       0.25       ug/L       P         SEEP1-061215       1152812       1152812001       ethylbenzene       SW8021B	SEEP1-061215	1152812	1152812001	Indeno[1,2,3-c,d] pyrene	8270D SIMS	0	U	0.0278	ug/L	Р
SEEP1-061215       1152812       1152812001       Phenanthrene       8270D SIMS       1.24       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       Pyrene       8270D SIMS       0.457       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.05       mg/L       P         SEEP1-061215       1152812       1152812001       DRO       AK102       4.86       =       0.341       mg/L       P         SEEP1-061215       1152812       1152812001       RRO       AK103       2.05       =       0.284       mg/L       P,M         SEEP1-061215       1152812       1152812001       Benzene       SW8021B       35.4       =       0.25       ug/L       P         SEEP1-061215       1152812       1152812001       Ethylbenzene       SW8021B       14.9       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       19.4       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       P M-Xylene       SW8021B	SEEP1-061215	1152812	1152812001	Naphthalene	8270D SIMS	5.06	=	0.278	ug/L	P,M
SEEP1-061215       1152812       1152812001       Pyrene       8270D SIMS       0.457       =       0.0278       ug/L       P         SEEP1-061215       1152812       1152812001       GRO       AK101       0.294       =       0.05       mg/L       P         SEEP1-061215       1152812       1152812001       DRO       AK102       4.86       =       0.341       mg/L       P         SEEP1-061215       1152812       1152812001       RRO       AK103       2.05       =       0.284       mg/L       P,M         SEEP1-061215       1152812       1152812001       Benzene       SW8021B       35.4       =       0.25       ug/L       P         SEEP1-061215       1152812       1152812001       Ethylbenzene       SW8021B       14.9       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       14.9       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       19.4       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       P& M-Xylene       SW8021B       25.2	SEEP1-061215	1152812	1152812001	Phenanthrene	8270D SIMS	1.24	=	0.0278	ug/L	P
SEEP1-06121511528121152812001GROAK101 $0.294$ = $0.05$ $mg/L$ PSEEP1-06121511528121152812001DROAK102 $4.86$ = $0.341$ $mg/L$ PSEEP1-06121511528121152812001RROAK103 $2.05$ = $0.284$ $mg/L$ P,MSEEP1-06121511528121152812001BenzeneSW8021B $35.4$ = $0.25$ $ug/L$ PSEEP1-06121511528121152812001EthylbenzeneSW8021B $14.9$ = $0.5$ $ug/L$ PSEEP1-06121511528121152812001o-XyleneSW8021B $19.4$ = $0.5$ $ug/L$ PSEEP1-06121511528121152812001P M -XyleneSW8021B $25.2$ =1 $ug/L$ PSEEP1-06121511528121152812001TolueneSW8021B $0.32$ J $0.5$ $ug/L$ P	SEEP1-061215	1152812	1152812001	Pvrene	8270D SIMS	0.457	=	0.0278	ug/L	Р
SEEP1-061215       1152812       1152812001       DRO       AK102       4.86       =       0.341       mg/L       P         SEEP1-061215       1152812       1152812001       RRO       AK103       2.05       =       0.284       mg/L       P,M         SEEP1-061215       1152812       1152812001       Benzene       SW8021B       35.4       =       0.25       ug/L       P         SEEP1-061215       1152812       1152812001       Ethylbenzene       SW8021B       14.9       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       19.4       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       19.4       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       P M-Xylene       SW8021B       25.2       =       1       ug/L       P         SEEP1-061215       1152812       1152812001       Toluene       SW8021B       0.32       J       0.5       ug/L       P	SEEP1-061215	1152812	1152812001	GRO	AK101	0.294	=	0.05	mg/L	Р
SEEP1-061215       1152812       1152812001       RRO       AK103       2.05       =       0.284       mg/L       P,M         SEEP1-061215       1152812       1152812001       Benzene       SW8021B       35.4       =       0.25       ug/L       P         SEEP1-061215       1152812       1152812001       Ethylbenzene       SW8021B       14.9       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       19.4       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       o-Xylene       SW8021B       19.4       =       0.5       ug/L       P         SEEP1-061215       1152812       1152812001       P M -Xylene       SW8021B       25.2       =       1       ug/L       P         SEEP1-061215       1152812       1152812001       Toluene       SW8021B       0.32       J       0.5       ug/L       P	SEEP1-061215	1152812	1152812001	DRO	AK102	4.86	=	0.341	mg/L	Р
SEEP1-061215         1152812         1152812001         Benzene         SW8021B         35.4         =         0.25         ug/L         P           SEEP1-061215         1152812         1152812001         Ethylbenzene         SW8021B         14.9         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         o-Xylene         SW8021B         14.9         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         o-Xylene         SW8021B         19.4         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         p-Xylene         SW8021B         25.2         =         1         ug/L         P           SEEP1-061215         1152812         1152812001         Toluene         SW8021B         0.32         J         0.5         ug/L         P	SEEP1-061215	1152812	1152812001	RRO	AK103	2.05	=	0.284	mg/L	P,M
SEEP1-061215         1152812         1152812001         Ethylbenzene         SW8021B         14.9         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         o-Xylene         SW8021B         19.4         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         o-Xylene         SW8021B         19.4         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         P & M -Xylene         SW8021B         25.2         =         1         ug/L         P           SEEP1-061215         1152812         1152812001         Toluene         SW8021B         0.32         J         0.5         ug/L         P	SEEP1-061215	1152812	1152812001	Benzene	SW8021B	35.4	=	0.25	ug/L	P
SEEP1-061215         1152812         1152812001         o-Xylene         SW8021B         19.4         =         0.5         ug/L         P           SEEP1-061215         1152812         1152812001         P & M - Xylene         SW8021B         25.2         =         1         ug/L         P           SEEP1-061215         1152812         1152812001         Toluene         SW8021B         0.32         J         0.5         ug/L         P	SEEP1-061215	1152812	1152812001	Ethylbenzene	SW8021B	14.9	=	0.5	ug/L	Р
SEEP1-061215         1152812         1152812001         P & M - Xylene         SW8021B         25.2         =         1         ug/L         P           SEEP1-061215         1152812         1152812001         Toluene         SW8021B         0.32         J         0.5         ug/L         P	SEEP1-061215	1152812	1152812001	o-Xylene	SW8021B	19.4	=	0.5	ug/L	Р
SEEP1-061215         1152812         1152812001         Toluene         SW8021B         0.32         J         0.5         ug/L         P	SEEP1-061215	1152812	1152812001	P & M -Xvlene	SW8021B	25.2	=	1	ug/L	Р
	SEEP1-061215	1152812	1152812001	Toluene	SW8021B	0.32	J	0.5	ug/L	Р

1- See table 2 for definitions of data qualifier flags.

#### LAB LAB FIELD SAMPLE RESULT DATA ANALYSIS SAMPLE ID SDG ID ANALYTE **METHOD** RESULT FLAG LOD UNITS FLAG 1152812 SEEP1DUP061215 1152812004 1-Methylnaphthalene 8270D SIMS 4.44 0.138 ug/L Р 1152812 0.0276 Р SEEP1DUP061215 1152812004 2-Methylnaphthalene 8270D SIMS 0.666 ug/L = SEEP1DUP061215 1152812 1152812004 0.577 0.0276 Р Acenaphthene 8270D SIMS ug/L = SEEP1DUP061215 1152812 1152812004 Acenaphthylene 8270D SIMS U 0.0276 Р 0 ug/L 1152812004 Anthracene 0.418 P,M SEEP1DUP061215 1152812 8270D SIMS 0.0276 = ug/L SEEP1DUP061215 1152812 1152812004 Benzo(a)Anthracene 8270D SIMS 0.104 0.0276 ug/L = Ρ 1152812 1152812004 0.0643 P,M SEEP1DUP061215 Benzo[a]pyrene 8270D SIMS 0.0276 ug/L = 1152812 1152812004 8270D SIMS 0 U 0.0276 Р SEEP1DUP061215 Benzo[b]Fluoranthene ug/L 0.039 J 0.0276 P,M SEEP1DUP061215 1152812 1152812004 Benzo[g,h,i]perylene 8270D SIMS ug/L SEEP1DUP061215 1152812 1152812004 Benzo[k]fluoranthene 8270D SIMS 0 U 0.0276 Ρ ug/L SEEP1DUP061215 1152812 1152812004 Chrysene 8270D SIMS 0.275 0.0276 P,M ug/L = Р SEEP1DUP061215 1152812 1152812004 Dibenzo[a,h]anthracene 8270D SIMS 0 U 0.0276 ug/L SEEP1DUP061215 1152812 1152812004 Fluoranthene 8270D SIMS 0.084 0.0276 ug/L Р = SEEP1DUP061215 1152812 1152812004 Fluorene 8270D SIMS 1.09 0.0276 ug/L Р SEEP1DUP061215 1152812 1152812004 Indeno[1,2,3-c,d] pyrene 8270D SIMS 0 U 0.0276 ug/L Р 1152812 1152812004 2.69 0.055 P,M SEEP1DUP061215 Naphthalene 8270D SIMS ug/L = SEEP1DUP061215 1152812 1152812004 Phenanthrene 8270D SIMS 1.48 0.0276 Р = ug/L 0.514 Р SEEP1DUP061215 1152812 1152812004 Pyrene 8270D SIMS 0.0276 ug/L = 1152812004 GRO Р SEEP1DUP061215 1152812 AK101 0.3 0.05 mg/L = Р 1152812 1152812004 DRO 6.05 SEEP1DUP061215 AK102 0.3 mg/L = SEEP1DUP061215 1152812 1152812004 RRO AK103 3.46 0.25 P,M = mg/L SEEP1DUP061215 1152812 1152812004 SW8021B 35.7 0.25 Р Benzene ug/L = Р SW8021B 15 0.5 SEEP1DUP061215 1152812 1152812004 Ethylbenzene = ug/L 19.5 Р SEEP1DUP061215 1152812 1152812004 o-Xylene SW8021B 0.5 ug/L = P & M -Xylene Р SEEP1DUP061215 1152812 1152812004 SW8021B 25.2 1 ug/L = P SEEP1DUP061215 1152812 1152812004 Toluene SW8021B 0 U 0.5 ug/L 1152812002 1-Methylnaphthalene 0.117 0.0338 Ρ SEEP2-061215 1152812 8270D SIMS ug/L = SEEP2-061215 1152812 1152812002 2-Methylnaphthalene 8270D SIMS U 0.0338 Ρ 0 ug/L SEEP2-061215 1152812 1152812002 8270D SIMS 0.214 0.0338 Р Acenaphthene = ug/L SEEP2-061215 1152812 1152812002 0.0338 ug/L Р Acenaphthylene 8270D SIMS 0 U 8270D SIMS 0.0571 Р SEEP2-061215 1152812 1152812002 Anthracene J 0.0338 ug/L 1152812002 SEEP2-061215 1152812 Benzo(a)Anthracene 8270D SIMS 0 U 0.0338 ug/L Р SEEP2-061215 1152812 1152812002 Benzo[a]pyrene 8270D SIMS 0 U 0.0338 Р ug/L 1152812002 0 0.0338 Р SEEP2-061215 1152812 Benzo[b]Fluoranthene 8270D SIMS U ug/L SEEP2-061215 1152812 1152812002 Benzo[g,h,i]perylene 8270D SIMS 0 U 0.0338 Р ug/L ug/L Р SEEP2-061215 1152812 1152812002 Benzo[k]fluoranthene 8270D SIMS 0 U 0.0338 SEEP2-061215 Р 1152812 1152812002 8270D SIMS 0 U 0.0338 ug/L Chrysene Р SEEP2-061215 1152812 1152812002 Dibenzo[a,h]anthracene 8270D SIMS 0 U 0.0338 ug/L 0 Р SEEP2-061215 1152812 1152812002 Fluoranthene 8270D SIMS U 0.0338 ug/L 1.39 0.0338 Р SEEP2-061215 1152812002 Fluorene 8270D SIMS 1152812 = ug/L Indeno[1,2,3-c,d] pyrene Р 1152812002 0 U SEEP2-061215 1152812 8270D SIMS 0.0338 ug/L SEEP2-061215 1152812 1152812002 Naphthalene 8270D SIMS 0.299 0.0675 Р = ug/L ug/L SEEP2-061215 1152812 1152812002 Phenanthrene 8270D SIMS 0 U 0.0338 Р Р SEEP2-061215 1152812 1152812002 8270D SIMS 0 U 0.0338 Pyrene ug/L Р SEEP2-061215 1152812 1152812002 GRO AK101 0 U 0.05 mg/L 1152812002 DRO 0.826 Р SEEP2-061215 1152812 AK102 = 0.3 mg/L 1152812 1152812002 RRO 0.188 0.25 Р SEEP2-061215 AK103 J mg/L Р SEEP2-061215 1152812 1152812002 Benzene SW8021B 0 U 0.25 ug/L Р SEEP2-061215 1152812 1152812002 Ethylbenzene SW8021B 0 U 0.5 ug/L Р SEEP2-061215 1152812 1152812002 o-Xylene SW8021B 0 U 0.5 ug/L SEEP2-061215 1152812 1152812002 P & M -Xylene SW8021B 0 U 1 ug/L Р SEEP2-061215 Р 1152812 1152812002 Toluene SW8021B 0 U 0.5 ug/L SFB1 1154090003 GRO AK101 2.09 2.99 В 1154090 J mg/Kg SFB4 1154090 1154090006 GRO AK101 61.2 2.75 QH mg/Kg = SFB91 1.93 1154090 1154090004 GRO AK101 J 2.67 mg/Kg В SFE6 1154090 1154090007 GRO AK101 2.35 J 2.54 mg/Kg В SWD1 1154090 GRO 2.17 1154090011 AK101 94.5 = mg/Kg QH

AK101

1.66

J

#### Table 8 (continued) – Final Summary of Qualified Field Sample Data

GRO

1154090010

1154090

SWE4

mg/Kg

В

2.23

#### References

Alaska Department of Environmental Conservation (ADEC). 2009a. Environmental Laboratory Data and Quality Assurance Requirements. Technical Memorandum. March.

SLR International Corporation (SLR). 2015. Work Plan for Soil and Groundwater Assessment and Remediation Red Salmon Facility, Naknek, Alaska. Final. March.

#### Attachments

Attachment 1 – ADEC Data Review Checklists Attachment 2 – Laboratory Deliverables (on CD)

#### Attachment 1

ADEC Data Review Checklists

#### Attachment 2

Laboratory Deliverables on Compact Disc

(Data packages and electronic files)

# **Laboratory Data Review Checklist**

Completed by:	Jason Gray
Title:	Project Scientist Date: October, 7 2015
CS Report Name:	Red Salmon 2015Report Date:07/06/2015
Consultant Firm:	SLR International Corporation
Laboratory Name	SGS North America, UST-005 Laboratory Report Number: 1152812
ADEC File Num	Der: NA ADEC RecKey Number: NA
1. <u>Laboratory</u> a. Did ar	ADEC CS approved laboratory receive and <u>perform</u> all of the submitted sample analyses? Yes No NA (Please explain.) Comments:
b. If the salabora	samples were transferred to another "network" laboratory or sub-contracted to an alternate tory, was the laboratory performing the analyses ADEC CS approved? ] Yes $\square$ No $\boxtimes$ NA (Please explain.) Comments: esferred, sample analyzed at receipt lab
2. <u>Chain of Cust</u> a. COC i	information completed, signed, and dated (including released/received by)?         Yes       No       NA (Please explain.)       Comments:
COC sig	gned as relinquished on 6/12/2015 and received at lab on 6/15/2015.
b. Correc	et analyses requested? ] Yes
DRO/RI	RO, GRO, BTEX, and PAH analysis requested.
3. <u>Laboratory Sa</u> a. Sampl	ample Receipt Documentationle/cooler temperature documented and within range at receipt $(4^\circ \pm 2^\circ C)$ ?] Yes $\square$ No $\square$ NA (Please explain.)Comments:
Cooler r	receipt temperature documented at 7.3°C. See DQR receipt section for further details
b. Sampl Volati	e preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, le Chlorinated Solvents, etc.)?
	Yes No NA (Please explain.) Comments:
Cooler r	receipt form indicated all samples correctly preserved.

		c.	Sample condi	tion documented	l – broken, leaking (Methanol), z	zero headspace (VOC vials)? Comments:
		S of	Sample docume f three trip blar	ented on cooler ronk vials received	eceipt form as received in good contained a bubble > 6mm.	condition with exception that one
		d.	If there were a containers/pressamples, etc.?	any discrepancie eservation, samp	s, were they documented? For e le temperature outside of accept	xample, incorrect sample able range, insufficient or missing
			Yes	No No	NA (Please explain.)	Comments:
		( sa ne D	Only 1 of 2 frac ample 1152812 ot have a samp QA for further	ctions for DRO s -001B did not ha le ID on the cont discussion.	ample SEEP1-061215 indicated ave the date and time on the con tainer label (retrieved the sample	on COC were received at lab, tainer, sample 1152812-002G did e ID from the container cap). See
		e.	Data quality of	or usability affect	ted? (Please explain.) Comr	nents:
	Sam with	iple iou	e results flagged t effect on data	d for cooler temp quality or usabi	perature exceedance, other samp lity.	le receipt discrepancies resolved
4.	<u>Cas</u>	a.	<u>Narrative</u> Present and u ∭Yes	nderstandable?	NA (Please explain.)	Comments:
		A	A case narrative	e is present and u	inderstandable.	
		b.	Discrepancies	s, errors or QC fa	ilures identified by the lab? ⊠ NA (Please explain.)	Comments:
		r	No errors or Quarrative.	C failures occurr	ed during analysis of the sample	e requiring identification in case
		с. 	Were all corre	ective actions do	cumented? MA (Please explain.)	Comments:
		N	No corrective a	ctions were requ	ired.	
		d.	What is the ef	fect on data qua	lity/usability according to the ca Comr	se narrative? nents:
		]	The case narrati	ive did not attrib	ute data quality or usability effe	cts.
5.	<u>San</u>	npl a.	es Results Correct analy	ses performed/re	ported as requested on COC?	
			Xes Yes	No	NA (Please explain.)	Comments:
	DR	O/F	RRO, GRO, BT	TEX, and PAH as	nalysis performed as requested.	

	D. All applicable holding times met?Image: No image: NA (Please explain.)Comments:Comments:Comments:
	All samples analyzed within applicable method holding times.
	<ul> <li>All soils reported on a dry weight basis?</li> <li>Yes No X NA (Please explain.) Comments:</li> </ul>
All sam	bles of report are water matix,
	<ul> <li>Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?</li> <li>Yes No NA (Please explain.) Comments:</li> </ul>
	LOQ reported by lab are sufficient for determining compliance with applicable cleanup levels.
	Comments:
	No sample data quality or usability was affected.
	<ul> <li>Method Blank</li> <li>i. One method blank reported per matrix, analysis and 20 samples?</li> <li>Xes</li> <li>No</li> <li>NA (Please explain.)</li> </ul>
	ii. All method blank results less than PQL? Yes No NA (Please explain.) Comments:
	All MB results below were below LOQ and LOD.
	iii. If above PQL, what samples are affected? Comments:
	No samples affected.
	iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined? Yes No NA (Please explain.) Comments:
	No field sample results were affected by MB contamination.
	v. Data quality or usability affected? (Please explain.) Comments:
	No sample data quality or usability was affected.

b.	Laboratory	Control Sam	ple/Du	plicate (	LCS/LCSD	)
						/

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per SW846)
$\square$ Yes $\square$ No $\square$ NA (Please explain.) Comments:
An LCS/LCSD pair was analyzed with each batch containing PAH, BTEX, GRO, DRO and RRO samples.
ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
YesNo $\boxtimes$ NA (Please explain.)Comments:
No metals or organics batches in project.
<ul> <li>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)</li> <li>☑ Yes □ No □ NA (Please explain.) Comments:</li> </ul>
All batch LCS and LCSD spike recoveries were within control limits.
<ul> <li>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)</li> <li>∑ Yes</li> <li>No</li> <li>NA (Please explain.)</li> </ul>
Batch LCS/LCSD had acceptable RPD.
v. If %R or RPD is outside of acceptable limits, what samples are affected? Comments:
Batch LCS/LCSD all had acceptable RPD and % recovery.
vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined? Yes No NA (Please explain.) Comments:
No affected results requiring data flags.
vii. Data quality or usability affected? (Use comment box to explain.) Comments:
No sample data quality or usability was affected.
c. Surrogates – Organics Only
i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples? Yes No NA (Please explain.) Comments:
All spiked sample surrogate recoveries were reported.

<ul> <li>ii. Accuracy – All percent recoveries (%R) reported and with And project specified DQOs, if applicable. (AK Petroleum</li> </ul>	in method or laboratory limits? n methods 50-150 %R; all other
analyses see the laboratory report pages) Yes No NA (Please explain.)	Comments:
All surrogates reported and recovered from project field samples w	ithin control limits.
iii. Do the sample results with failed surrogate recoveries have	e data flags? If so, are the data
$\Box \text{ Yes } \Box \text{ No } \Box \text{ NA (Please explain.)}$	Comments:
All surrogates reported and recovered from project field samples within c	ontrol limits.
iv. Data quality or usability affected? (Use the comment box	to explain.) Comments:
No sample data quality or usability was affected.	
<ul> <li>d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlori Soil</li> </ul>	nated Solvents, etc.): Water and
i. One trip blank reported per matrix, analysis and for each c	ooler containing volatile samples?
$\boxtimes$ Yes $\square$ No $\square$ NA (Please explain.)	Comments:
Sample TB1 was included as BTEX/GRO trip blank.	
ii. Is the cooler used to transport the trip blank and VOA sam (If not, a comment explaining why must be entered below)	ples clearly indicated on the COC?
Yes No NA (Please explain.)	Comments:
Cooler is not identified on COC nowever only one cooler was used for de	silvery of all SDO samples.
iii. All results less than PQL? ☐ Yes ☐ No ☐ NA (Please explain.)	Comments:
All TB sample analytes <loq <lod.<="" and="" td=""><td></td></loq>	
iv. If above PQL, what samples are affected?	s:
No samples affected.	
v. Data quality or usability affected? (Please explain.) Comment	s:
No sample data quality or usability was affected.	

# e. Field Duplicate

	eld duplicate sul	bmitted per matrix, analysis and 1	10 project samples?
Yes		NA (Please explain.)	Comments:
Sample SEEP1-061215DUP	is a duplicate of prim	ary sample SEEP1-061215.	
ii. Submi	tted blind to lab ⊠ No	?	Comments:
Sample SEEP1-061215DU	P was not identifi	ed in a manner that it was blind to th	ne lab.
iii. Precis (Recor	ion – All relative mmended: 30%	e percent differences (RPD) less t water, 50% soil)	han specified DQOs?
RPD (	%) = Absolute v	value of: $(R_1-R_2)$ x 100	
		$((R_1+R_2)/2)$	
W	here $R_1 = \text{Samp}$	ble Concentration	
Yes	$\mathbf{K}_2 = \mathbf{Field}$ No	NA (Please explain.)	Comments:
Most duplicate See DQA Field	water sample an Duplicate section	alyte results agreed within 30% F n for further discussion and detail	RPD with exception six analytes.
iv Data o	uality or usabili	ty affected? (Use the comment ho	ox to explain why or why not)
IV. Data y	[uanty of usabili	ty affected. (Ose the comment be	or to explain why or why hou
		Comm	ents:
The affected an	alytes were flagg	Comm ged as "M" to indicate potential matr	ents: ix effects. The data is useable as
The affected an flagged. No other	alytes were flagg r samples data qu	Comm ged as "M" to indicate potential matr uality or usability was affected. S	ents: ix effects. The data is useable as ee DQA for details.
The affected an flagged. No other	alytes were flagg r samples data qu	Comm ged as "M" to indicate potential matr uality or usability was affected. S	ents: ix effects. The data is useable as ee DQA for details.
The affected and flagged. No other f. Decontaminat	alytes were flagg r samples data qu ion or Equipmen	Comm ged as "M" to indicate potential matr uality or usability was affected. S nt Blank (If not used explain why	ents: ix effects. The data is useable as ee DQA for details.
The affected and flagged. No other f. Decontaminat	alytes were flagg r samples data qu ion or Equipmen ∑ No	Comm ged as "M" to indicate potential matr uality or usability was affected. S nt Blank (If not used explain why NA (Please explain.)	ents: ix effects. The data is useable as ee DQA for details. ). Comments:
The affected and flagged. No other f. Decontaminat Yes Disposable samp	alytes were flagg r samples data qu ion or Equipmen ∑ No ling equipment	Comm ged as "M" to indicate potential matr uality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized.	ents: ix effects. The data is useable as ee DQA for details. f). Comments:
The affected and flagged. No other f. Decontaminat Yes Disposable samp i. All res	alytes were flagg r samples data qu ion or Equipmen ∑ No ling equipment r sults less than P(	Comm ged as "M" to indicate potential matr uality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized.	ents: ix effects. The data is useable as ee DQA for details. ). Comments:
The affected and flagged. No other f. Decontaminat Yes Disposable samp i. All res Yes	alytes were flagg r samples data qu ion or Equipmen No ling equipment to sults less than PC	Comm ged as "M" to indicate potential matr uality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized. QL? NA (Please explain.)	ents: ix effects. The data is useable as ee DQA for details. (). Comments:
The affected and flagged. No other f. Decontaminat Yes Disposable samp i. All res Yes Not applicable, r	alytes were flagg r samples data qu ion or Equipmen [2] No ling equipment to sults less than PC [2] No no Equipment B	Comm ged as "M" to indicate potential matr uality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized. QL? NA (Please explain.) lank evaluated.	ents: ix effects. The data is useable as ee DQA for details. ). Comments: Comments:
The affected and flagged. No other f. Decontaminat Yes Disposable samp i. All res Yes Not applicable, r ii. If abov	alytes were flagg r samples data qu ion or Equipment No ling equipment r sults less than PC D No no Equipment B we PQL, what sa	Comm ged as "M" to indicate potential matruality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized. QL? NA (Please explain.) lank evaluated. mples are affected?	ents: ix effects. The data is useable as ee DQA for details. ). Comments: Comments:
The affected and flagged. No other f. Decontaminat Yes Disposable samp i. All res Yes Not applicable, 1 ii. If abov	alytes were flagg r samples data qu ion or Equipment No ling equipment r sults less than P( No no Equipment B we PQL, what sa	Comm ged as "M" to indicate potential matruality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized. QL? NA (Please explain.) lank evaluated. mples are affected? Comm	ents: ix effects. The data is useable as ee DQA for details. ). Comments: ents:
The affected and flagged. No other f. Decontaminat Yes Disposable samp i. All res Yes Not applicable, 1 ii. If abov	alytes were flagg r samples data qu ion or Equipment No ling equipment r sults less than PC D No no Equipment B we PQL, what sa no Equipment B	Comm ged as "M" to indicate potential matruality or usability was affected. S nt Blank (If not used explain why NA (Please explain.) utilized. QL? NA (Please explain.) lank evaluated. mples are affected? Comm Blank evaluated.	ents: ix effects. The data is useable as ee DQA for details. ). Comments: ents:

No data quality or usability affected.

# 7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

8	. Defined and ap	opropriate?	NA (Please explain.)	Comments:	
	See lab report an	d DQA for ful	l definition of lab and validation qu	alifiers.	

# **Laboratory Data Review Checklist**

Title:       Project Scientist       Date:       October, 7 2015         CS Report Name:       Red Salmon 2015       Report Date:       08/12/2015         Consultant Firm:       SLR International Corporation         Laboratory Name:       SGS North America, UST-005       Laboratory Report Number:       1154090         ADEC File Number:       NA       ADEC RecKey Number:       NA         1.       Laboratory       a.       Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?         \[\begin{bmatrix} Yes       No       NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       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         \[Ves       No       NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       It ransferred, sample analyzed at receipt lab.         2.       Chain of Custody (COC)       a.       COC information completed, signed, and dated (including released/received by)?         \[Ves       No       NA (Please explain.)       Comments:
CS Report Name:       Red Salmon 2015       Report Date:       08/12/2015         Consultant Firm:       SLR International Corporation         Laboratory Name:       SGS North America, UST-005       Laboratory Report Number:       1154090         ADEC File Number:       NA       ADEC RecKey Number:       NA         1.       Laboratory       a.       Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?         ☑       Yes       No       NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       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       NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       .         2.       Chain of Custody (COC)       a.       COC information completed, signed, and dated (including released/received by)?         ☑ Yes       No       NA (Please explain.)       Comments:
Consultant Firm:       SLR International Corporation         Laboratory Name:       SGS North America, UST-005       Laboratory Report Number:       1154090         ADEC File Number:       NA       ADEC RecKey Number:       NA         1.       Laboratory       a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?         ☑       Yes       ☐ No       ☐ NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       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       ☑ NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       It ransferred, sample analyzed at receipt lab.       It ransferred, sample analyzed at receipt lab.         2.       Chain of Custody (COC)       a. COC information completed, signed, and dated (including released/received by)?       ☑ Yes       ☐ No       ☐ NA (Please explain.)       Comments:
Laboratory Name:       SGS North America, UST-005       Laboratory Report Number:       1154090         ADEC File Number:       NA       ADEC RecKey Number:       NA         1.       Laboratory       a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?       NA         Image: ADEC Signature       No       NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.       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?         Image: Yes       No       NA (Please explain.)         Comments:       Not transferred, sample analyzed at receipt lab.         2.       Chain of Custody (COC)         a.       COC information completed, signed, and dated (including released/received by)?         Image: Yes       No         NA (Please explain.)       Comments:
ADEC File Number:       NA         1.       Laboratory         a.       Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?         Amage:
1. Laboratory         a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?         New Yes       No         NA (Please explain.)       Comments:         Not transferred, sample analyzed at receipt lab.         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         Not transferred, sample analyzed at receipt lab.         Image: Not transferred, signed, and dated (including released/received by)?         Image: Not transferred, signed, and dated (including released/received by)?         Image: Not transferred, signed, and cated (including released/received by)?         Image: Not transferred, signed, and cated (including released/received by)?         Image: Not transferred, signed, and cated (including released/received by)?
<ul> <li>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? <ul> <li>Yes</li> <li>No</li> <li>NA (Please explain.)</li> </ul> </li> <li>Comments: </li> <li>2. <u>Chain of Custody (COC)</u> <ul> <li>a. COC information completed, signed, and dated (including released/received by)?</li> <li>Yes</li> <li>No</li> <li>NA (Please explain.)</li> </ul> </li> </ul>
2. <u>Chain of Custody (COC)</u> a. COC information completed, signed, and dated (including released/received by)? ∑ Yes □ No □ NA (Please explain.) Comments:
COC signed as relinquished and received at lab on 7/30/2015.
b. Correct analyses requested? Yes No NA (Please explain.) Comments: DRO/RRO, GRO, and BTEX analysis requested.
3. Laboratory Sample Receipt Documentation         a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?         ∑ Yes       No       NA (Please explain.)         Cooler receipt temperature documented at 5.9°C.
<ul> <li>b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?</li> <li>Yes No NA (Please explain.) Comments:</li> </ul> Cooler receipt form indicated all samples correctly preserved, GRO/BTEX samples Methanol

		c.	Sample condition	documented – $\Box$ No	- broken, leaking (Methanol), zero hea $\Box$ NA (Please explain)	adspace (VOC vials)?
			Sample documente	d as all receive	a in good condition.	
		d.	If there were any containers/preser samples etc?	discrepancies, vation, sample	were they documented? For example temperature outside of acceptable ran	, incorrect sample age, insufficient or missing
			Yes	🗌 No	NA (Please explain.)	Comments:
		1	No sample discrepa	ancies occurred	l.	
		e.	Data quality or us	sability affecte	d? (Please explain.) Comments:	
	No	san	ple data quality or	r usability was	affected.	
4			T /·			
4.	Ca	<u>se r</u> a	<u>Narrative</u> Present and under	rstandable?		
			Xes Yes	No	NA (Please explain.)	Comments:
		A	A case narrative is	present and un	derstandable.	
		b.	Discrepancies, er	rors or OC fail	ures identified by the lab?	
			Yes Yes	No	NA (Please explain.)	Comments:
		r	Surrogate recovery noted in case narrat	y exceedances, tive.	MS/MSD recovery issues for non-pro	oject, non-target analytes
		c.	Were all correctiv	ve actions docu	Imented? NA (Please explain.)	Comments:
		1	No corrective actio	ns were require	ed.	
		d.	What is the effect	t on data qualit	y/usability according to the case narra Comments:	ative?
		]	The case narrative	did not attribut	e data quality or usability effects.	
5.	<u>Sa</u>	<u>npl</u> a.	es Results Correct analyses	performed/rep	orted as requested on COC?	
			Yes Yes	🗌 No	NA (Please explain.)	Comments:
	DR	O/I	RRO, GRO, and B'	TEX analysis p	performed as requested.	
		h	All applicable bo	lding times me	t?	
		υ.	Yes		NA (Please explain.)	Comments:
		A	All samples analyze	ed within appli	cable method holding times.	

	c. All soils report ∑ Yes	ed on a dry wei	ight basis? □ NA (Please explain.)	Comments:
All soil	samples results rep	orted on dry w	eight basis.	
	<ul> <li>d. Are the reporte project?</li> <li>⊠ Yes</li> </ul>	d PQLs less tha	an the Cleanup Level or the minir	num required detection level for the Comments:
	LOO reported by	lab are sufficie	ent for determining compliance w	ith applicable cleanup levels.
1	e. Data quality or	usability affec	ted?	ents:
	No sample data q	uality or usabi	lity was affected.	
6. <u>QC</u>	<u>Samples</u> a. Method Blank i. One me ⊠ Yes	thod blank rep	orted per matrix, analysis and 20	samples? Comments:
	All sample batch	es included MI	3.	
	ii. All met ⊠ Yes All MB results be	hod blank resu	Its less than PQL? NA (Please explain.) w LOQ however GRO MB samp	Comments: le had contamination reported
	between LOD an iii. If above	d DL. e PQL, what sa	mples are affected? Comm	ents:
	GRO results for s contamination rep discussion.	samples SFB1, ported in MB so	SFB91, SFE6 and SWE4 were w o were flagged B, see DQA MB s	ithin 10X the level of ection for details and further
	iv. Do the $\boxtimes$ Yes	affected sample	e(s) have data flags and if so, are NA (Please explain.)	the data flags clearly defined? Comments:
	Field sample GR flag to indicate po	O results for Slotential for imp	FB1, SFB91, SFE6 and SWE4 we acts from similar contamination a	re validation qualified with a "B" s observed in MB sample.
	v. Data qu	ality or usabili	ty affected? (Please explain.) Comm	ents:
	GRO results for S samples. No other	SFB1, SFB91, sample data q	SFE6 and SWE4 may be bias hig uality or usability was affected by	the due to VOC contamination of MB contamination.

### b. Laboratory Control Sample/Duplicate (LCS/LCSD)

	i. Organics	- One LCS/L	CSD reported per matrix, analys	is and 20 samples? (LCS/LCSD
	$\boxtimes Yes$	Der AK metho	$\square$ NA (Please explain.)	Comments:
A	An LCS/LCSD nd a non-projec	pair was analy et MS/MSD an	zed with each batch containing of alyzed with SW8260B BTEX sa	GRO, DRO and RRO samples. LCS umple batch.
	ii. Metals/Ir samples?	organics – one	e LCS and one sample duplicate	reported per matrix, analysis and 20
	Yes	🗌 No	🛛 NA (Please explain.)	Comments:
No	metals or organ	nics batches in	project.	
	iii. Accuracy And proj AK102 7 ⊠ Yes	<ul> <li>All percent</li> <li>ect specified D</li> <li>5%-125%, AK</li> <li>□ No</li> </ul>	recoveries (%R) reported and w QOs, if applicable. (AK Petrole 103 60%-120%; all other analys NA (Please explain.)	ithin method or laboratory limits? um methods: AK101 60%-120%, ses see the laboratory QC pages) Comments:
All	batch LCS and	LCSD spike r	recoveries were within control lin	mits.
AK	IV. Precision laborator LCS/LCS other ana ∑ Yes Petroleum bate	y limits? And j SD, MS/MSD, lyses see the la	percent differences (RPD) repor project specified DQOs, if applic and or sample/sample duplicate aboratory QC pages) NA (Please explain.) , BTEX batch MS/MSD and per	cable. RPD reported from (AK Petroleum methods 20%; all Comments:
nas r	v. If %R or	RPD.	e of acceptable limits, what sam Comm	ples are affected? ents:
All bat	ch RPD and %	recovery were	e within control limits for reques	ted analytes.
	vi. Do the af	fected sample	(s) have data flags? If so, are the ⊠ NA (Please explain.)	data flags clearly defined? Comments:
No	affected results	requiring data	a flags.	
	vii. Data qua	lity or usability	y affected? (Use comment box to Comm	o explain.) ents:
No sample	e data quality o	or usability wa	s affected.	
c. Si	urrogates – Org i. Are surro X Yes	ganics Only ogate recoverie	s reported for organic analyses –	- field, QC and laboratory samples? Comments:
All spiked sau 10X and grea	mple surrogate ter extract cond	recoveries we	re reported with exception that f e reported as 0% recovery, see D	our DRO samples analyzed at QA surrogate section.

<ul> <li>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 analysis see the laboratory report pages)</li> </ul>	
$\square Yes \square No \square NA (Please explain.) Comments:$	
All surrogates recoveries were within control limits with exception of GRO samples SWD1 and SFB4 and from the diluted sample extracts of the 5 DRO samples SFB4, SFA9, SFC7, SWB0, and SWD1, see DQA surrogate section for details and discussion.	
<ul> <li>iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?</li> <li>Yes No NA (Please explain.) Comments:</li> </ul>	
Failed surrogate recoveries identified by lab and qualified as needed during validation. See DQA surrogate section for details and discussion. Data flags are defined.	
iv. Data quality or usability affected? (Use the comment box to explain.) Comments:	
GRO samples SWD1 and SFB4 were flagged as QH to indicate potential for high bias, no other sample data quality or usability was affected by surrogate recovery. See DQA surrogate section for details and discussion.	
d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and Soil</u>	
<ul> <li>i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples (If not, enter explanation below.)</li> <li>☑ Yes □ No □ NA (Please explain.) Comments:</li> </ul>	?
Sample TB1 was included as BTEX/GRO trip blank.	
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)	2?
Yes No NA (Please explain.) Comments:	
cooler in is not identified on coc nowever only one cooler was used for derivery of an SDO samples.	
iii. All results less than PQL? $\square$ No $\square$ NA (Please explain.)Comments:	
No analyte contamination was detected in the TB sample.	
iv. If above PQL, what samples are affected? Comments:	
No samples affected.	

v. Data quality or usability affected? (Please explain.)

No sample data quality or usability was affected.

Comments:

e. Field Duplic	cate
-----------------	------

	i. One field	d duplicate su No	bmitted per matrix, analysis and 10	project samples? Comments:
A single field samples, the f	l duplicate sample frequency of at lea	SFB91 is a blind f st 1 FD per 10 prir	field duplicate of primary sample SFB1 and is a mary samples was not met.	ssociated with 11 primary project soil
	ii. Submitte ⊠ Yes	ed blind to lab	?	Comments:
Sample SFB9	91 is a blind field d	uplicate of primar	y sample SFB1.	
	iii. Precision (Recomr	n – All relativ nended: 30%	e percent differences (RPD) less the water, 50% soil)	an specified DQOs?
	RPD (%)	) = Absolute v	value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \ge 100$	
	Whe	re $R_1 = Samp$ $R_2 = Field$ $\square$ No	ble Concentration Duplicate Concentration NA (Please explain.)	Comments:
Alls	soil duplicate	analyte results	s agreed within 50% RPD.	
	iv Data qua	lity or usabili	ity affected? (Use the comment boy	to explain why or why not )
	Iv. Data que	unty of usabili	Commo	ater
No comula	IV. Data qua		Commen	nts:
No sample	e data quality	or usability w	Commentary affected.	nts:
No sample f. De	e data quality	or usability w n or Equipme	Commentary affected. Tas affected. nt Blank (If not used explain why).	nts:
No sample f. De	e data quality econtaminatio	or usability w n or Equipme \ No	Tas affected. The mathematical commentation of the commentation o	Comments:
No sample f. De Dispo	e data quality econtaminatio	or usability w n or Equipme No ng equipment	Tas affected. The mathematical contract of the continent box Comment Tas affected. Int Blank (If not used explain why). NA (Please explain.) utilized.	Comments:
No sample f. De Dispo	e data quality econtaminatio Yes osable samplir i. All resul	or usability w n or Equipme No ng equipment ts less than PO	ras affected. The mathematical contract of the continent box Comment The mathematical contract of the continent box Comment The contract of the continent box Comment The contract of the contract of t	Comments:
No sample f. De Dispo	e data quality econtaminatio Yes osable samplir i. All resul	or usability w or usability w n or Equipme No ng equipment ts less than PO	Comment Tas affected. Int Blank (If not used explain why). NA (Please explain.) Utilized. QL? NA (Please explain.)	Comments:
No sample f. De Dispo	e data quality econtaminatio Yes osable samplir i. All resul Yes applicable, no	or usability w or usability w n or Equipme [] No ng equipment ts less than PO [] No Equipment B	Comment cas affected. Int Blank (If not used explain why). NA (Please explain.) Utilized. QL? NA (Please explain.) lank evaluated.	Comments:
No sample f. De Dispo	e data quality econtaminatio Yes osable samplir i. All resul Yes applicable, no ii. If above	or usability w or usability w n or Equipme <u>No</u> ng equipment ts less than PO No Equipment B PQL, what sa	Commen cas affected. Int Blank (If not used explain why). NA (Please explain.) utilized. QL? NA (Please explain.) lank evaluated. Interval of the second se	Comments:
No sample f. De Dispo	e data quality econtaminatio Yes osable samplir i. All resul Yes applicable, no ii. If above	or usability w or usability w n or Equipment No ng equipment ts less than Po no Equipment B PQL, what sa	Commen Tas affected. Int Blank (If not used explain why). NA (Please explain.) Utilized. QL? NA (Please explain.) lank evaluated. Imples are affected? Commen	Comments: Comments:

# iii. Data quality or usability affected? (Please explain.)

Comments	
comments.	

	Comments.
	No data quality or usability affected.
7.	Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
	a. Defined and appropriate? Xes No NA (Please explain.) Comments:
	See lab report and DQA for full definition of lab and validation qualifiers.
## **Laboratory Data Review Checklist**

Completed by:	Jason Gray							
Title:	Project Scientist		Date:	October, 8 2015				
CS Report Name	Red Salmon 2015		Report Date:	08/20/2015				
Consultant Firm:	SLR International Corp	ooration						
Laboratory Name	SGS North America, U	UST-005 Lab	oratory Report Nu	1154161				
ADEC File Numl	ber: NA	ADEC	RecKey Number:	NA				
1. <u>Laboratory</u> a. Did ar	ADEC CS approved labo	oratory receive and NA (Please example at receipt lab.	<u>perform</u> all of the plain.)	e submitted sample analyses? Comments:				
b. If the labora	samples were transferred t tory, was the laboratory p ] Yes sferred, sample analyzed a	to another "network erforming the analy NA (Please example at receipt lab.	" laboratory or su ses ADEC CS ap plain.)	ib-contracted to an alternate proved? Comments:				
2. <u>Chain of Cust</u> a. COC i	nformation completed, sig	gned, and dated (ind	luding released/replain.)	eceived by)? Comments:				
COC sig	COC signed as relinquished and then received at lab on 8/4/2015.							
b. Correc	ct analyses requested? Yes INO	NA (Please ex	plain.)	Comments:				
DRO/R	RO, PAH, GRO, and BTE	X analysis requeste	d.					
3. <u>Laboratory Sa</u> a. Sampl	ample Receipt Documenta e/cooler temperature docu ] Yes 🗌 No	tion Imented and within	range at receipt (4 plain.)	$4^{\circ} \pm 2^{\circ} \text{ C}$ )? Comments:				
The tem	peratures for the two cool	ers of SDG were do	ocumented at 5.7 °	°C and 3.3 °C.				
b. Sampl	e preservation acceptable	- acidified waters,	Methanol preserv	red VOC soil (GRO, BTEX,				
	Yes No	NA (Please ex	plain.)	Comments:				
Cooler receipt documentation confirms that all samples were correctly preserved.								

		c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?							
			$\boxtimes$ Yes	∐ No	NA (Please explain.)	Comments:			
	Cooler receipt documentation confirms that all sample containers were received in good condition.								
	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   ⊠ NA (Please explain.)   Comments:								
	No sample discrepancies occurred.								
	e. Data quality or usability affected? (Please explain.) Comments:								
	No	san	ple data quality or	r usability was	affected.				
1	Ca		Iomotivo						
4.	<u>Ca</u>	<u>se г</u> а.	Present and under	rstandable?					
			Yes Yes	🗌 No	NA (Please explain.)	Comments:			
	A case narrative is present and understandable.								
		υ.	Yes		$\square$ NA (Please explain.)	Comments:			
	Sa	mp	le RS-SW1-08031	5, PAH surroga	ate recovery discussed.				
		c.	Were all correctiv	ve actions docu	imented? NA (Please explain.)	Comments:			
		Ν	No corrective actio	ns were require	ed.				
	d. What is the effect on data quality/usability according to the case narrative? Comments:								
		]	The case narrative	did not attribut	e data quality or usability effects.				
5.	<u>Sar</u>	<u>npl</u> a.	es Results Correct analyses	performed/repo	orted as requested on COC?	Comments:			
	DR	U/I	KKU, PAH, GKU,	and BIEX ana	nysis periormed as requested.				
		b.	All applicable ho	lding times me	t? NA (Please explain.)	Comments:			
		A	All samples analyze	ed within appli	cable method holding times.				

All samples consist of water matrix, no soils.
<ul> <li>d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?</li> <li>Yes No NA (Please explain.) Comments:</li> </ul>
LOQ reported by lab are sufficient for determining compliance with applicable cleanup levels.
e. Data quality or usability affected? Comments:
No sample data quality or usability was affected.
<ul> <li>5. <u>QC Samples</u></li> <li>a. Method Blank</li> <li>i. One method blank reported per matrix, analysis and 20 samples?</li> <li> Xes No NA (Please explain.) Comments:</li></ul>
All sample batches included MB.
<ul> <li>ii. All method blank results less than PQL?</li> <li>∑ Yes □ No □ NA (Please explain.) Comments:</li> </ul>
All MB results were below the LOQ however PAH analyte Naphthalene had MB contamination reported between the LOQ and LOD, and PAH analytes 1-Methylnaphthalene, and 2-Methylnaphthalene were detected <lod above="" but="" dl.<="" td="" the=""></lod>
iii. If above PQL, what samples are affected? Comments:
No field samples were affected by PAH MB contamination, all associated field sample results were >10X the level of contamination reported in PAH MB so did not require qualification, see DQA MB section for details and further discussion.
iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined? Yes No NA (Please explain.) Comments:
No field samples were affected by MB contamination which required data flags.
v. Data quality or usability affected? (Please explain.) Comments:
No sample data quality or usability was affected.

### b. Laboratory Control Sample/Duplicate (LCS/LCSD)

required per AK memous, LCS required per S w 840)						
Yes $\square$ No $\square$ NA (Please explain.)Comments:						
An LCS/LCSD pair was analyzed with each batch containing project samples.						
ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?						
YesNo $\boxtimes$ NA (Please explain.)Comments:						
No metals or organics batches in project.						
<ul> <li>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)</li> <li>Xes</li> <li>No</li> <li>NA (Please explain.)</li> </ul>						
All batch LCS and LCSD spike recoveries were within control limits.						
<ul> <li>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)</li> <li>Xes</li> <li>No</li> <li>NA (Please explain.)</li> </ul>						
All batch LCS/LCSD sample pairs all has had acceptable RPD. No MS/MSD was requested or performed for 8260B BTEX or 8270D SIM PAH methods						
v. If %R or RPD is outside of acceptable limits, what samples are affected? Comments:						
All batch RPD and % recovery were within control limits for requested analytes.						
vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined? Yes No NA (Please explain.) Comments:						
No sample results were affected requiring data flags.						
vii. Data quality or usability affected? (Use comment box to explain.) Comments:						
No sample data quality or usability was affected.						
<ul> <li>c. Surrogates – Organics Only</li> <li>i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?</li> <li>         \[</li></ul>						
All spiked sample surrogate recoveries were reported.						

<ul> <li>ii. Accuracy – All percent recoveries (%R) reported and within And project specified DQOs, if applicable. (AK Petroleum)</li> </ul>	n method or laboratory limits? methods 50-150 %R; all other
analyses see the laboratory report pages) $\square$ Yes $\square$ No $\square$ NA (Please explain.)	Comments:
All surrogates recoveries were within control limits with exception of d14 from the 5x diluted sample extract of samples RS-SW1-080315, s details and discussion.	of PAH surrogate Terphenyl- see DQA surrogate section for
<ul> <li>iii. Do the sample results with failed surrogate recoveries have flags clearly defined?</li> <li>∑ Yes □ No □ NA (Please explain.)</li> </ul>	data flags? If so, are the data Comments:
Failed surrogate recovery for sample RS-SW1-080315 identified by lab, no qualification was required for this sample exhibiting typical surrogate recov high levels of hydrocarbon, see DQA surrogate section for details and discu	o further validation very for a diluted sample with ussion. Data flags are defined.
iv. Data quality or usability affected? (Use the comment box to	explain.) Comments:
No sample data quality or usability was affected.	
<ul> <li>d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorin <u>Soil</u></li> <li>i. One trip blank reported per matrix, analysis and for each co (If not, enter explanation below.)</li> <li> Xes No NA (Please explain.)</li></ul>	ated Solvents, etc.): <u>Water and</u> oler containing volatile samples? Comments:
Sample TB-080315 was included as BTEX and GRO trip blank.	
<ul> <li>ii. Is the cooler used to transport the trip blank and VOA samp (If not, a comment explaining why must be entered below)</li> <li>☐ Yes ☐ No ☐ NA (Please explain.)</li> </ul>	les clearly indicated on the COC? Comments:
The Cooler ID containing the volatile samples and trip blank is not identifi documentation.	ed on COC or sample receipt
iii. All results less than PQL? ∑ Yes □ No □ NA (Please explain.)	Comments:
No analyte contamination was detected in the TB sample.	
iv. If above PQL, what samples are affected?	
No samples affected.	

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

Without the samples identified to a particular cooler, it is not possible to definitively associate potential cooler specific contamination of the sample GRO and BTEX results to the specific trip blank. The trip blank would still be representative of the overall shipment of both coolers but not to a specific cooler. In this instance, no trip blank contamination was observed so there were minimal impacts to the sample data quality or usability.

e. Field Duplicate

Two blink field duplicates were submitted for the associated 5 water samples (1 surface water duplicate and 1 groundwater duplicate).								
ii. Submitted blind to lab? ∑ Yes □ No □ NA (Please explain.) Comments:								
Surface water sample RS-SW99-080315 is a blind field duplicate of primary sample RS-SW1-080315 and groundwater sample RS-MW99-080315 is a blind field duplicate of primary sample RS-MW1-080315.								
iii. Precision – All relative percent differences (RPD) less than specified DQOs?								
(Recommended: 30% water, 50% soil)								
RPD (%) = Absolute value of: $(R_1-R_2)$								
$\frac{1}{((\mathbf{P}_{+} + \mathbf{P}_{-})/2)} \times 100$								
$((\mathbf{K}_1 + \mathbf{K}_2)/2)$								
Where $R_1 =$ Sample Concentration $R_2 =$ Field Duplicate Concentration								
All water duplicate analyte results agreed within 30% RPD with exception of 12 instances of PAH analytes that were > 30% RPD. See DQA for details and discussion.								
iv. Data quality or usability affected? (Use the comment box to explain why or why not.)								
Comments:								
Results for 12 PAH analytes from among the two duplicate sample pairs were qualified as potentially impacted, this data was validation flagged as "M" to indicate the potential for matrix effects from non-homogenous samples yielding variable results.								
f. Decontamination or Equipment Blank (If not used explain why).								
Yes $\boxtimes$ No $\square$ NA (Please explain.)Comments:								
Disposable sampling equipment utilized.								

		i. All resu	lts less than PQ	QL?					
		Yes	🗌 No	🔀 NA (Please explain.)	Comments:				
		Not applicable, no	Equipment Bl	ank evaluated.					
	ii. If above PQL, what samples are affected?								
				Comments:					
	Not applicable, no Equipment Blank evaluated.								
iii. Data quality or usability affected? (Please explain.)									
		Comments:							
	No data quality or usability affected.								
7.	<u>Oth</u>	er Data Flags/Quali a. Defined and ap	fiers (ACOE, A	AFCEE, Lab Specific, etc.)					
		Yes		NA (Please explain.)	Comments:				
	See lab report and DQA for full definition of lab and validation qualifiers.								

### **APPENDIX F**

# ADEC CONCEPTUAL SITE MODEL WORKSHEET AND GRAPHIC

#### HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site:		Instructions: Follow the numbered consider contaminant concentration use controls when describing path	l directions ons or eng	: below. ineering,	Do noi /land	t		
Completed By: Date Completed:		use controls when describing pair	(5) Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure. Current & Future Receptors					
(1) (2) Check the media that could be directly affected by the release.	(3) Check all exposure media identified in (2).	(4) Check all pathways that could be complete. The pathways identified in this column must agree with Sections 2 and 3 of the Human Health CSM Scoping Form.						
Media         Transport Mechanisms           Direct release to surface soil         check soil           Surface         Migration to subsurface         check soil           Soil         Migration to groundwater         check groundwater           (0-2 ft bos)         Volatilization         check air	Exposure Media	Exposure Pathway/Route	Residents (adults or children) Commercial or induste: cial or	Site visitors, trespas or recreational user, Constructional user,	Farmers or subsiste	Subsistence consun Other	Inc	
(0 2 n 0 go)       Obtained to include and the second	soil Der	dental Soil Ingestion mal Absorption of Contaminants from Soil alation of Fugitive Dust						
Soil       Volatilization       check air         (2-15 ft bgs)       Uptake by plants or animals       check biota         Other (list):       Other (list):	groundwater	mal Absorption of Contaminants in Groundwater alation of Volatile Compounds in Tap Water					_	
Ground- water Flow to surface water body <u>check surface water</u> <i>Flow to sediment</i> <u>check surface water</u> <i>Uptake by plants or animals</i> <u>check biota</u> Other (list):	air Inha	alation of Outdoor Air alation of Indoor Air alation of Fugitive Dust						
Direct release to surface water       check surface water         Surface       Volatilization       check air         Water       Sedimentation       check sediment         Uptake by plants or animals       check biota         Other (list):	surface water Der	estion of Surface Water mal Absorption of Contaminants in Surface Water alation of Volatile Compounds in Tap Water						
Direct release to sediment         check sediment           Sediment         Resuspension, runoff, or erosion         check surface water           Uptake by plants or animals         check biota           Other (list):	biota Inge	ect Contact with Sediment						

Revised, 4/11/2010