FINAL REPORT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ENVIRONMENTAL LIABILITIES EVALUATION LITTLE PORT WALTER RESEARCH STATION, ALASKA

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CONTRACT NUMBER WE-133F-16-SE-1706

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APPROVAL PAGE

The following Environmental Liabilities Evaluation Report for the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service, and Alaska Fisheries Science Center (AFSC) at the Little Port Walter Research Station (LPW) in Little Port Walter, Alaska has been prepared by Ahtna Environmental, Incorporated (Ahtna). The following people have reviewed and approved this report.

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ACRONYMS AND ABBREVIATIONS

AAC .....Alaska Administrative Code
ACM .....asbestos-containing material
ADEC.....Alaska Department of Environmental Conservation
AFSC.....Alaska Fisheries Service Center
AHERA.....Asbestos Hazard Emergency Response Act
Ahtna.....Ahtna Environmental Incorporated
AST .....aboveground storage tank
bgs .....below ground surface
CoC .....chain of custody
COPC .....contaminant of potential concern
CSM .....conceptual site model
cy.....cubic yard
DoD.....Department of Defense
DQR .....data quality report
DRO .....diesel range organics
EPA .....Environmental Protection Agency
^{o}F .....degrees Fahrenheit
GRO .....gasoline range organics
GPS .....global positioning system
LBP .....lead-based paint
LCS .....laboratory control sample
LCSD .....laboratory control sample duplicate
LPW .....Little Port Walter
MDL.....method detection limit
mg/kg .....milligram per kilogram
µg/L.....microgram per liter
MS.....matrix spike
MS/MSD.....matrix spike/matrix spike duplicate
NOAA .....National Oceanic and Atmospheric Administration
NOV .....notice of violation
OSHA.....Occupational Safety and Health Administration
PAH.....polycyclic aromatic hydrocarbons
PCB .....polychlorinated biphenyls
PID .....photoionization detector
PLM .....polarized light microscopy
QA/QC .....quality assurance/quality control
RCRA.....Resource Conservation and Recovery Act
RPD.....relative percent differences
RRO .....residual range organics
TAT.....turn around time
TCLP.....toxicity leaching characteristic procedure
TOC.....total organic carbon
USFS .....United States Department of Agriculture Forest Service
VOCs.....volatile organic compounds

WP.....work plan
XRF.....x-ray fluorescence

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1.0 INTRODUCTION

Ahtna Environmental, Incorporated (Ahtna) developed this report to detail the field activities and results performed to evaluate potential environmental liabilities at the Little Port Walter Research Station (LPW), in Little Port Walter, Alaska. This work was performed under Contract Number WE-133F-16-SE-1706 with the National Oceanic and Atmospheric Administration (NOAA). The general location of the site is shown in Figure 1. Work was performed in general conformance with the contract documents, including the Scope of Work and the approved site work plan dated April 20, 2017 (Ahtna, 2017).

The Alaska Department of Environmental Conservation (ADEC) contaminated sites database entry for LPW is:

ADEC Site Name: NOAA Little Port Walter Hatchery
ADEC File No.: 1523.38.0002
ADEC Hazard ID: 25999

1.1 Project Objectives

The primary objectives for the Little Port Walter Environmental Liabilities Evaluation were to:

1. Investigate soil around present and historical fuel system infrastructure to confirm the presence or absence of petroleum hydrocarbon contamination in soil. These results will be compared to the appropriate ADEC cleanup levels.
2. Investigate painted structures to verify presence or absence of lead-based paint (LBP), and investigate the soils to confirm the presence or absence of lead contamination in soil.
3. Determine areas within buildings or structures where thermometers and/or manometers were used and stored and then test these areas using a mercury vapor analyzer for the presence of residual mercury contamination from broken equipment.
4. Visually inspect twenty-two building/structures potentially constructed of chemically-treated lumber, and collect and analyze samples for contaminates in soils related to wood preservation chemicals.
5. Review and confirm the information on location, quantity, and condition of Asbestos-Containing Material (ACM) identified in the 1996 *Asbestos & PCB Survey Report* (Lee, NA, 1996).

1.2 Background

The LPW is located on Baranof Island approximately 53 miles south-southeast of Sitka, Alaska and approximately 140 miles south-southwest of Juneau, Alaska. LPW is a remote laboratory campus on the south end of the Tongass National Forest. The facility is used to conduct a variety of fish rearing studies on various species of Chinook salmon.

ADEC Contaminated Sites Program File Number 1523.38.0002, Site Name "NOAA Little Port Walter Hatchery" describes historic petroleum releases at the LPW Research Station (ADEC 2012). The background from ADEC records on previous releases includes:

- Indication that a diesel spill occurred in March of 1980. On March 4, the spill was reported to the Coast Guard, the Tongass National Forest Supervisor, and the ADEC. The site was remediated in full conformity with all applicable laws and regulations in effect at that time.

- On October 20, 2012, ADEC added a diesel spill of unknown quantity that was not reported to the site's file. It was potentially a multiple petroleum release from corroded fuel lines running underground to the generator shed. NOAA formally responded on November 23, 2012 to the ADEC Notice of Violation (NOV), stating that NOAA Alaska Fisheries Science Center (AFSC) did not violate Alaska Statues Title 46 or ACC 18 section 75. No environmentally or technically accurate information was provided to ADEC to confirm environmental contamination at the site prior to the NOV. The site was added to the ADEC Contaminated Soils Program for long term monitoring.

1.3 Location and Physical Settings

The project site is located at 56°23′30″ North latitude, 134°39′23″ West longitude and is the oldest year-round biological research station for salmonid experimentation in the State of Alaska. LPW is the primary research station for Auke Bay Laboratory, and is located within an estuarine environment adjacent to Chatham Strait near the open Gulf of Alaska. There are no road systems to this facility. LPW is accessible only by barge, boat, or seaplane (Figure 1).

LPW is comprised of 12 main buildings, including a weir, generator shed, workshops, floating wet-labs including many fresh and salt-water floating raceways and net-pens, feed shed, several residences, and a permanent concrete fish weir on Sashin Creek, a total of 22 structures (Figure 2 and Table 1-1). Three generators, one of which runs continuously, power the facilities. The buildings each have an approximately 100 to 300-gallon diesel fuel tank used for heating. There are two 5,000-gallon diesel aboveground fuel tanks co-located between the warehouse and generator shed. These bulk tanks are filled three times per year via vessel or barge. A buried pipeline from the bulk tanks provides fuel to the generators. The remaining 100 – 300 gallon building fuel tanks are filled annually by portable fuel cans. Equipment refueling is done with drip pans and absorbent pads. All equipment maintenance is performed inside the warehouse on concrete floors.

TABLE 1-1 STRUCTURE INVENTORY

Item Number	Structure Name	Structure Type
1	Weir Cabin	Building
2	Weir Storage Area	Wood Structure
3	Weir Pan Abode Shack	Building
4	Weir Bridge	Wood Structure
5	Pan Abode Cabin	Building
6	Pan Abode Fuel Tank	Sheltered Pad
7	Pan Abode Bridge	Wood Structure
8	Cove Cabin Bridge	Wood Structure
9	Cove Cabin	Building
10	Cove Cabin Fuel Tank	Sheltered Pad
11	Incinerator Shed	Unoccupied Building
12	Dock (Tag & Feed) Sheds	Building
13	Warehouse Complex	Building

Item Number	Structure Name	Structure Type
14	Generator Shed	Unoccupied Building
15	Fuel Tank Shed	Unoccupied Building
16	Hazmat Storage	Unoccupied Building
17	Woodworking/Metal Shop	Building
18	Outboard Motor Storage Shed	Unoccupied Building
19	White House Bridge	Wood Structure
20	Walk-In Freezer / Hot Tub Shed	Unoccupied Building
21	White House Fuel Tank	Sheltered Pad
22	White House	Building

1.3.1 Climate

The field work occurred in May 2017. The mean temperatures at LPW for the month of May range from mid-50s degrees Fahrenheit (ºF) to high-60s ºF. The average temperature in May for this area is in the mid-60s ºF. This area receives an annual precipitation of 224 inches per year.

1.3.2 Geology and Soils

The most profound effect on the soils and plants of the area is glaciation. The Wisconsin glaciation, which ended 12,000 to 13,000 years ago, along with earlier glaciations, has resulted in U-shaped valleys and higher elevation cirque basins [United States Department of Agriculture Forest Service (USFS), 2004]. The glaciers scoured many areas down to the bedrock and then till was deposited. The Wisconsin deglaciation resulted in a sea level that was much higher than it is today. This accounts for the presence of marine silts and sands in many of the low-lying valleys of northern Southeast Alaska (USFS, 2004). Erosion has had a large effect on local topography and many colluvial and alluvial fans were deposited on the valley floors during this time (USFS, 2004). Soils in the area have developed from unconsolidated and weathered mineral or organic parent materials. The soil is approximately 1 to 5 feet thick and overlies bedrock. During the construction of the facility, soils were removed and bedrock blasted in order to level areas for structures. These areas have 1 to 3 feet of gravel material overlying bedrock.

1.3.3 Hydrology

According to the NOAA site description, surface water primarily drains through the soils and into bedrock fissures or cracks. Surface water infiltrating through surface soil into fractured bedrock drains into Little Port Walter or Sashin Creek. Site investigations of the surface water and groundwater interaction have not been conducted at LPW. Little Port Walter is connected to Port Walter and Chatham Strait. Drinking water for LPW is piped in from the upstream Sashin Creek and is filtered and treated by ultra-violet light prior to distribution. The Alaska State Well Log Tracking System did not have any entries for Baranof Island in the Chatham Regional Education Attendance Area (Alaska Department of Natural Resources, 2016). The groundwater flow direction has not been determined, but is presumed to follow the topographic relief from the interior uplands towards the shoreline.

1.3.4 Sensitive Environments

LPW is in a remote region in Alaska. The built-up area of this remote region consists only of the NOAA Research Station and surrounded by wilderness, marine habitat, and undisturbed upland forest. LPW is bordered by marine shoreline modified by human activities only in short stretches. The entire LPW and associated shoreline is not classified as a wetland. The area immediately north of LPW is mapped as a Freshwater Forest/Shrub Wetland and the area across the bay to the south is mapped as an Estuarine and Marine Wetland (United States Fish and Wildlife Service, 2016).

2.0 REGULATORY SETTING AND CLEANUP CRITERIA

The ADEC Title 18 Alaska Administrative Code, Chapter 75 (18 AAC 75), *Oil and Other Hazardous Substances Pollution Control* (ADEC, 2017b), with cleanup levels revised as of November 6, 2016, is the regulatory framework for potential petroleum hydrocarbon, lead in soil, and treated wood contamination in soil and water. Sampling was also conducted to identify if any residual mercury inside laboratory buildings associated with broken thermometers and other mercury-containing devices is present. LBP was tested by x-ray fluorescence (XRF), and paint chips from buildings were submitted for laboratory analysis of lead.

40 Code of Federal Regulations 76 is the regulatory framework for the comprehensive asbestos inspection. An accredited Asbestos Hazard Emergency Response Act (AHERA) Building Inspector performed inspections.

2.1 Soil Cleanup and Screening Levels

The applicable soil cleanup levels provided in Table 2-1 for LWP are the lowest value of the State of Alaska cleanup levels (human health or migration to groundwater) from 18 AAC 75, Table B1 and B2, Over 40-inch Zone (ADEC, 2017b). Table 2-1 includes compounds associated with petroleum spills. The list of volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs) include those associated with petroleum identified in Appendix D of the ADEC *Policy Guidance on Developing Conceptual Site Models* (ADEC, 2017b).

The Inhalation Risk Screening Levels for carcinogens and non-carcinogens listed in Appendix B, Over 40 Inch, of *Procedures for Calculating Cumulative Ris*k (ADEC, 2016b) are also included in Table 2-1.

TABLE 2-1: SUMMARY OF SOIL CLEANUP AND SCREENING LEVELS

Analyte	Over 40 Inch Zone Ingestion/Human Health[1] (mg/kg)	Migration to Groundwater[1] (mg/kg)	Soil Inhalation Risk Screening Level Non-Carcinogenic[2] (mg/kg)	Soil Inhalation Risk Screening Level Carcinogenic[2] (mg/kg)
Petroleum Hydrocarbons				
DRO	8,250	230	-	-
RRO	8,300	9,700	-	-
GRO	1,400	260	-	-
VOCs				
Benzene	8.1	0.022	74.9	8.62
Toluene	200	6.7	14,100	-
Ethylbenzene	35	0.13	3,470	37.4
Xylenes (total)	57	1.5	355	-
1,2,4-Trimethylbenzene	33	0.16	32.7	-
1,3,5-Trimethylbenzene	37	1.3	-	-
Metals				
Arsenic	7.2	0.20[3]	94700	39,500
Chromium III	1.52E+05	1.0E+05	-	-
Chromium VI	3.2	0.089	632000	731
Copper	3,300	370	-	-

Analyte	Over 40 Inch Zone Ingestion/Human Health[1] (mg/kg)	Migration to Groundwater[1] (mg/kg)	Soil Inhalation Risk Screening Level Non-Carcinogenic[2] (mg/kg)	Soil Inhalation Risk Screening Level Carcinogenic[2] (mg/kg)
Total Chromium	250	--		
Lead	400	--		
Mercury	3.13	0.36	13.8	-
PAHs				
1-Methylnaphthalene	68	0.41	-	-
2-Methylnaphthalene	250	1.3	-	-
Acenaphthene	3,800	37	-	-
Acenaphthylene	1,900	18	-	-
Anthracene	19,000	390	-	-
Benzo(a)anthracene	1.7	0.28	-	211
Benzo(b)fluoranthene	1.7	2.7	-	558,000
Benzo(k)fluoranthene	17	27	-	558,000
Benzo(g.h.i)perylene	1,900	15,000	-	-
Benzo(a)pyrene	0.17	0.27	-	55,800
n-butyl benzene	20	23	-	-
sec-Butylbenzene	28	42	-	-
tert-Butylbenzene	35	11	-	-
Chrysene	170	82	-	5.58×10^6
Cyclohexane	77	150	6730	-
Dibenzo(a,h)anthracene	0.17	0.87	-	51,200
Fluoranthene	2,500	590	-	-
Fluorene	2,500	36	-	-
Indeno(1,2,3-c,d)pyrene	1.7	8.8	-	558,000
Isopropylbenzene (cumene)	54	5.6	1480	-
n-Hexane	130	130	752	-
Propyl benzene	52	9.1	4110	-
Naphthalene	20	0.038	77.3	20.4
Phenanthrene	1,900	39	-	-
Pyrene	1,900	87	-	-
Styrene	180	10	5580	-

Notes:
1- Source of Cleanup Levels: 18 AAC 75.341, Tables B1 and B2 Over 40 Inch Zone, March 23, 2017
2-Source of Screening Levels: Appendix B, Over 40 Inch *Procedures for Calculation Cumulative Risk*, September 15, 2016c
3- Note that per ADEC 18 AAC 75, "Due to the prevalence of naturally occurring arsenic throughout the state, arsenic at a site will be considered background arsenic unless anthropogenic contribution from a source, activity, or mobilization by means of another introduced contaminant is known or suspected."

DRO = diesel range organics
GRO = gasoline range organics
mg/kg = milligrams per kilogram
PAH = polycyclic aromatic hydrocarbon
RRO = residual range organics
VOC = volatile organic compound

2.2 Building Material Samples

ADEC does not provide cleanup levels for building materials, which include asbestos, LBP, and mercury which are regulated by applicable Occupational Safety and Health Administration (OSHA) and Resource Conservation and Recovery Act (RCRA) standards. ADEC does regulate the disposal of friable and non-friable ACM under 18 AAC 60.450. Building material samples for asbestos analysis were collected under OSHA's Class III asbestos operations protocol [Environmental Protection Agency (EPA), 2017].

3.0 FIELD ACTIVITIES

All field and sampling procedures described in this section were performed in general accordance with those specified in ADEC's *Field Sampling Guidance* (ADEC, 2016). Deviations from the work plan are presented in Section 3.8. Brief descriptions of the performed field activities and other project-specific details are presented below and field notes are included in Appendix A.

3.1 Site Preparation

Ahtna personnel met in Juneau, Alaska on Friday May 5, 2017 to gather food, equipment, and supplies required to perform the Environmental Liabilities Evaluation. On the morning of Saturday May 6, 2017, Ahtna personnel, including one Site Superintendent/AHERA Inspector, one operator, and one Site Safety and Health Officer/Lead Investigator, met with the NOAA representative at Ward Air to charter a Super Otter seaplane to transport personnel, equipment, and supplies to LPW. All field personnel arrived at LPW around 12:30 pm local time that same day.

3.2 Building and Infrastructure Investigation and Sampling

The building and infrastructure investigation is related to the presence of LBP, mercury related to potential releases in the buildings from mercury-containing equipment, and the presence of ACM. Painted surfaces were screened using XRF to determine if lead was present. A Jerome Mercury Monitor was used as a screening method to determine if mercury was present.

3.2.1 Lead-Based Paint on Painted Surfaces and Paint Chip Collection

All homogenous painted surfaces throughout each structure identified in the Work Plan (WP) as potentially containing LBP were screened using a calibrated XRF meter. Paint chip samples were collected from locations with the highest XRF readings at each of the structures. Information on the samples collected are presented in Table C-1.

3.2.2 Mercury

According to documentation and onsite NOAA personnel, the only areas mercury thermometers and/or manometers were used and stored were in the wet lab on the northeast side of the Workshop/Offices building (Figure 4). The wet lab is currently active and the Jerome Mercury Monitor is only accurate with dry material. Ahtna identified three different dry locations within this room, including the northwest corner, southwest corner, and southeast sidewall. At each sample location a pneumatic drill with plastic shield was used to create a small amount of dry fine concrete from the floor. The probe end of the Jerome Monitor was then inserted into the plastic guard to collect a reading. None of the locations had any screening detections and as a result, no samples were collected.

3.2.3 Asbestos-Containing Material (ACM)

The Asbestos Survey conducted in July of 1996 was reviewed and each of the structures inspected. Additional samples of potential ACM were collected in order to verify that no asbestos was present

at previously non-sampled locations. Additional sample locations were identified by the building inspection of suspect areas to further identify if additional asbestos containing material is present. Sample information is presented in Table C-1.

3.3 Soil Investigation and Sampling

Ahtna's qualified environmental professional/sampler collected field screening and analytical soil samples from surface soils and subsurface soils up to 3 feet below ground surface (bgs) at locations associated with petroleum hydrocarbon contamination, lead, and treated lumber investigation activities. Field screening and analytical sampling locations were based on the location of existing structures, historical structure location as identified by NOAA personnel, and professional judgement as identified in the Work Plan.

Surface samples (up to 2 feet bgs) were collected with a clean shovel and subsurface soil samples were collected using an AFSC-provided Case 50-Series mini excavator. Samples were collected using disposable spoons, disposable nitrile gloves, and laboratory supplied sample containers.

Background samples were collected to identify the concentration of any analytes naturally occurring in the soils. Locations for background sampling were chosen among areas that were within a safe distance from the site and did not have any existing or current structures on them. Two background samples were collected at approximately 1 to 1.5 feet bgs, one from the far west side of the facility near the Pan Abode Cabin and Weir (Sample LPW17-Bkgd-Weir-01(1.5), and the second from the east side of the White House (Sample LPW17-Bkgd-WH-02(1) near the coast. Background samples were analyzed for Total Organic Carbon (TOC), and Diesel Range Organics (DRO) and Residual Range Organics (RRO). One additional background sample was collected from the north side of the elevated walkway near the Pan Abode Cabin and analyzed for arsenic, chromium, and copper.

A vapor intrusion investigation was conducted for all 22 structures located onsite (ADEC, 2017a). Refer to Appendix E for the completed ADEC Building Inventory and Indoor Air Sampling Questionnaire Forms.

3.3.1 Petroleum Hydrocarbon Contamination Investigation

A total of 17 soil samples were collected and analyzed for petroleum hydrocarbons and associated constituents. All sample locations were screened using a calibrated photoionization detector (PID) and visually examined for staining prior to sample collection. Information on the observations and samples collected near various structures is presented below. A summary of the samples collected is provided in Table C-1. All samples were analyzed for:

- Gasoline Range Organics (GRO) - AK 101
- DRO and RRO - AK102/103
- VOCs - 8260C (low level)
- PAHs - 8270D

Pan Abode Cabin: is a known location of a former fuel leak due to mechanical malfunction during the filling of the 200-gallon aboveground storage tank (AST). Four samples from test pits,

including one duplicate, were collected. Ahtna excavated an area just down-gradient (south) of the AST. The soil turned from organic rich black to a clumpy gray with a moderate petroleum odor approximately 1.5 feet bgs. Ahtna collected sample LPW17-SL-WeirP-01(2) from this location. Ahtna excavated another test pit approximately 5 feet down-gradient from the previous sample location (across the path). Similar soils were discovered and the PID had similar readings. A third test pit was excavated an additional 3 feet down-gradient where sample LPW17-SL-WeirP-02(2) and LPW17-SL-WeirP-02D(2) were collected at approximately 2 feet bgs. A final test pit was excavated and screened 4 feet west of the third test pit. The test pit was excavated to 2.5 feet bgs and screened using the PID. The soil was a brown silty to sandy loam, and had no odor or visual evidence of staining with sample LPW17-SS-WeirP-03(2.5) collected from this test pit (Figure 6).

Cove Cabin: has a 200 gallon AST located at the northeast corner of the cabin. There is no information regarding a past spill or leak at this location. Two samples were collected within 5 feet of the tank along the north side at approximately 2 feet bgs. Due to steep slopes and minimal soil above bedrock, no sample locations were feasible along the south side of the tank. Both test pits were screened with the PID with no readings. Sample LPW17-SL-CCP-01(2) was collected 2 feet from the northwest corner of the tank. The second sample location was collected 2 feet from the northeast corner, Sample LPW17-SL-CCP-02(2) (Figure 6). The soil from both locations was a medium brown with a higher content of sand and organics in comparison to the Pan Abode Cabin soils. Neither test pit had any odor or evidence of staining.

Generator Shed: the south hillside of the Generator Shed Area was blasted to bedrock and covered with 1 to 3 feet of overlaying gravel. Currently, a few inches of high organic soil overlays the gravel. The majority of utilities run through this corridor to other structures onsite. Two samples were collected, one from the west side and one from the south side at approximately 1.5 to 2 feet bgs. The north and east sides of the shed were not easily accessible due to the original steep bedrock hillside. Sample LPW17-SL-GSP-01(2) from the west side and Sample LPW17-GSP-03(1.5) from the south side had no odor or visual staining in the soils (Figure 6). Sample LPW17-GSP-02(2) was attempted near the Bulk Fuel Tanks (two 5,000 gallon tanks) but during excavation the active fuel line was snagged and attempts to sample this location were halted (refer to Appendix F for a detailed report).

Workshop: One sample was collected from the workshop, storage shed, and flammable shed area at a depth of 2 feet bgs. Sample LPW17-SL-WSP-01(2) had no PID reading, odor, or visible staining (Figures 6 and 7). The sample was collected down-gradient of Generator Shed Area with minimal soil and primarily gravel overlying bedrock. Due to the topography and bedrock, the sample was highly saturated with water and consisted mostly of gravel fines.

Hazmat Shed: also resides down-gradient of the Generator Shed Area. There is approximately 1 foot of soil before the gravel base layer. Two samples were collected along the southeast and southwest corners of the shop near the Hazardous Materials Shed. The PID did not pick up any readings from either test pit. Sample LPW17-SL-HMP-01(2) was collected along the southwest corner at 2 feet bgs. Sample LPW17-SS-HMP-02(2.5) was collected along the southeast corner at 2.5 feet bgs (Figures 6 and 7). Neither sample had any odor or evidence of staining. Both samples were highly saturated with water.

The Outboard Motor Shed: has a few feet of soil overlying bedrock. Two samples were collected, one from the west side, and the other from the south side of the shed. Soils consisted of dark brown, high organic silty to sandy loam. Sample LPW17-SL-OBP-01(1.5) was collected at 1.5 feet bgs from the west side. Sample LPW17-SL-OBP-02(2) was collected at 2 feet bgs from the south side (Figures 6 and 7). Neither test pit had any PID readings, odors, or visible staining.

White House: currently has an up-hill 200 gallon AST near the northwest corner of the building. Previously, the AST was located approximately 75 feet west along the path and located 15 feet up-hill into the wooded area. Five total samples, including 1 duplicate, were collected from both the former and current AST locations. Three (1 duplicate) samples were collected down-gradient from the former tank, and two additional samples were collected down-gradient from the current AST location. Sample LPW17-SL-WHP-01(2) and LPW17-SL-WHP-01D(2) were collected 2 feet bgs from beneath where the former tank was located. The top few inches of soil were highly organic transitioning into a dark silty loam. Sample LPW17-SL-WHP-02(1) was collected 1 foot bgs, 10 feet east (down-gradient) along the path. Soils appeared similar. Neither location had any PID reading, odor, or evidence of staining. The remaining two samples were collected downhill (south) and down-gradient (east) of the current AST. Sample LPW17-SL-WHP-03(1) was collected south and Sample LPW17-SL-WHP-04(1) was collected east of the current AST (Figure 7). Both samples were collected 1 foot bgs. Neither sample had any PID readings, odor, or evidence of staining.

3.3.2 Lead-Based Paint Investigation in Soil

Based on the XRF field screening of the painted surfaces and the recommendations/history of the site from onsite NOAA personnel, a total of 17 surface soil samples (including 2 duplicates) were collected from approximately 6 inches bgs (Figures 3-5). All samples were analyzed for lead, chromium, and arsenic. Refer to Tables C-1 for structure/building, specific sample locations, and sample number.

3.3.3 Treated Lumber Investigation

Ahtna and NOAA personnel surveyed all the structures and determined the highest concentration areas of treated lumber. Soil samples were collected from these areas and analyzed for chromium, arsenic, and copper. Refer to Table C-1 and Figures 3-5 for structure/building, specific sample locations, and sample number.

3.4 Location Survey

A survey grade Trimble global positioning system (GPS) was to be used to collect sample locations onsite but due to the remote location, weather, forested areas, and satellite coverage the locational data was not very accurate. As a result, Ahtna measured the sample locations from the nearest corner of the associated structure. Refer to Figures 3 through Figure 7 for sample locations.

3.5 Site Restoration

All excavated sample locations were backfilled with the excavation spoils. LBP paint chip samples and ACM samples were collected in a manner to disturb as little as possible. An ACM Fiberlock

spray was used on all ACM sample locations to prevent any disturbance during sampling from becoming friable.

3.6 Investigation-Derived Waste Management

All investigation-derived waste was collected in double bagged trash bags and incinerated onsite. No waste was removed from the site.

3.7 Groundwater

Water encountered during sampling events occurred in gravel areas just above bedrock during heavy rains. Groundwater or pore water was not encountered during field work and sampling activities. Therefore, no groundwater samples were collected.

3.8 Deviations from the Work Plan

The following deviations from the work plan occurred; these deviations did not affect the conduct nor results of the investigation.

- GPS did not provide accurate sample locations due to site and satellite conditions. As such, sample locations were measured from fixed structures.
- It was not feasible to use the XRF for screening of soils prior to sampling due to highly saturated soil conditions.
- PID calibration gas did not arrive in time for the charter flight and PID did not charge sufficiently, likely due to the stability of the power being fed by the generator. Only fresh air calibration was used and the PID needed to be charging continuously.
- The fuel line from the two 5,000 gallon bulk tanks to the generators was snagged by the excavator bucket and a minor leak occurred, refer to Appendix F for detailed reporting and the cleanup.
- The analytical laboratory was unable to run LPW17-SL-WSP-01(2) VOC due to insufficient amount of methanol in the sample by the time it reached the lab. As a result this analysis was cancelled.
- The analytical laboratory did not run LPW17-Bkdg-Weir-01(1.5) for DRO and RRO. When the error was identified the laboratory ran the sample even though the holding time was exceeded due to the nature of the two categories of diesel.
- Low level VOC samples were not preserved with methanol.
- Lead samples were submitted for Total Lead but not for Toxicity Leaching Characteristic Procedure (TCLP) Lead. TCLP testing will be required to support any future disposal.

- The laboratory did not run the Silica Gel Cleanup on the submitted DRO/RRO and also did not run Hexavalent Chromium analysis on samples with chromium results over 250 mg/kg as request on the chain of custody (CoC).

4.0 RESULTS

A summary of all samples collected and laboratory and field quality control data are presented in Tables C-1 through C-6 in Appendix C. The following tables are contained in Appendix C

- Table C-1 – Summary of Sample Collection
- Table C-2 – Lead-Based Paint Analytical Infrastructure Results
- Table C-3 – Asbestos Analytical Infrastructure Results
- Table C-4 – Petroleum Hydrocarbon and VOC Analytical Soil Results
- Table C-5 – Lead-Based Paint Analytical Soil Results
- Table C-6 – Treated Lumber Analytical Soil Results

ADEC laboratory checklists and a data quality report (DQR) is provided in Appendix D. Soil sample exceedances are denoted on Figures 3-7.

4.1 Background Sample Results

The purpose of the background samples was to establish representative background concentrations in soil and to determine site-related contamination from naturally occurring contaminants. Background samples were selected from locations that were safe from wildlife and that had no current or existing structures present or around them. Two background samples were collected and analyzed for TOC, DRO and RRO. One additional background sample was collected and analyzed for Arsenic, Chromium, and Copper. Background sample results are located in Table C-7.

No background results exceeded the most stringent Migration to Groundwater ADEC Cleanup Levels (18 AAC 75.341)

4.2 Building and Infrastructure Sampling Results

Analytical results from the building and infrastructure indicate concentrations of lead in LBP on the Weir Cabin and White House. For lead results of soil around buildings/structures containing high levels of LBP, refer to Table C-1. Mercury related to potential releases in the wet lab portion of the warehouse/workshop complex from mercury containing equipment was not detected. ACM were not detected in any of the samples collected.

4.2.1 Lead-Based Paint on Painted Surfaces

Screening and sampling locations of Weir Cabin and White House painted surfaces had XRF screening results that ranged from 0.00 to 8.0 mg/cm^2. The remaining structures screened had no XRF detections. Paint chips from the interior of the structures were evaluated to determine presence or absence of lead based paint for future disposal and renovation purposes. Lead was present in all samples submitted at the locations specified in Table C-2.

4.2.2 Mercury

Three different dry locations within the wet lab (inside the workshop/warehouse complex) building including the floor northwest corner, southwest corner, and concrete portion of the southeast screened using the Jerome Mercury Monitor. None of these locations had any screening detections for mercury and as a result, no analytical samples were collected.

4.2.3 Asbestos-Containing Material

Eleven samples of potential asbestos containing material (ACM) were collected and delivered to NVL Laboratories located in Seattle, WA. The ACM samples were analyzed by Polarized Light Microscopy (PLM). Sample results can be viewed in Table C-3. All of the sample results were non-detect for asbestos. No additional locations with ACM were identified. Sample results and Chain-of-Custody (CoC) are provide in Appendix C with the laboratory analytical results.

4.3 Soil Sampling Results

Field screening and analytical soil samples were collected throughout the site from surface soils and subsurface soils up to 3 feet bgs associated with petroleum hydrocarbon contamination, lead, and treated lumber investigation activities. Sample results can be viewed in Tables C-2 through C-6. The ADEC checklists are included in Appendix D.

Analytical results did not exceed vapor intrusion screening levels. While on site the NOAA staff completed the ADEC Building Inventory and Indoor Air Sampling Questionnaire Forms, provided in Appendix E.

4.3.1 Petroleum Hydrocarbon Contamination

Soils encountered during screening and investigation were primarily high organic content for the top layer with a moderately sandy loam with varying silt content above bedrock. Screening and sampling locations near the Pan Abode Cabin and the Generator Shed Area including the bulk fuel tank storage locations had visual and olfactory indicators of petroleum hydrocarbons. PID screening results ranged from 0.0 ppm to 13.3 ppm. Full suite, low level method SW8260 was run on all samples submitted for VOC analyses. The full suite results from the Outboard Motor Storage Area, Hazmat Locker, and the area between the Workshops and the Generator Building are discussed in the sections below. Discussion of the additional sample locations will be limited to the target VOC analytes identified in the work plan. Results can be viewed in Table C-4.

Pan Abode Cabin: All VOC and PAH soil concentrations were lower than their respective soil inhalation risk screening levels. DRO was detected at a value above the migration to groundwater screening levels in samples LPW17-SL-WeirP-01(2) and LPW17-SL-WeirP-02(2).DRO was detected above the human health cleanup level of 8,250 milligrams per kilogram (mg/kg). VOCs and PAHs, 1,2,4-Trimethylbenzene, naphthalene, 1-methylnaphthalene, Benzo(a)anthracene, and Benzo(a)pyrene were also detected above the migration to groundwater cleanup levels in samples with high DRO concentrations.

Cove Cabin: All results for DRO, RRO, GRO, VOC and PAH with detections had soil concentrations lower than their respective cleanup levels and soil inhalation risk screening levels.

HazMat Shed: DRO was detected above migration to groundwater cleanup levels. No VOCs were detected at the reporting limits specified by the laboratory in both samples submitted for the site. Benzene was the only VOC detected at concentrations below the migration to groundwater cleanup level. PAHs were also detected below the migration to groundwater cleanup levels. All VOC and PAH soil concentrations were lower than their respective soil inhalation risk screening levels.

Outboard Motor Shed: No analytes were detected above screening levels. All VOC and PAH soil concentrations were lower than their respective soil inhalation risk screening levels.

Generator Shed: DRO, RRO, PAHs, VOCs were not detected above cleanup levels in either sample submitted from the area between the Generator Shed and Workshop Area. All VOC and PAH soil concentrations were lower than their respective soil inhalation risk screening levels.

White House: DRO, 1,2,4-trimethylbenzene, and Naphthalene were detected above migration to groundwater cleanup levels. DRO was detected above the maximum allowable concentration of 12,500 mg/kg; therefore, an ADEC Method 3 alternate cleanup level calculation would not be applicable at this site. All VOC and PAH soil concentrations were lower than their respective soil inhalation risk screening levels.

Vapor intrusion ADEC forms were completed and are included in Appendix E. The lack of petroleum contamination at many locations, the small number of occupied buildings, the specific results of the checklist, and nature of DRO mitigates the potential for vapor intrusion into occupied structures.

4.3.2 Lead-Based Paint in Soil

Screening and samples were collected from the top 6 inches of soil from the dripline of painted structures. The soil in all areas was a dark lightly organic peat moss. The vicinity of the Weir Cabin had visual indicators of paint chip debris within the top few inches of the soil. No other visual indicators were observed at the remaining screening and sampling locations. Analytical results are located in Table C-5 within Appendix C.

4.3.3 Treated Lumber

Screening and analytical samples were collected from the top 6 inches of soil from the dripline (under the buildings) of structures containing treated lumber including bridges, decks, and buildings. The soil along or near the coastline or small creeks flowing under the bridges were highly saturated sandy soils; and the soil surrounding structures was a dark lightly organic peat moss. There was no visual or olfactory evidence of contamination from chemical preservation of treated lumber.

The only structures with exceedances were for copper in soil at the Weir Cabin, Pan Abode Shop, Pan Abode Cabin, and Warehouse. Arsenic was detected in all samples at levels above the

migration to groundwater screening criteria of 0.2 mg/kg. Analytical results are located in Table C-6 within Appendix C.

5.0 QUALITY ASSURANCE

The following sections detail the quality assurance and quality control (QA/QC) measures taken during the project to ensure achievement of the quality objectives.

5.1 Personnel

Fieldwork, including analytical sampling, was performed by Kathryn Cleveland, who meets the definition of "qualified person" per 18 AAC 75.990(100) and certified AHERA Building Inspector. Marsh McComb, certified lead abatement and Nick Peck, operator, were also onsite to assist with site activities.

5.2 Decontamination

For general sample collection, disposable equipment was used (spoons, plastic bags, nitrile gloves). For the snagged fuel line Alconox and water was used for decontamination, the water was disposed of within the petroleum-impacted soil for future offsite disposal.

5.3 Sample Collection

Soil samples were collected into laboratory-provided containers with disposable sampling spoons. Samples were preserved in the field as specified in the work plan. However, the incorrect jars were provided by the laboratory for the 8260C analysis, which caused the 8260C results to be flagged, this is discussed in more detail in Section 5.6.2.

5.4 Sample Handling

Following collection, samples were placed in coolers with sufficient gel ice to maintain temperatures for sample preservation. At the end of each day, samples were transferred to a refrigerator until shipment to the laboratory for analysis. Samples were tracked by use of CoC forms for each sample with the trip blank and other QC samples individually identified on the forms. The forms were signed and dated when the samples were shipped to and received by the laboratories.

5.5 Equipment Calibration

Equipment used for this project that required calibration included a PID, XRF, and Jerome Mercury Monitor. Each were calibrated daily prior to use and occasionally checked against a standard during use. Note that for the PID the calibration gas was not delivered to the project site and therefore fresh air calibration was used.

5.6 Analytical Data Quality Review

This section presents an evaluation of precision, accuracy, sensitivity, representativeness, comparability, and completeness by reviewing laboratory supplied QA/QC information as well as to perform independent QA/QC checks on the data.

All samples were collected and delivered to the project laboratory in accordance with the ADEC-approved work plan (WP). Soil and paint chip samples were delivered to TestAmerica Seattle, ACM samples were delivered to NVL Laboratories located in Seattle; both are Department of Defense (DoD) Environmental Laboratory Accreditation Program certified facilities and ADEC-approved laboratories. Samples were analyzed with standard turnaround times (TATs) and in accordance with applicable specifications in U.S. Environmental Protection Agency Test Methods for Evaluating Solid Waste, SW-846. CoC documentation was maintained to track collection, requested analyses and TAT, shipment, laboratory receipt, custody, and disposal of the samples.

Two work-orders were received and reviewed as part of the data quality review:

- 580-68287
- 1708569

Analytical data reports from TestAmerica and NVL Laboratories are included in Appendix C. The data quality review prepared by the Ahtna Project Chemist and ADEC Data Review Checklists are provided in Appendix D.

5.6.1 Analytical Methods

Samples were analyzed for the following analysis:

- GRO by Method AK101
- DRO/RRO by Method AK102/103;
- VOCs by Method 8260C (low level);
- PAHs by Method 8270-SIM;
- Lead, Arsenic, Copper and Chromium by Method 6020A; and
- Asbestos by PLM.

5.6.2 Sample Handling

All samples were shipped or hand delivered to the appropriate laboratory by the project field team. CoC forms, laboratory sample receipt forms, and case narratives were reviewed to determine if any sample handling activities might affect the integrity of the samples and the quality of the associated data.

All sample containers within the sample coolers were received at the laboratory intact and within the target temperature range of 4°C ± 2°C.

Conversations between the laboratory and Kathryn Cleveland corrected the majority of sample ID errors between the CoCs and the jars labels.

5.6.3 Holding Time and Preservation Compliance

All samples were extracted, digested, and/or analyzed within the holding time criteria for the applicable analytical methods and in accordance with work plan specifications with the following exception:

- SDG 580-68267-2: Sample LPW17-Bkgd-Weir-01(1.5): the same was analyzed for AK 102/103 outside of hold time.

5.6.4 Precision

Precision criteria are used to monitor analytical reproducibility. Precision (and accuracy) were evaluated by comparing field duplicates, matrix spike/matrix spike duplicate (MS/MSD), and laboratory control sample/laboratory control sample (LCS/LCSD) duplicate pairs for this project.

5.6.4.1 Field Duplicates

A total of eight duplicate pairs were collected for 80 primary samples, which meets the required minimum frequency of 10 percent. Relative percent differences (RPDs) were calculated when results in both the primary and duplicate sample were detected above the limit of quantitation. All RPDs for primary and duplicate samples were with the Data Quality Assessment limit of 50% for soil samples.

5.6.4.2 Matrix Spike/ Matrix Spike Duplicate Precision

Laboratory precision was assessed by calculating the RPD between the LCS/LCSD and MS/MSD. LCS/LCSD and MS/MSD analyses were conducted at the required frequency.

The RPDs for the LCS/LCSD, MS/MSD, lab duplicate samples, and quality control criteria were within laboratory limits with the following exceptions:

- The RPD calculated for RRO between the MS and MSD in analytical batch 580-246593 was outside control limits.

No qualifications were made since additional quality control criteria were available and within recommended limits.

5.6.5 Accuracy

Accuracy was assessed by calculating the percent recovery for LCS, MS, and surrogates. Surrogate recoveries represent the extraction efficiencies for groups of analytes within a sample. %R were within control limits with the exceptions listed below:

- The %R for Lead and Chromium was outside control limits for the MS, MSD, or laboratory duplicates in batches 580-246576 and 580-24300.

- The %R for various PAH analytes was outside control limits for the MS and MSD in analytical batches 580-247152 and 580-246475.

- The %R for various 2-Butanone was outside control limits for the LCS in analytical batch 580-246075.

No qualifications were made since additional quality control criteria were available and within recommended limits.

5.6.5.1 Surrogate Percent Recoveries

Accuracy was assessed by calculating the percent recovery for LCS, MS, and surrogates.

Surrogates recoveries represent the extraction efficiencies for groups of analytes within a sample. A majority of the surrogate recoveries were outside of the recommended control limits, which was due to the evidence of matrix interference.

For failed surrogate recoveries in quality control samples, no qualifiers were applied if the surrogates of the associated samples were within control limits.

5.6.6 Representativeness

Representativeness is a qualitative parameter used to assess whether sample results are representative of true site conditions. Representativeness relative to analytical measurements is primarily influenced by application of consistent sampling and analytical methodology. The following measures were taken to address the representativeness of any material collected for analysis:

1. Sample collection was performed by a qualified person as required by 18 AAC 75 using methods listed in the approved work plan (Ahtna, 2017).
2. To minimize the potential for cross-contamination, new disposable collection equipment and new, pre-cleaned containers were used as specified in the approved work plan. Field instruments and measuring devices were calibrated daily and operated in accordance with the manufacturer recommendations.
3. Samples were labeled and uniquely identified in accordance with the work plan, and field records indicate the location from which each field sample was collected.
4. Laboratory protocol was performed in accordance with laboratory standard operating procedures.

Therefore, measurement representativeness is considered acceptable for this project.

5.6.7 Comparability

Generally, PID field screening readings were used qualitatively to assist with determining whether soil was contaminated at concentrations greater than the ADEC-approved site-specific cleanup levels. Field personnel worked carefully to utilize consistent field screening procedures. At this site, screening readings appeared to be influenced by high organic content and other variables that are beyond the control of the field sampler. Other field observations were also taken into account, such as staining, odor, and historical data.

5.6.8 Completeness

All data necessary to complete a level II data quality assurance summary was provided. None of the soil samples were rejected due to data quality errors, this results in a completion rate of 100% for soil samples. No water samples were collected (Section 3.7) since groundwater and/or pore water was not encountered during sampling, so 100% of the results are usable indicating completeness of 100%.

5.6.9 Sensitivity

5.6.9.1 Limits of Detection

Limits of detection of undiluted sample results were less than the regulatory cleanup levels and project goals. All results are evaluated to the method reporting limit.

5.6.9.2 Blank Results (Trip Blank and Method Blanks)

One trip blank was submitted for this project.

The method blanks were analyzed at the required frequencies of one per matrix, analysis, and 20 samples. Analytes were detected in method blanks in the following work orders:

- Hexachlorobutadiene was detected above the MDL in analytical batches 580-246075 and 580-246158.
- Benzo[a]anthracene was detected above the MDL in analytical batches 580-246433 and 580-247152.
- Benzo[a]anthracene, Fluoranthene, Phenanthrene, and Pyrene were detected above the MDL in analytical batch 580-246750.

The method blank detections were less than half of the reporting limit therefore no sample results were deemed affected.

5.7 Data Summary

Based on the review completed on the laboratory work order data, many samples were assigned data qualifiers. Qualified data can be viewed on the data tables found in Appendix C.

All additional sample results are considered valid with no data qualifiers assigned. All analytical data is considered usable for the purpose of evaluating the presence or absence and magnitude of the suspected site contaminants.

6.0 UPDATED CONCEPTUAL SITE MODEL

An updated human health conceptual site model (CSM) scoping and graphical forms are included in this report after the figures.

6.1 Sources and Release Mechanisms

Sources of petroleum hydrocarbons, lead, and copper and arsenic associated with treated lumber, were identified during field screening and soil sampling. The primary release mechanisms for petroleum contamination are leaking heating oil and diesel ASTs and their associated piping at the Pan Abode Cabin, near the HazMat lockers, and at the former AST location for the White House. The primary release for lead in soil is flaking or chipping of LBP from exterior building surfaces onto the ground surface at the Weir Cabin and White House. The primary release mechanisms for arsenic, copper, and chromium is leaching from wood preservation chemicals in and around the majority of pressure treated wood onsite.

Field screening did not indicate a source of mercury related to the storage of fluorescent lamps, mechanical tilt switches, float control switches, barometers, thermometers, paint residues and/or manometers.

6.2 Impacted Media

Impacted media at the LPW Research Station includes surface soil and subsurface soil. Surface soil around the buildings or structures has been impacted by the release of contaminants of potential concern (COPCs) into site soils.

Air, sediment, groundwater, surface water, and biota are potentially impacted media. Direct sampling of these media was not performed during the sampling effort. Water infiltrating into site soil could become contaminated and impact groundwater and/or hydrologically connected surface water. Indoor and outdoor air could be impacted by contaminants potentially present in petroleum hydrocarbons. Biota is potentially impacted media due to the potential uptake of contaminated soil or water by plants or animals.

6.3 Direct Contact with Soil

DRO, VOCs, And PAHs were detected at the LPW site between 0 and 3 feet below ground surface. The direct contact exposure pathways of dermal adsorption, incidental soil ingestion, and bioaccumulation are considered complete.

Potential receptors to contamination from the direct contact exposure route include:

- current and future residents and scientists;
- current and future commercial or industrial workers;
- current and future site visitors, trespassers or recreational users;
- current and future construction workers.

6.4 Ingestion of Groundwater, Surface Water, Wild Foods

The suspected COPCs at the LPW site include soluble contaminants that could migrate to groundwater or hydrologically connected surface water and bioaccumulate in organisms. The ingestion of groundwater water exposure pathway is considered complete due to the hydrologically connected surface water. Potential receptors to contamination from the ingestion of groundwater exposure route include:

- current and future residents and scientists;
- current and future commercial or industrial workers;
- current and future site visitors, trespassers or recreational users;
- current and future construction workers.

6.5 Inhalation of Outdoor and Indoor Air

There were limited detections of VOCs in surface soil samples and the concentration of detections were below inhalation risk screening and human health cleanup levels and therefore the inhalation of outdoor exposure pathway is not considered complete. Occupied buildings are on site and may be within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater and possibly within 100 feet of a non-petroleum source and therefore the inhalation of indoor air exposure pathway is considered complete. Potential receptors to contamination from the inhalation of outdoor and indoor air exposure routes include:

- current and future residents and scientists;
- current and future commercial or industrial workers;
- current and future site visitors, trespassers or recreational users; and
- current and future construction workers.

6.6 Dermal Exposure to Contaminants in Groundwater and Surface Water

The suspected COPCs at the LPW site include soluble contaminants that could migrate to groundwater or hydrologically connected surface water and are included in Appendix C of the ADEC CSM Guidance (ADEC, 2017b). Therefore, the dermal exposure to contaminants in groundwater and surface water pathway is considered complete. Potential receptors to contamination from this exposure routes include:

- current and future residents and scientists;
- current and future commercial or industrial workers;
- current and future site visitors, trespassers or recreational users;
- current and future construction workers.

6.7 Inhalation of Volatile Compounds in Tap Water

Drinking water is provided to the LPW Research Station from surface water from Sashin Creek located up-gradient from the site. Therefore, the inhalation of volatile compound in tap water is not considered a complete pathway for potential contamination from the site.

6.8 Inhalation of Fugitive Dust

The suspected COPCs at the LPW site include nonvolatile contaminants in the top 2 centimeters of soil. The surrounding soils of the Weir Cabin and the White House had lead exceedances in soil. It is unknown whether dust particles less than 10 micrometers in diameter are present at a level sufficient to be considered a nuisance. Therefore, the inhalation of fugitive dust exposure pathway is considered complete. Potential receptors to contamination from this exposure routes include:

- current and future residents and scientists;
- current and future commercial or industrial workers;
- current and future site visitors, trespassers or recreational users;
- current and future construction workers.

6.9 Direct Contact with Sediment

The suspected COPCs at the LPW site are potentially present in sediment and are listed in Appendix B and Appendix C of the ADEC CSM Guidance (ADEC, 2017b). Therefore, the direct contact exposure pathways of dermal adsorption and bioaccumulation are considered complete. Potential receptors to contamination from the ingestion of surface water and direct contact with sediment exposure routes include:

- current and future residents and scientists;
- current and future commercial or industrial workers;
- current and future site visitors, trespassers or recreational users;
- current and future construction workers.

6.10 Ingestion of Wild or Farmed Foods

There are long term caretaker residents at the LPW site and potential receptors to the contamination for ingestion of wild or farmed foods include current and future residents but is considered insignificant for workers and site visitors.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Building and Infrastructure Sampling

The following conclusions and recommendations are associated with the building and infrastructure results.

7.1.1 Lead-Based Paint on Painted Surfaces

The results indicate that the Weir Cabin and White House have LBP present; all other buildings did not have any detections. The lead-based paint information should be maintained by NOAA to support future infrastructure project scoping or demolition and disposal plans. Contractors must be qualified to perform renovations of buildings with lead-based paint present. Prior to disposal, TCLP samples should be submitted from the locations and structures identified as containing lead based paint per the requirements on the disposal facility.

7.1.2 Mercury

Three locations were screened in the wet lab for mercury that may have been associated with thermometers and manometers. All of the screening results were negative for mercury and therefore it is unlikely there were any spills or releases of mercury inside the building from previous equipment storage. No further action is recommended. This information should be maintained by NOAA for future infrastructure project scoping or demolition and disposal plans.

7.1.3 Asbestos-Containing Materials

All samples analyzed for ACM had non-detect results and therefore no additional ACM were identified and located onsite. These results are consistent with the findings from the 1996 asbestos survey that was conducted at LPW. No additional actions are recommended for ACM sampling at this time. This information should be maintained by NOAA for future infrastructure project scoping or demolition and disposal plans.

7.2 Soil Sampling

The following conclusions and recommendations are based on the soil sampling results.

7.2.1 Petroleum Hydrocarbon Contamination

Pan Abode Cabin: Historical documents, analytical results and visual inspection indicate a previous release of fuel from the 200 gallon AST has occurred at this location and remedial action is necessary. The location had been previously remediated to the ADEC standards at the time of the spill. Investigation showed that not all the contamination had been removed, however, visual observation indicates that contamination had not migrated over the last 20 plus years.

- **Recommendations**-. Remedial action including the excavation of soil contaminated with DRO and co-located VOC and PAHs above the migration to groundwater cleanup levels.

Local soils or crushed rock would be used to backfill and grade the impacted area. The estimated vertical extent of contamination is approximately 4 to 5 feet bgs or until underlying bedrock. The horizontal extent of contamination starts at the current AST location and travels primarily southeast towards the shoreline. The extent does not travel south towards the Pan Abode Cabin and is not anticipated to travel north due to the site's topographic gradient. The estimated surface area of contamination is 40 feet by 20 feet with an estimated depth of 4 to 5 feet bgs which translates into an estimated soil volume of 150 cubic yards (cy), although the estimated soil volume could be less if bedrock is encountered at shallower depths. The surface in the area is composed of a steep flower bed directly below the AST sloping gently into grass and then rocky shoreline and the utilities in the area are located underneath the gravel pathway.

Cove Cabin: Visual inspection and results from samples collected on the accessible side of the AST do not indicate a current or historic release at this location. No further action is recommended at this location.

Generator Shed: Visual inspection and results from samples collected in this location do not indicate a current spill or historic release. No further action is recommended at this location.

Workshop: Although there are no VOC results due to lab error; the detections of DRO, RRO and GRO do no indicate a current spill or historic release to the ground surface in the workshop area. Visual inspection of the area did not identify stained soil. Containers of materials or fuels are not stored outside the building in contact with the ground surface. No further action is recommended at this location.

HazMat Shed: DRO and naphthalene were detected above migration to groundwater cleanup levels. All VOC and PAH soil concentrations were lower than their respective soil inhalation risk screening levels. There is evidence of a release in the soil around the hazmat shed; however the source is most likely associated with the bulk fuel storage releases.

- **Recommendations-**. Remedial action including the excavation and soil removal of soils contaminated with DRO and co-located naphthalene above the migration to groundwater cleanup levels. Local soils or crushed rock would be used to backfill and grade the impacted area. The vertical extent of contamination is approximately 3 to 4 feet bgs or until underlying bedrock. The horizontal extent is unknown and depends on the severity and number of past releases. Due to the gravel content of these locations, contamination migration would be greater than in other areas of the site. Though it is anticipated that the horizontal extent would not be greater than 20 or so feet down-gradient and down-slope of the bulk fuel storage area due to the analytical results. It is estimated that 75 to 100 cy of soil would require excavation to a depth of 4 feet bgs, although the estimated soil volume could be less if bedrock is encountered at shallower depths. The surface in the area is composed of steep bedrock with minimal vegetation to the north and leveled gravel fill material near the HazMat Shed and Workshops. There are a variety of utilities in the area all running from the Generator Shed down-hill towards the incinerator, workshops, warehouse, and offices.

Outboard Motor Shed: Visual inspection and results from samples collected in this location do not indicate a spill or release. The old boat parts are stored on a concrete pad inside the shed and are not in contact with the ground surface. No further action is recommended at this location.

White House: Results indicate soil has been impacted by historic release from ASTs in this location; most likely form the old AST located 75ft from the building. There are no indications of release from the current 200 gallon AST. Exceedances included DRO and associated VOCs (1,2,3-trichlorobenzene, 1,2,4-trimethylbenzene, and naphthalene) were detected above migration to groundwater cleanup levels. DRO is present in concentrations above the maximum allowable DRO level (12,500 mg/kg). All VOC and PAH soil concentrations were lower than their respective Soil Inhalation Risk Screening Levels.

- **Recommendations**-DRO is present above the maximum allowable concentration and a remedial action including excavation and soil removal is required at this location. Local soils or crushed rock would be use to backfill and grade the impacted area. The vertical extent of contamination is approximately 5 feet bgs or until underlying bedrock. The horizontal extent of contamination at the former AST location is not anticipated to have traveled more than 20 feet due to the high organic content of the soil but will need to be delineated during any removal activities. The horizontal extent of contamination at the current AST location is anticipated to be less than the former location due to the lower analytical results and numbers of years in use. It is estimated that 200 to 250 cy of soil would require excavation to a depth of 5 feet bgs, although the estimated soil volume could be less if bedrock is encountered at shallower depths. The surface in the area is composed of heavily vegetated hill sides near a leveled gravel pathway and there are utilities in the area located along side and beneath the gravel pathway.

7.2.2 Lead in Soil

Lead in soil was detected above the cleanup level of 400 mg/kg at two locations- Weir Cabin and White House. Further characterization to determine the extent of soil with concentrations with lead above 400 mg/kg could be performed, however, the impacted areas are most likely shallow and limited to the dripline.

The Weir Cabin is currently unoccupied and exterior paint is continuing to chip and flake. Remedial action for the soil in the location should occur concurrent with demolition of the structure.

The White House is currently used a dormitory and there is a potential for disturbance of the soil impacted with lead above 400 mg/kg. Remedial action is recommended for this location and could include capping the soil with a layer of crushed rock or limited removal (soil is likely to be non-hazardous, limited to less than 1 cubic yard). The outside of white house has new siding limiting further contamination of the soil by chipping or flaking of lead based paint. .

7.2.3 Treated Lumber

The majority of the wooden structures in contact with water are constructed of pressure treated lumber. The results for arsenic, total chromium, and copper are above the limited background sample results and indicate some leaching into the ground has occurred in the dripline locations.

Wood treated with CCA should not be reused or burned. During disposal, eye protection and a dust mask should be worn. A hazardous waste determination should be made prior to disposal of the treated lumber at a permitted facility. Proper maintenance, staining, and sealing are best management practices to limit the impact on the environment.

8.0 REFERENCES

Ahtna Environmental Incorporated, 2017. *Final Work Plan, Environmental Liabilities Evaluation, Little Port Walter Alaska.* National Oceanic and Atmospheric Administration, 2017.

Alaska Department of Environmental Conservation (ADEC), 2012. *Guidelines for Data Reporting, Data Averaging and Treatment of Non-Detect Values.* Technical Memorandum. June.

Alaska Department of Environmental Conservation (ADEC), 2016a. *Field Sampling Guidance*. March.

Alaska Department of Environmental Conservation (ADEC), 2016b. *Procedures for Calculating Cumulative Risk*. September.

Alaska Department of Environmental Conservation (ADEC), 2017a. *Vapor Intrusion Guidance for Contaminated Sites.* January.

Alaska Department of Environmental Conservation (ADEC), 2017b. *Title 18 Alaska Administrative Code 75 Oil and Other Hazardous Substances Pollution Control*, March 23.

Alaska Department of Natural Resources. WELTS database search (2016, October 19). Retrieved from https://dnr.alaska.gov/welts/#show-welts-intro-template/

"Ecosystem and Climate History of Alaska." *Geosciences and Environmental Change Science Center*. United States Forest Service, 2004.

Lee, Nany A, CIH. *Asbestos Operations & Maintenance Plan, Little Port Walter, Alaska.* National Oceanic and Atmospheric Administration, 1996.

"Little Port Walter Facility." *Alaska Fisheries Science Center, National Oceanic and Atmospheric Administration*. United States Department of Commerce, 2012.

U.S. Department of Agriculture Forest Service (USFS), Tongass National Forest Sitka Ranger District, 2004. *Sitka Sound Landscape Assessment*, September.

U.S. Department of Fish and Wildlife Service. National Wetlands Inventory (2016, October 19). Retrieved from https://www.fws.gov/wetlands/data/mapper.html

U.S. Environmental Protection Agency, Code of Federal Regulations Title 40, Part 763- Asbestos. 2017

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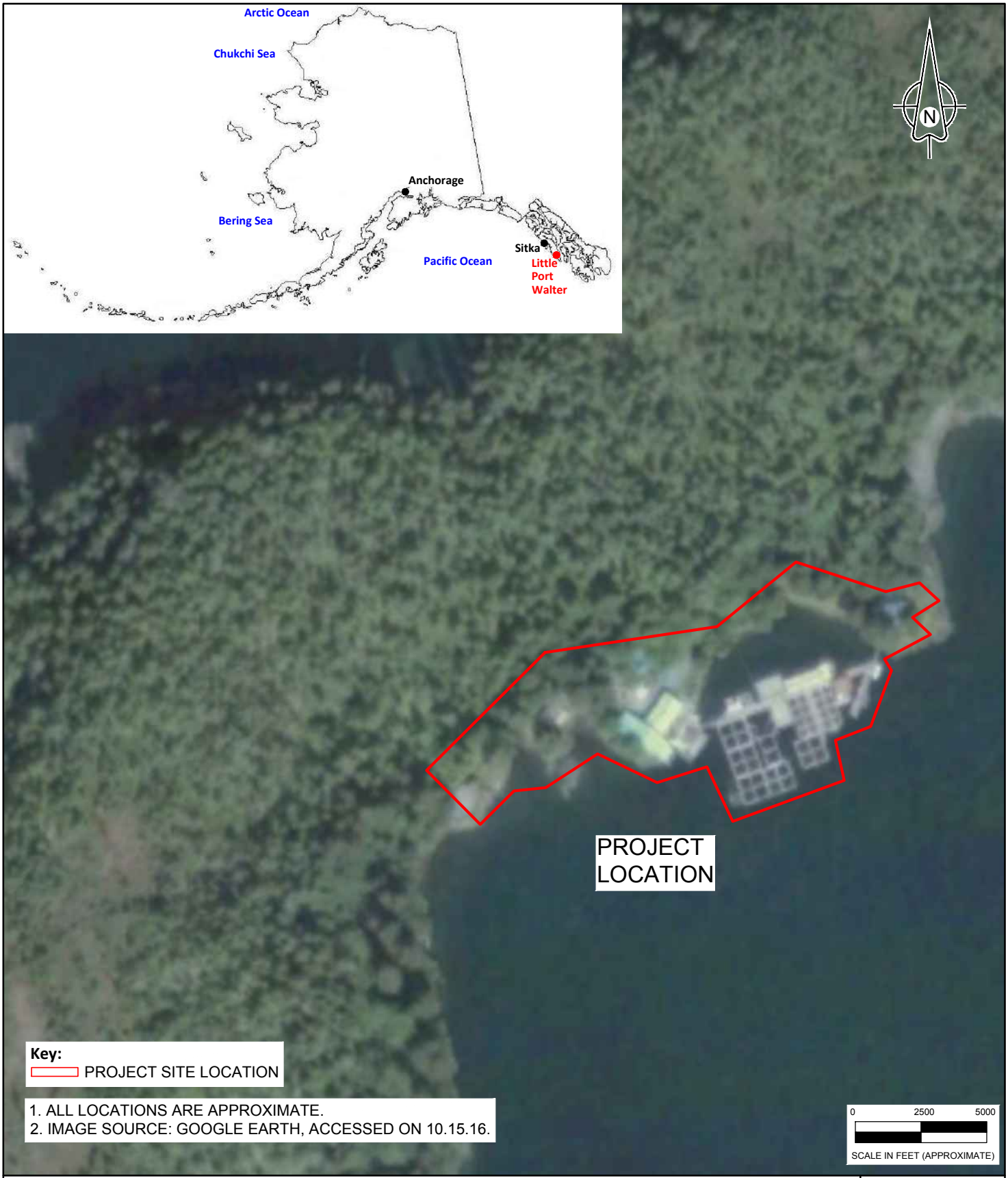

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

Ahtna Environmental, Inc.

STATE AND SITE VICINITY MAPS

Project Number: 05150.03	Figure Number: 1
Date: 06.21.2017	
Drawn By: G.R.	

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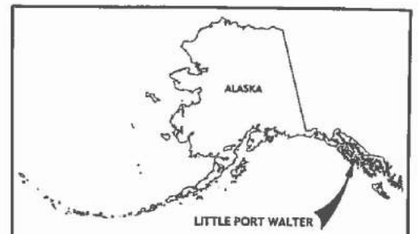
LEGEND

- FOUND 3-1/4" ALCAP
- FOUND 1" ALCAP
- CONTROL POINT
- CONTROL POINT LABEL
- OBSERVED HIGH WATER (THIS SURVEY)
- F — F — FUEL LINE (APPROX)
- XX°XX'XX" MEASURED
- GRAVEL
- WOOD DECK
- CONCRETE
- GRATE
- DIAMOND PLATE

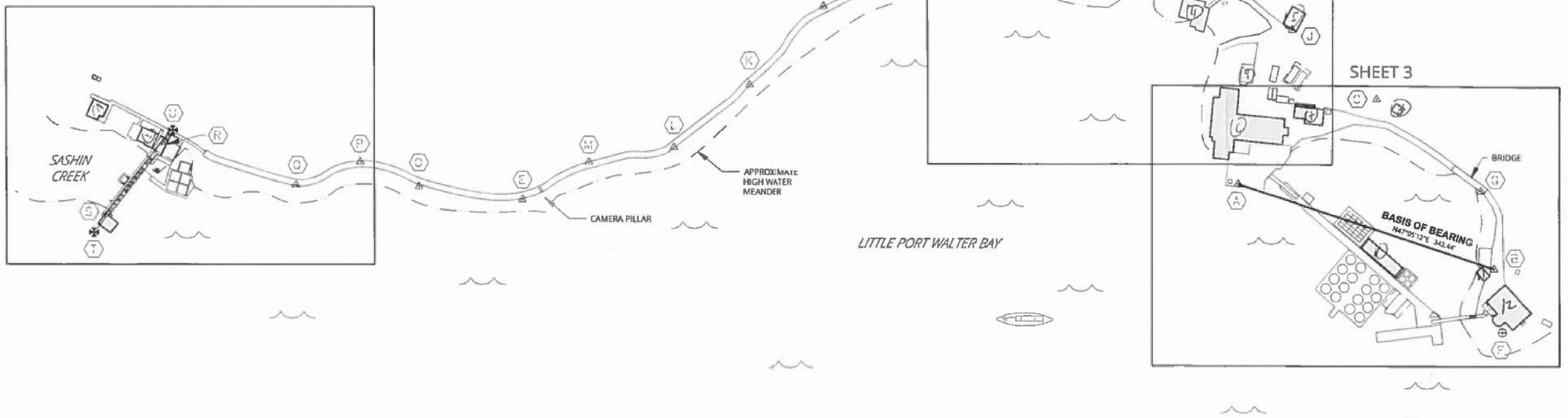


LOCATION MAP
SCALE: N.T.S.

SHEET 1

SHEET 2

SHEET 3



0 20 40
SCALE IN FEET
(APPROXIMATE)

1. FIGURE DERIVED FROM LCG LANTECH'S LITTLE PORT WALTER FISH HANDLING FACILITY, SITE PLAN, 10.11.14.

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

AREA OF INVESTIGATION

Ahtna Environmental, Inc.

Project Number:	Figure Number:
05150.03	2
Date: 06.21.2017	
Drawn By: G.R.	

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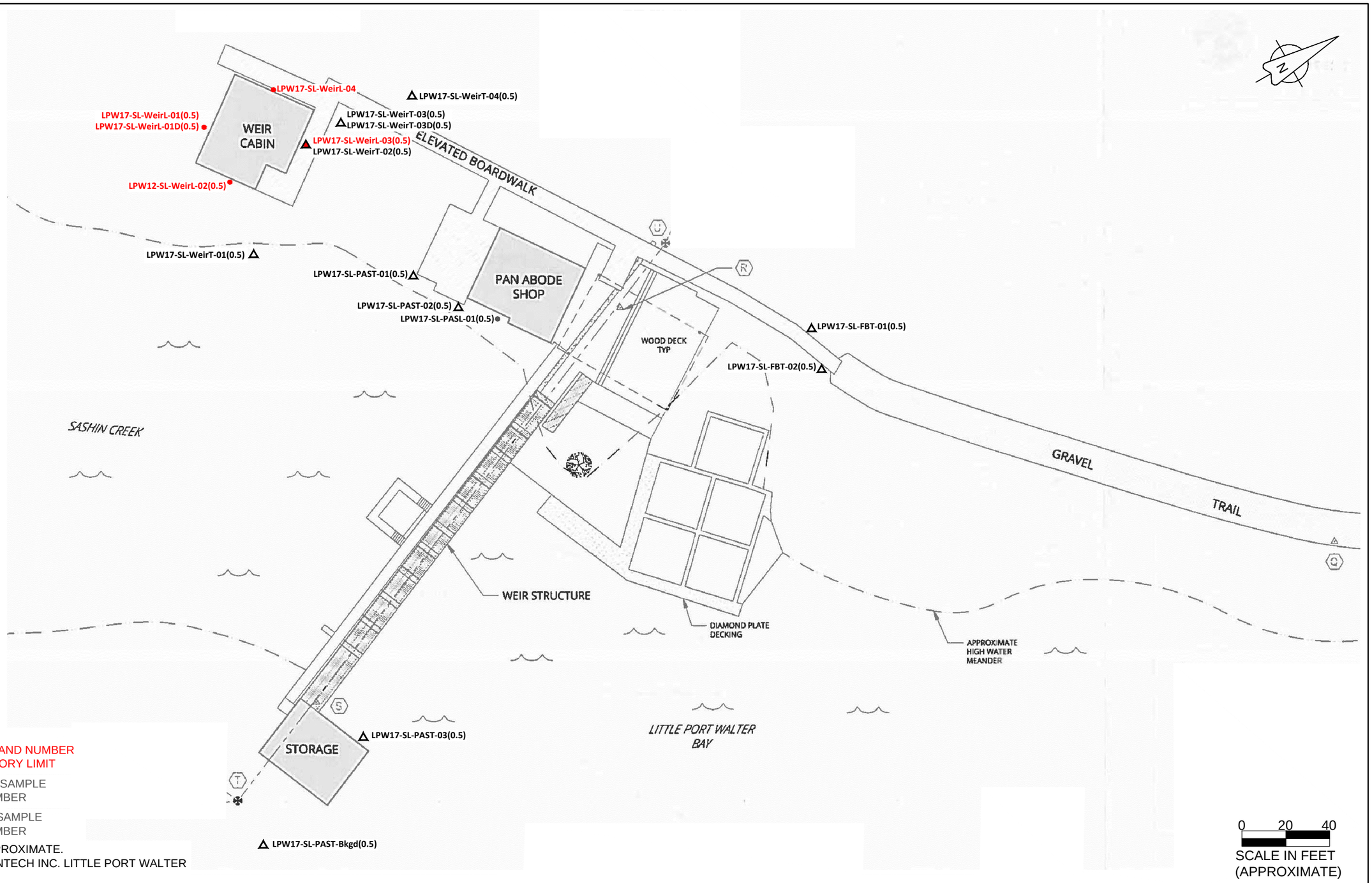

KEY:

- ● SAMPLE LOCATION AND NUMBER EXCEEDS REGULATORY LIMIT
- ● LEAD BASED PAINT SAMPLE LOCATION AND NUMBER
- △ TREATED LUMBER SAMPLE LOCATION AND NUMBER

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGE SOURCE: LGC LANTECH INC. LITTLE PORT WALTER SHEET 1 FROM 10/11/14.

0 20 40
SCALE IN FEET
(APPROXIMATE)

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

Ahtna Environmental, Inc.

LEAD BASED PAINT AND TREATED LUMBER SOIL INVESTIGATION RESULTS- SHEET 1

Project Number: 05150.03	Figure Number: 3
Date: 06.20.2017	
Drawn By: G.R.	

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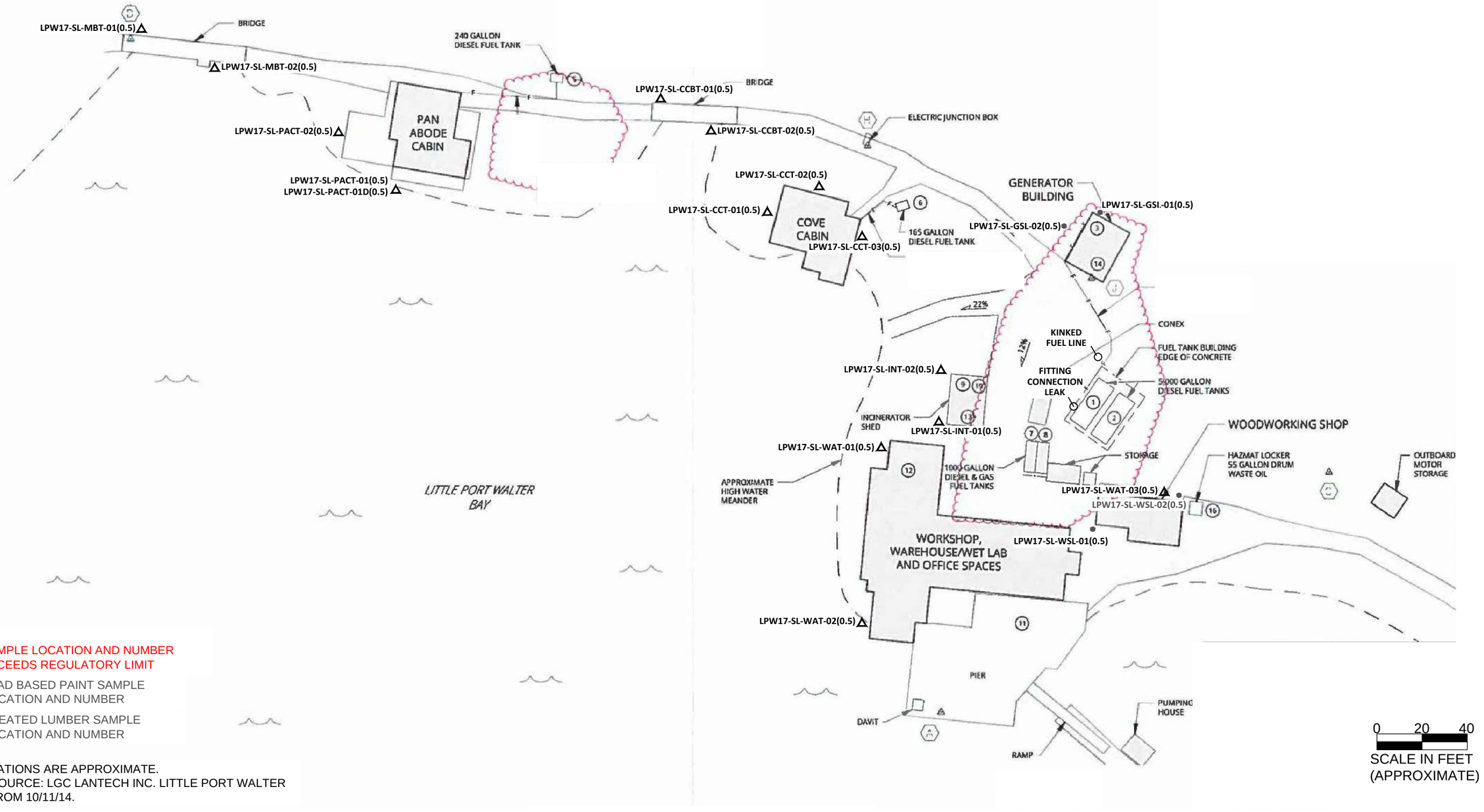

KEY:

- ● SAMPLE LOCATION AND NUMBER EXCEEDS REGULATORY LIMIT
- ● LEAD BASED PAINT SAMPLE LOCATION AND NUMBER
- △ TREATED LUMBER SAMPLE LOCATION AND NUMBER

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGE SOURCE: LGC LANTECH INC. LITTLE PORT WALTER SHEET 3 FROM 10/11/14.

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

LEAD BASED PAINT AND TREATED LUMBER SOIL INVESTIGATION RESULTS - SHEET 2

Ahtna Environmental, Inc.

Project Number: 05150.03	Figure Number: 4
Date: 06.21.2017	
Drawn By: G.R.	

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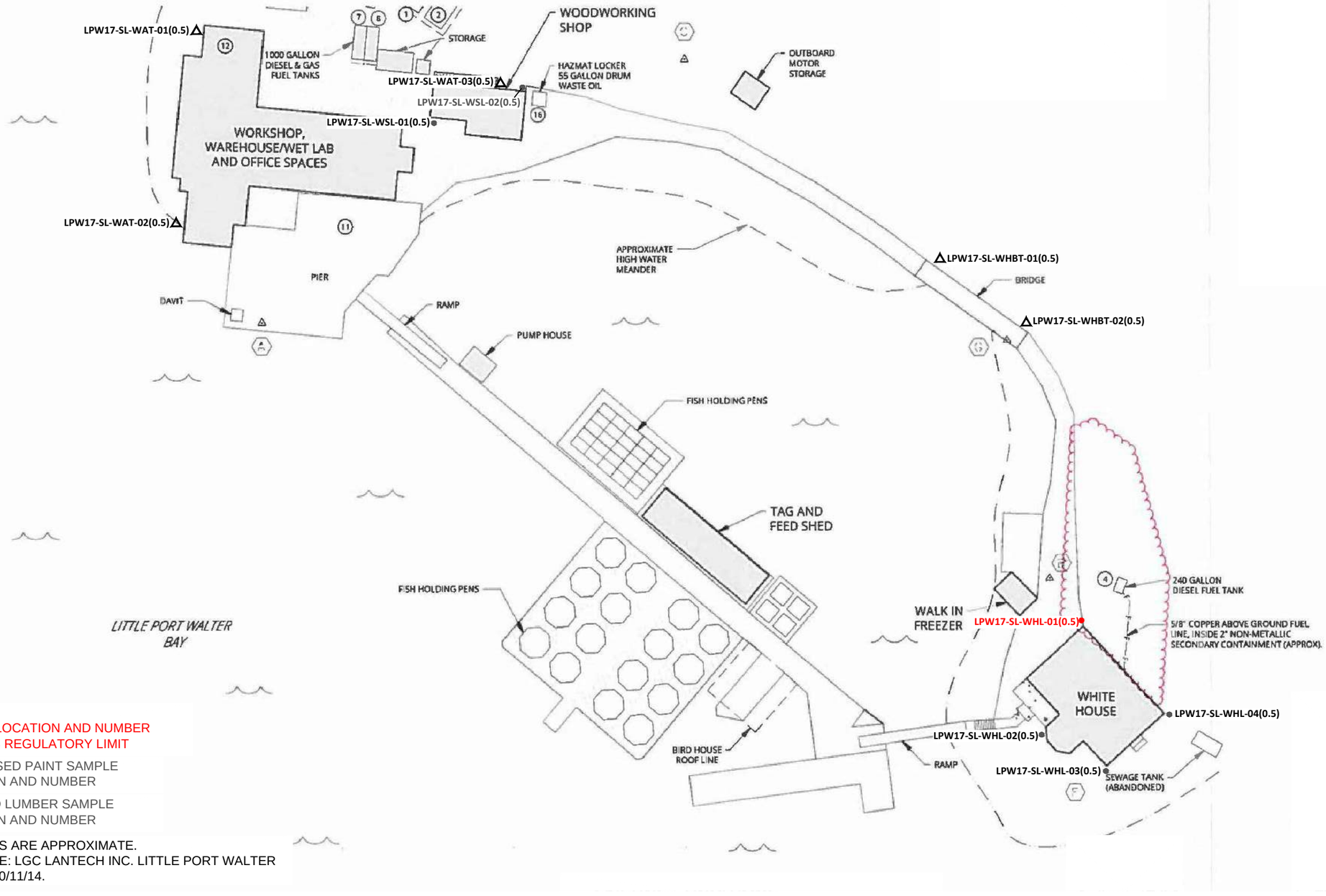

KEY:

- ● SAMPLE LOCATION AND NUMBER EXCEEDS REGULATORY LIMIT
- ● LEAD BASED PAINT SAMPLE LOCATION AND NUMBER
- △ TREATED LUMBER SAMPLE LOCATION AND NUMBER

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGE SOURCE: LGC LANTECH INC. LITTLE PORT WALTER SHEET 3 FROM 10/11/14.

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

Ahtna Environmental, Inc.

LEAD BASED PAINT AND TREATED LUMBER SOIL INVESTIGATION RESULTS - SHEET 3

Project Number: 05150.03	Figure Number: 5
Date: 06.20.2017	
Drawn By: G.R.	

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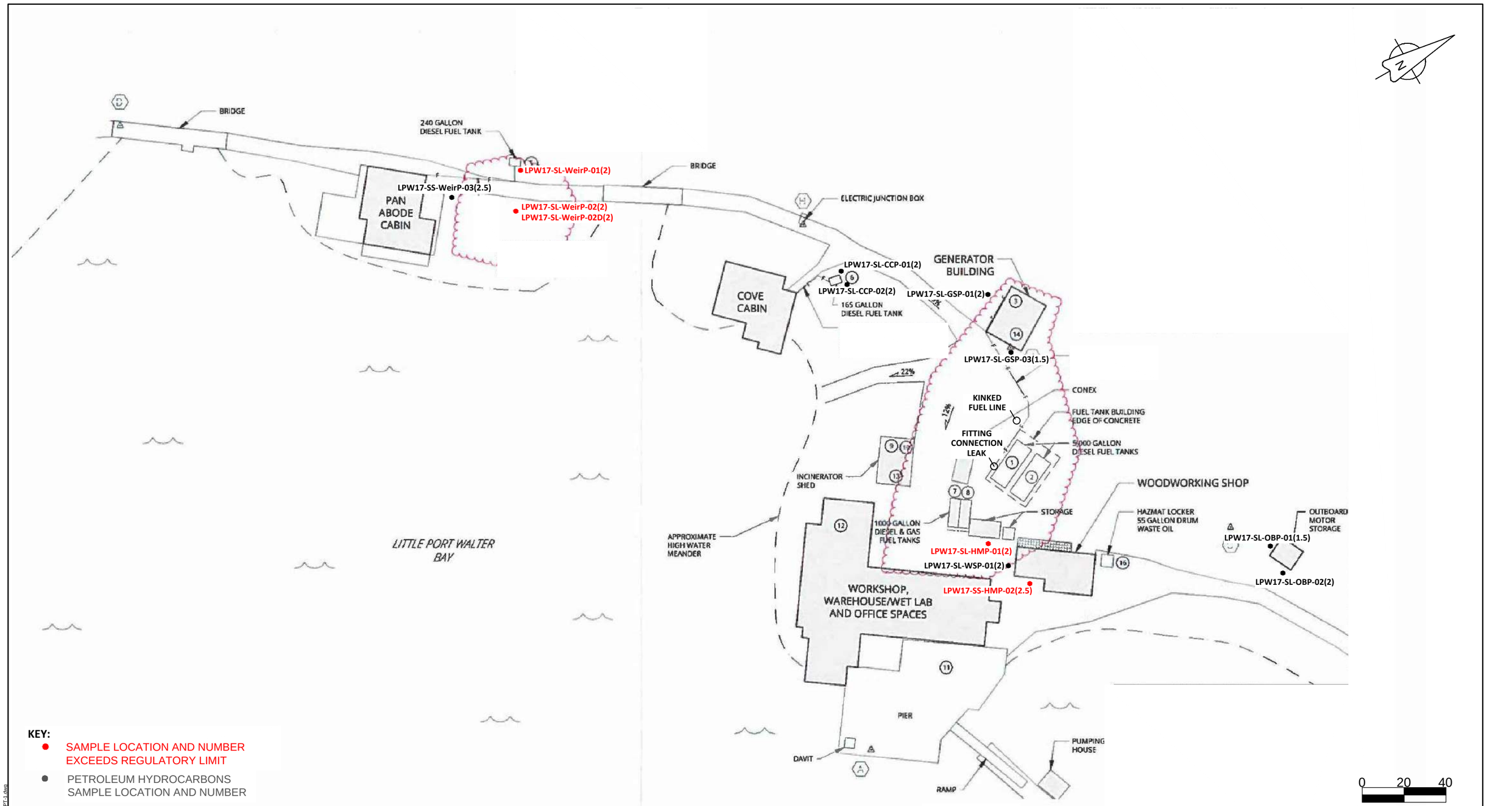

KEY:

- SAMPLE LOCATION AND NUMBER EXCEEDS REGULATORY LIMIT
- PETROLEUM HYDROCARBONS SAMPLE LOCATION AND NUMBER

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGE SOURCE: LGC LANTECH INC. LITTLE PORT WALTER SHEET 3 FROM 10/11/14.

0 20 40
SCALE IN FEET (APPROXIMATE)

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

PETROLEUM HYDROCARBON SOIL INVESTIGATION RESULTS
SHEET 2

Ahtna Environmental, Inc.

Project Number: 05150.03	Figure Number: 6
Date: 06.21.2017	
Drawn By: G.R.	

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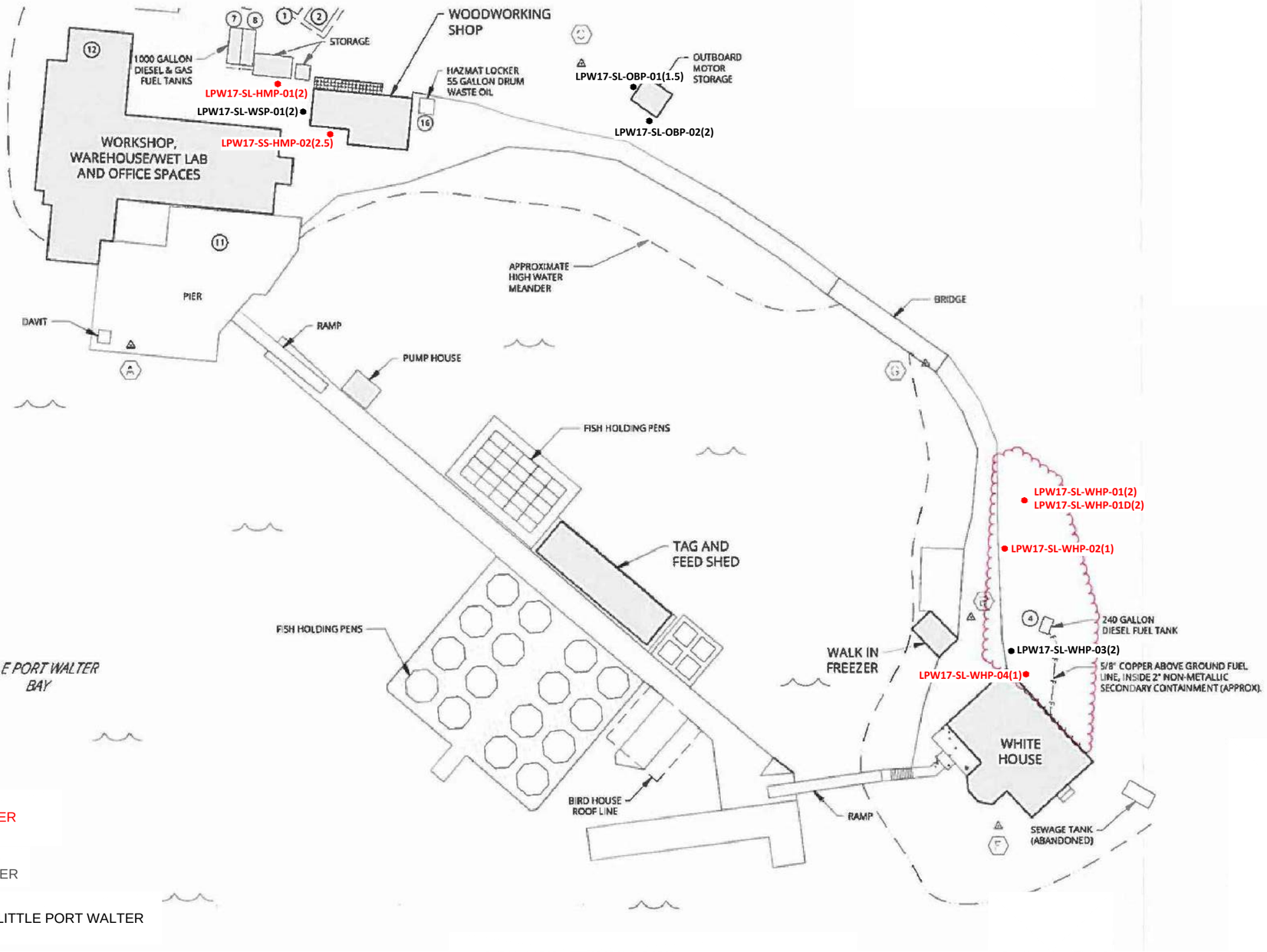

KEY:

- SAMPLE LOCATION AND NUMBER EXCEEDS REGULATORY LIMIT
- PETROLEUM HYDROCARBONS SAMPLE LOCATION AND NUMBER

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGE SOURCE: LGC LANTECH INC. LITTLE PORT WALTER SHEET 3 FROM 10/11/14.

0 20 40

SCALE IN FEET (APPROXIMATE)

LITTLE PORT WALTER ENVIRONMENTAL LIABILITIES EVALUATION
LITTLE PORT WALTER, AK

Ahtna Environmental, Inc.

PETROLEUM HYDROCARBON SOIL INVESTIGATION RESULTS
SHEET 3

Project Number:	Figure Number:
05150.03	7
Date: 06.20.2017	
Drawn By: G.R.	

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HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Little Port Walter

Completed By: A. Pennino

Date Completed: 6/26/2017

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1)

Check the media that could be directly affected by the release.

(2)

For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.

(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.*

(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

Media	Transport Mechanisms	Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ Surface Soil (0-2 ft bgs)	☑ Direct release to surface soil — check soil ☑ Migration to subsurface — check soil ☑ Migration to groundwater — check groundwater ☑ Volatilization — check air ☑ Runoff or erosion — check surface water ☑ Uptake by plants or animals — check biota ☐ Other (list):	☑ soil	☑ Incidental Soil Ingestion	C/F	C/F	C/F	C/F			
			☑ Dermal Absorption of Contaminants from Soil	C/F	C/F	C/F	C/F			
			☐ Inhalation of Fugitive Dust							
☑ Subsurface Soil (2-15 ft bgs)	☑ Direct release to subsurface soil — check soil ☑ Migration to groundwater — check groundwater ☑ Volatilization — check air ☑ Uptake by plants or animals — check biota ☐ Other (list):	☑ groundwater	☑ Ingestion of Groundwater	C/F	C/F	C/F	C/F			
			☑ Dermal Absorption of Contaminants in Groundwater	C/F	C/F	C/F	C/F			
			☐ Inhalation of Volatile Compounds in Tap Water							
☑ Ground-water	☑ Direct release to groundwater — check groundwater ☐ Volatilization — check air ☑ Flow to surface water body — check surface water ☑ Flow to sediment — check sediment ☑ Uptake by plants or animals — check biota ☐ Other (list):	☑ air	☑ Inhalation of Outdoor Air	C/F	C/F	C/F	C/F			
			☐ Inhalation of Indoor Air							
			☑ Inhalation of Fugitive Dust	C/F	C/F	C/F	C/F			
☑ Surface Water	☑ Direct release to surface water — check surface water ☐ Volatilization — check air ☑ Sedimentation — check sediment ☑ Uptake by plants or animals — check biota ☐ Other (list):	☑ surface water	☑ Ingestion of Surface Water	C/F	C/F	C/F	C/F			
			☑ Dermal Absorption of Contaminants in Surface Water	C/F	C/F	C/F	C/F			
			☐ Inhalation of Volatile Compounds in Tap Water							
☑ Sediment	☑ Direct release to sediment — check sediment ☑ Resuspension, runoff, or erosion — check surface water ☑ Uptake by plants or animals — check biota ☐ Other (list):	☑ sediment	☑ Direct Contact with Sediment	C/F	C/F	C/F	C/F			
		☑ biota	☑ Ingestion of Wild or Farmed Foods	C/F	I	I	I			

Revised, 10/01/2010

Print Form

Human Health Conceptual Site Model
Scoping Form and Standardized Graphic

Site Name: NOAA Little Port Walter Hatchery

File Number: 1523.38.0002

Completed by: Ahtna Environmental Inc, A. Pennino

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☐ USTs
- ☒ ASTs
- ☒ Dispensers/fuel loading racks
- ☐ Drums
- ☐ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☒ Other: Shallow buried fuel line, lead based paint, wood preservation

Release Mechanisms *(check potential release mechanisms at the site)*

- ☒ Spills
- ☒ Leaks
- ☐ Direct discharge
- ☐ Burning
- ☐ Other:

Impacted Media *(check potentially-impacted media at the site)*

- ☒ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☒ Air
- ☒ Sediment
- ☒ Groundwater
- ☒ Surface water
- ☒ Biota
- ☐ Other:

Receptors *(check receptors that could be affected by contamination at the site)*

- ☒ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☒ Trespasser
- ☐ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☒

If the box is checked, label this pathway complete: Complete

Comments:

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☒

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the ground-water is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future? ☒

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities). ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods? ☒

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)? ☒

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.) ☒

If all of the boxes are checked, label this pathway complete: Complete

Comments:

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Are the contaminants in soil volatile (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☐

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Incomplete

Comments:

Soil results from the May 2017 sampling show that soil concentrations are lower than action levels for the individuals contaminants.

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Drinking water is provided to the LPW Research Station from surface water from Sashin Creek located up-gradient from the site. Therefore, the inhalation of volatile compounds in tap water is not considered a complete pathway for potential contamination from the site.

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

The suspected COPCs at the LPW site include nonvolatile contaminants in the top 2 centimeters of soil. It is unknown whether dust particles less than 10 micrometers in diameter are present at a level sufficient to be considered a nuisance. Therefore, the inhalation of fugitive dust exposure pathway is considered complete.

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☒

Comments:

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

This form was updated with soil sampling results from the May 2017 site visit.

APPENDIX A

FIELD NOTES

Little Port Walter Contacts

Site Manager (907) 723-4457 Larry Sevilla [VH channel 82]

~~AFSC Safety Officer (206) 526-4165 Jim Matchous~~

~~Facility Manager~~ (907) 789-6632 / (907) 723-4506 John Cooper **[COR]**

~~COR~~ (206) 526-4165 / (301) 385-0125 Richard Koster **[SECO/Ahtna onsite escort]**

USCG Command Center (Fire + Search + Rescue) (907) 463-2000 / (907) 271-6769

Ward Air (907) 789-9150

ITT Environmental
4201 B St.
Anchorage, Ak 99503
(907) 770-9041

Geotech Environmental Equipment, Inc.
8910 122nd Ave
Kirkland, WA 98188
(425) 968-5384 / (360) 908-3982

Test America Laboratory, Inc
5755 8th St. East
Tacoma, WA 98424
(253) 248-4972
Elaine Walker / Kim Presley

EMSL Seattle
3317 3rd Ave S #D
Seattle, WA 98134
(206) 269-6310

White Environmental Consultants
383 Industrial Way #3
Anchorage, Ak 99501
(907) 258-8661

NVL Laboratories, Inc.
4708 Aurora Ave N
Seattle, WA 98103
(206) 547-0100

Warehouse
16214 57th Ave E #E
Puyallup, WA 98375

LPW

0700 Nick, Marsh + Kate met in lobby of Best Western to discuss project

0745 Dropped gear at Ward Air, met up with Rich Kolar (NOAA)

Picked up remaining field supplies

0900 Went to Alaska Sea Plane to pick up PID from Ak office
- unable to locate
- located PID in Hvna (sp) - another Alaska town
→ told to come back at 11am

1030 Checked in at Alaska Sea Plane
- fire at Hvna airport, flights delayed until 1:30pm or so

Akitna discussed with NOAA to use PID w/out cal gas that was already onsite
- Fresh Air calibration will be used
- Deviation will be noted in report

1100 Finalized packing / paperwork at Ward Air

1130 Took off in Super Otter to LPW - 1hr 15min travel time

1230 Circled LPW to collect photos
Landed
Met staff and unloaded gear
Toured white house

1515 Met with Brad (NOAA) for history lesson and tour
* Health and Safety Mtg → Brad, Rich, Marsh, Nick, Kate

1545 Akitna went through sample coolers and equipment
- incorrect jars arrived; 30 MeOH 40mL vials instead of 30 MeOH 4oz jars
→ deviation in sampling procedure will be noted in report

1700 Akitna + NOAA packed up gear and headed to Weir cabin to performed LBP survey and ACM review

5/2/17

Weir Cabin - LBP, XRF

LBW17-LBP-Weir-01

1733 (1) White exterior trim — 8 mg/cm² — (sampled 1820) → N side
(2) White exterior window sill — 3.8 mg/cm²
(3) green exterior shingles — 0.0 mg/cm²
(4) blue exterior shingles — 0.24 mg/cm²
(5) white exterior window sash — 5.1 mg/cm²
(6) grey exterior window sash — 1.8 mg/cm² (layer below white) ~~1745~~
(7) White semi-exterior door — 3.9 mg/cm² (sampled 1830) LBW17-LBP-Weir-03
(8) indoor window sill green — 0.04 mg/cm² LBW17-LBP-Wein-02
(9) indoor door frame green — 5.1 mg/cm² (sampled 1825)
(10) indoor walls white thick 0.12 mg/cm²
(11) indoor poles green 0.11 mg/cm²
(12) indoor grey base floor 0.04 mg/cm²
(13) indoor ~~white~~ grey ceiling 0.04 mg/cm²
(14) indoor green cabinets 0.13 mg/cm²
(15) indoor walls white thin 0.65 mg/cm²
(16) upstairs window trim white 5.1 mg/cm²
(17) upstairs ceiling green 0.03 mg/cm²
(18) upstairs floor grey 0.12 mg/cm²

(19) Wood pike (white paint chips) behind weir on stream side — Sample: LBW17-LBP-Weir 04 1835
- too wet to XRF

ACM - weir cabin

1820 window putty - New sample
1825 base CHB - existing from report

Pan Abode Shop - 1840

White interior painted benches 0.00
S-E benches

Pan Abode Cabin - 1845

(1) interior (laundry) grey flooring 0.0
(2) interior (laundry) white wood walls 0.03
(3) interior (laundry) white smooth walls 0.0
(4) interior (laundry) white window trim 0.0
(5) exterior beige pillar, soffit, under roof eve 0.0
(6) exterior electrical closet grey floor 0.0

Generator Bldg

light green interior siding 0.0
green Skids/generator 0.12 / 0.03
green roof N/A - same paint as generator

Storage Fuel Tank

red/brown pole 0.0
upstairs interior white walls 0.0
upstairs interior painted grey floor 0.0

Outboard motor Storage

exterior green doors 0.0

Flammable Shed large

exterior green 0.0
interior white 0.0

Flammable Shed small

Exterior green 0.0

Incinerator Shed
No new painted structures

Woodshop
~~green trim in entire pile on corner~~
interior upstairs white walls

Woodworking / Metal Shop
exterior green trim 0.0
exterior white walls horizontal 0.11
interior green lower 0.0
interior white walls 0.02
small patch interior of green 0.28

Pump House
exterior green window trim 0.02

Tag and Feed Shed
interior white walls (upper) 0.0
interior brown walls (lower) 0.0
interior door trim brown 0.0

Outdoor Boat Barn
green poles 0.0
white near roof 1.4
-grey deck 0.0

Walk In Freezer
interior/exterior white paint 0.0

White House

exterior white boards plank 0.0
exterior white corner boards 0.0
interior brown trim 1.8 - Sample LPW17-LBP-WH-04 5/9 0945
interior white walls 0.0
Brown painted cement at baseboard in kitchen 0.03
lt green kitchen door 0.00
3rd Fl. blue members only door 0.7
2nd Fl orange inside linen closet 0.7 5/9 0930
Stairway ceiling trim (white) 2.1 Sample - LPW17-LBP-WH-01
interior grey cabinet Stairway outside kitchen 1.4
green baseboard outside kitchen 2.1 5/9 0935 Sample - LPW17-LBP-WH-02

replace board ~~landing~~ 0.02
Safe 0.0
orange chimney opening (landing) 3.0
- Sample LPW17-LBP-WH-03 5/9 09
Closet w/ fridge outside kitchen
- interior closet white paint 1.3
- Sample LPW17-LBP-WH-05 5/9

5/7

Pan Abode Cabin - tank

01: grey layer of clumpy soil
mud silt
Sandy loam
PID 13.3 / mud odor
depth 22in
Sample LPW17-SL-WellT-01(2) @0930

LL VOC freezer: In 5/7 1018
Out 5/9 0600

02: found same grey layer
Sandy loam, brown top layer
mud odor
PID 10.7
depth: 24in
QA Sample: ~~LPW17-SL-WellT~~

03: high odor on first scoop
mix grey layer
Sandy loam
PID 6.9
depth: 24in
Sample: LPW17-SL-WellT-02(2) @0940
duplicate: LPW17-SL-WellT-02D(2) @0940

LL VOC freezer: In 5/7 1018
Out 5/9 0600

04 no odor, Sandy loam
brown silt to sandy loam
PID 0.7
depth: 31in
Sample: LPW17-SS-WellT-03(2) @1000

LL VOC freezer: In 5/7 1018

Cook Cabin

Diesel tank
- unable to sample cabin side of tank

CC01
med brown, higher sand concentration, high organics
2ft depth, no odor
PID: 0.01
Sample: LPW17-SL-CCT-01(2) @ 1050

LL VOC freezer: IN 5/7 1127
OUT 5/9 0600

CC02
med brown higher silt/sand conc. / high organics
2in depth, no odor
PID: 0.00
Sample: LPW17-SL-CCT-02(2) @ 1100

Generator Shed

Gen 01:
dark brown/black - topsoil-esc
higher silt content
PID 0.00
depth: 18in, no odor
Sample: LPW17-SL-GST-01(2) @ 1305

LL VOC freezer: IN 5/7 1320
OUT 5/9 0600

Gen 02:
didn't make it thru gravel until caught fuel line
- kinked hose, did not break
- pulled fitting from wall
→ details on next page

Generator Shed - spill/leak report-

- 1130 approximated utility line locations from knowledge of onsite staff and assumption of lines run straight exiting a structure and entering the next.

- Excavator was used with spotter approximately 3 ft off suspected line
  - Dug 4-6inches in gravel before catching blue fuel line running from 5,000 gallon tanks to generator shed.
  - Did not puncture line, only kinked

- Pull on line caused failure of fitting connected blue line to metal pipe attached to bldg
  - 5 seconds elapsed before operator was able leave cab and place gloved hand over small leak to reduce flow
  - Within a few min a spill kit was used to soak up as much fuel as possible

Gen 03-

PID 0.0

Sample: LPW17-SL-GST-03(1.5) @ 1530

Depth 1.5'

LL VOC freezer: IN 5/7 1610
Out 5/9 0600

Workshop

WS 01-

PID 0.0

Depth - 2'

Sample: LPW17-SL-WST-01(2) @1555

LL VOC freezer: IN 5/7 1610
5/9 0600

HazMat Shed

Haz 01-

PID 0.0

Depth (2)

Sample: LPW17-SL-HMT-01(2) @ 1545

LL VOC freezer: IN 5/7 1610
Out 5/9 0600

Haz 02-

PID 0.0

Depth (2.5)

Sample - LPW17-SL-HMT-02(2.5) @ 1630

LL VOC freezer: IN 5/7 1700
Out 5/9 0600

Outboard Motor Shed

OB 01-

PID: 0.0

Depth (1.5)

Sample: LPW17-SL-OBT-01 (1.5) @ 1635

LL VOC freezer: IN 5/7 1700
Out 5/9 0600

OB 02-

PID 0.0
Depth (2)
~~found conduit in hole used shovels~~
Sample: LPW17-SL-OBT-02(2)@1645 P ✓

LL VOC freezer: IN 5/7 1700
Out 5/9 0600

White House
WH 01-

Former diesel tank location

PID 0.0
Depth (2) (bedrock)
Sample: LPW17-SL-WHT-01(2)@1750 P

LL VOC freezer: IN 5/7 1835
Out 5/9 0600

WH 01 D
Sample: LPW17-SL-WHT-01D(2)@1750 P

LL VOC freezer: IN 5/7 1835
Out 5/9 0600

WH 02 -

Along Path, down gradient from former tank
PID 0.0
Depth ~~1.5~~ 1.0 (bedrock)
Sample: LPW17-SL-WHT-02(1)@1810 P

LL VOC freezer: IN 5/7 1835
Out 5/9 0600

WH03 -

Below, down gradient of current tank
PID 0.0
Depth 1.0 (bedrock)
Sample: LPW17-SL-WHT-03(1)@1815 P ✓

LL VOC freezer: IN 5/7 1835
Out 5/9 0600

WH 04-

PID 0.0
Depth 1.0 (bedrock)
Sample: LPW17-SL-WHT-04(1)@1820 P

LL VOC freezer: IN 5/7 1835
Out 5/9 0600

Background Samples

Between Ron Abode Cabin and Weir along side of path
Sample - LPW17-Bkgd-Weir-01(1.5) @ 2000
Depth 1.5 (bedrock)

Shoreside of White House, near flag pole
Depth 1.0 (bedrock)
Sample: LPW17-Bkgd-WH-02(1) @ 2010

Health + Safety Mtg
Calibrated XRF

518

Weir

W side: Sample LPW17-SL-WeirL-01(0.5) @ 0905
duplicate LPW17-SL-WeirL-01D (0.5) @ 0905

S side: Sample LPW17-SL-WeirL-02(0.5) @ 0908

E side: Sample LPW17-SL-WeirL-03(0.5) @ 0915

NE side: Sample LPW17-SL-WeirL-04(0.5) @ 0918

Pb

SSide: Sample LPW17-SL-WeirT-01(0.5) @ 0911

E side: Sample LPW17-SL-WeirT-02(0.5) @ 0920

NE corner: Sample LPW17-SL-WeirT-03(0.5) @ 0922
Duplicate LPW17-SL-WeirT-03D(0.5) @ 0922

N side (upstream/access bridge): Sample LPW17-SL-WeirT-04 @ 0926

As, Cr, Cu

Pan Abode Shop

S side: Sample LPW17-SL-PASL-01 (0.5) @ 0945 — Pb

SW corner deck: Sample LPW17-SL-PAST-01 (0.5) @ 0938

SW corner house: Sample LPW17-SL-PAST-02 (0.5) @ 0942

Storage: Sample LPW17-SL-PAST-03 (0.5) @ 1007

Background: Sample LPW17-SL-PAST-~~blebl~~ bkgd (0.5) @ 0956

— As, Cr, Cu

Far Bridge

N side: sample LPW17-SL-FBT-01 (0.5) @ 1016

S side: Sample LPW17-SL-FBT-02 (0.5) @ 1019

As, Cr, Cu

Middle Bridge

N side: Sample LPW17-SL-MBT-01 (0.5) @ 1028

S side: Sample LPW17-SL-MBT-02 (0.5) @ 1031

As, Cr, Cu

Pan Abode Cabin

S side: Sample LPW17-SL-PACT-01 (0.5) @ 1039

duplicate LPW17-SL-PACT-01D (0.5) @ 1039

W side: Sample LPW17-SL-PACT-02 (0.5) @ 1044

As, Cr, Cu

Cove Cabin Bridge

S side: sample LPW17-SL-CCBT-01 (0.5) @ 1055

NW side: Sample LPW17-SL-CCBT-02 (0.5) @ 1100

As, Cr, Cu

Cove Cabin - LBP

White walls and ceiling in mud room 0.0
window sill in mud room (white) 0.0
white door frame to kitchen 0.0
blue walls kitchen 0.0
white walls living room/bedroom 0.0

W side: Sample LPW17-SL-CCL-01(0.5) @ 1108] Pb

W side: Sample LPW17-SL-CCT-02 (0.5) @ 1110
N side: Sample LPW17-SL-CCT-03 (0.5) @ 1140
E side: Sample LPW17-SL-CCT-04 (0.5) @ 1145
] As, Cr, Cu

Generator Shed

N side: Sample LPW17-SL-GSL-01 (0.5) @ 1203
W side: Sample LPW17-SL-GSL-02 (0.5) @ 1206
] Pb

Incinerator

SW side: Sample LPW17-SL-INT-01 (0.5) @ 1212
NE side: Sample LPW17-SL-INT-02 (0.5) @ 1216
] As, Cr, Cu

Warehouse

NW corner: Sample LPW17-SL-WAT-01 (0.5) @ 1218
SW corner: Sample LPW17-SL-WAT-02 (0.5) @ 1220
] As, Cr, Cu

Workshop

SW Corner: Sample LPW17-SL-WSL-01 (0.5) @ 1232
NE side/corner: Sample LPW17-SL-WSL-02 (0.5) @ 1242
N side: Sample LPW17-SL-WSL-03 (0.5) @ 1245

Pb

White House Bridge

NE side: Sample LPW17-SL-WHBT-01 (0.5) @ 1250
NW side: Sample LPW17-SL-WHBT-02 (0.5) @ 1253

As, Cr, Cu

White House Deck

SW side: Sample LPW17-SL-WHDT-01 (0.5) @ 1300
S. Side: Sample LPW17-SL-WHDT-02 (0.5) @ 1304
duplicate LPW17-SL-WHDT-02D (0.5) @ 1309

As, Cr, Cu

White House

W corner: Sample LPW17-SL-WHL-01 (0.5) @ 1312
S corner: Sample LPW17-SL-WHL-02 (0.5) @ 1314
E corner: Sample LPW17-SL-WHL-03 (0.5) @ 1316
duplicate LPW17-SL-WHL-03D (0.5) @ 1316
N corner: sample LPW17-SL-WHL-04 (0.5) @ 1318

Pb

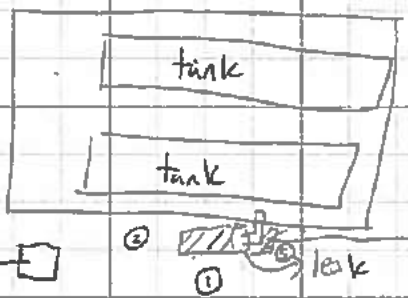
Diesel Leak Re-Investigation

Walked site, weather not raining

Notice/observed Sheen along the west side of the generator shelf
- unrelated to incident on 5/7/17

Sample collected: LFW17-SL-GST-W-01 @ 1540 — LL VOC Freezer: IN 5/8 1650 Out 5/9 0600

location ~~19'5"~~ 19'5" from SW corner under drip line



① Sample collected 2' west @ 1555
LFW17-SL-GST-Leak01 @ ~~1620~~

② Sample collected 3' North
LFW17-SL-GST-Leak02@1605 hose kink

③ Sample collected 2' South @ ~~1620~~
LFW17-SL-GST-Leak03@1620 LL VOC Freezer: IN 5/8 1650
Out 5/9 0600

Mercury Monitoring

Calibrated Jerome 405 for 45min warm-up

collected 3 air samples from Wet Lab, used drill to make mini hole and create dust. Dust kept in by plastic bottle until sampled

1) NW corner 0.00mg/m³ 1635

2) SW corner 0.00 mg/m³ 1640

3) SE Side 0.00mg/m³ 1645

5/9/17

White House ACM Sampling

PCM

- LPW17-AS-WH-01
  Brown cove base - throughout

- LPW17-AS-WH-02
  White cove base - 1st floor galley

- LPW17-AS-WH-03
  Stair treads - 1st, 2nd and 3rd floors, ~~product is different from 2nd floor~~

- LPW17-AS-WH-04
  12x12" ceiling tiles - throughout 1st and 3rd floors, product is different from 2nd floor ceiling tiles

- LPW17-AS-WH-05
  Drywall - 1st floor north hallway

- LPW17-AS-WH-06
  Drywall - downstairs bath, 1st floor

- LPW17-AS-WH-07
  Stairwells (all) - Drywall

- LPW17-AS-WH-08
  2nd floor galley - Drywall

- ~~LPW17-AS-WH-09~~
  ~~Window Putty - original?~~

- LPW17-AS-WH-09
  White linoleum - galley

- LPW17-AS-WH-10
  Red linoleum - 1st floor toilet

LPW17-AS-Weir-01
Window Putty - original?, south side weir cabin

Ahtna Daily Field Construction Report

Project #:	05150	Date:	5/6/17		
Project Title:	LPW	Contract #:			
Site Address:	NA	Superintendent:			
Weather Classification		Classification or Other:			
(CLASS A)	No interruptions of any kind from weather conditions occurring on this or previous shifts				
CLASS B	Weather occurred during this shift that caused a complete stoppage of all work.				
CLASS C	Weather occurred during this shift that caused a partial stoppage of work.				
CLASS D	Weather was good during shift. Work completely stopped due to previous weather effects.				
CLASS E	Weather was good during shift. Work partially stopped due to previous weather effects.				
Explain if Other:					
Temperature (F):		Precipitation (in):		High Windspeed (MPH):	

Ahtna Personnel on Site (List Names / Title Below)	Start Time	Finish Time	2nd Start	2nd Finish
Kate Cleveland	0700	1900		
Marsh McComb	0700	1900		
Nick Peck	0700	1900		

Equipment on Site	Start Time	Finish Time	Equipment on Site	Start Time	Finish Time
NA					

Ahtna Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

ACM survey review - sample collection
LBP investigation - sample collection

Charter flight in

Subcontractor Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

Subcontractor:		# of Employees:		
Subcontractor:		# of Employees:		
Subcontractor:		# of Employees:		

All Other Visitors:

Vendor Activities / Material Deliveries (Continue on Notes Sheet if Needed)

Deficiencies, Conflicts, Issues to be Resolved (Continue on Notes Sheet if Needed)

Short Term Look Ahead Activities (Continue on Notes Sheet if Needed)

Ahtna Superintendent Signature	Date	Client Representative Signature	Date
Kathryn Jean Cleveland	5/6/17		

Ahtna Daily Field Construction Report: Comments, Notes, & Calculations

Project Title:		Project #:		Date:	

Sketches (or use space for notes and additional note sheets as needed)

Ahtna Daily Field Construction Report

Project #:	05150	Date:	5/7/17		
Project Title:	LPW	Contract #:			
Site Address:	NA	Superintendent:			
Weather Classification		Classification or Other:			
CLASS A	No interruptions of any kind from weather conditions occurring on this or previous shifts				
CLASS B	Weather occurred during this shift that caused a complete stoppage of all work.				
CLASS C	Weather occurred during this shift that caused a partial stoppage of work.				
CLASS D	Weather was good during shift. Work completely stopped due to previous weather effects.				
CLASS E	Weather was good during shift. Work partially stopped due to previous weather effects.				
Explain if Other:	Heavy Rain - hindered work but did not stop				
Temperature (F):		Precipitation (in):		High Windspeed (MPH):	

Ahtna Personnel on Site (List Names / Title Below)	Start Time	Finish Time	2nd Start	2nd Finish
Kate Cleveland	0730	1300	1400	2100
Marsh McComb	0730	1300	1400	1900
Nick Peck	0730	1300	1400	1900

Equipment on Site	Start Time	Finish Time	Equipment on Site	Start Time	Finish Time
Case excavator (NOAA)	0900	1300			

Ahtna Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

TPH soil investigation - sample collection

Subcontractor Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

Subcontractor:		# of Employees:		
Subcontractor:		# of Employees:		
Subcontractor:		# of Employees:		
All Other Visitors:				

Vendor Activities / Material Deliveries (Continue on Notes Sheet if Needed)

Deficiencies, Conflicts, Issues to be Resolved (Continue on Notes Sheet if Needed)

Snagged fuel line near bulk fuel area and generator shed

Short Term Look Ahead Activities (Continue on Notes Sheet if Needed)

Ahtna Superintendent Signature	Date	Client Representative Signature	Date
Kathy J Cleveland	5/7/17		

Ahtna Daily Field Construction Report: Comments, Notes, & Calculations

Project Title:		Project #:		Date:	

Fuel Line Snag -

Excavator bucket caught fuel line and kinked. Caused small tear in flex fitting at bulk fuel tanks. Ahtna used spill kit to remove majority of lost fuel. Ahtna excavated 7 cubic feet of potentially impacted soil.

NOAA is informed and happy w/ temp fix

See full report for more details.

Sketches (or use space for notes and additional note sheets as needed)

Ahtna Daily Field Construction Report

Project #:	05150	**Date:**	5/8/17		
Project Title:	LPW	**Contract #:**			
Site Address:	NA	**Superintendent:**			
Weather Classification		**Classification or Other:**			

(CLASS A)	No interruptions of any kind from weather conditions occurring on this or previous shifts
~~CLASS B~~	Weather occurred during this shift that caused a complete stoppage of all work.
CLASS C	Weather occurred during this shift that caused a partial stoppage of work.
CLASS D	Weather was good during shift. Work completely stopped due to previous weather effects.
CLASS E	Weather was good during shift. Work partially stopped due to previous weather effects.

Explain if Other:

Temperature (F):		**Precipitation (in):**		**High Windspeed (MPH):**	

Ahtna Personnel on Site (List Names / Title Below)	**Start Time**	**Finish Time**	**2nd Start**	**2nd Finish**
Kate Cleveland	0800	1900		
Marsh McComb	0800	1900		
Nick Peck	0800	1900		

Equipment on Site	**Start Time**	**Finish Time**	**Equipment on Site**	**Start Time**	**Finish Time**
NA					

Ahtna Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

Mercury investigation - sampling
LBP soil collection
~~Asbs/LBP survey - final structure (WH)~~
TPH soil confirmation from Snag
~~Charter flight out~~

Subcontractor Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

Subcontractor:		**# of Employees:**		
Subcontractor:		**# of Employees:**		
Subcontractor:		**# of Employees:**		

All Other Visitors:

Vendor Activities / Material Deliveries (Continue on Notes Sheet if Needed)

Deficiencies, Conflicts, Issues to be Resolved (Continue on Notes Sheet if Needed)

See reverse side.

Short Term Look Ahead Activities (Continue on Notes Sheet if Needed)

Ahtna Superintendent Signature	**Date**	**Client Representative Signature**	**Date**
Kathryn J Cleveland	5/8/17		

Ahtna Daily Field Construction Report: Comments, Notes, & Calculations

Project Title:		Project #:		Date:	

Fuel Line Snag-
Collected additional samples surrounding leak site.

Sketches (or use space for notes and additional note sheets as needed)

Ahtna Daily Field Construction Report

Project #:	0515O	Date:	5/9/17		
Project Title:	LPW	Contract #:			
Site Address:	NA	Superintendent:			
Weather Classification		Classification or Other:			
CLASS A	No interruptions of any kind from weather conditions occurring on this or previous shifts				
CLASS B	Weather occurred during this shift that caused a complete stoppage of all work.				
CLASS C	Weather occurred during this shift that caused a partial stoppage of work.				
CLASS D	Weather was good during shift. Work completely stopped due to previous weather effects.				
CLASS E	Weather was good during shift. Work partially stopped due to previous weather effects.				
Explain if Other:					
Temperature (F):		Precipitation (in):		High Windspeed (MPH):	

Ahtna Personnel on Site (List Names / Title Below)	Start Time	Finish Time	2nd Start	2nd Finish
Kate Cleveland	0600	1700		
Marsh McComb	0700	1700		
Nick Peck	0800	1700		

Equipment on Site	Start Time	Finish Time	Equipment on Site	Start Time	Finish Time
NA					

Ahtna Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

ACM/LBP survey - final structure (WH)

Chuker flight out

Subcontractor Construction Activities, Inspections & Tests (Continue on Notes Sheet if Needed)

Subcontractor:		# of Employees:		
Subcontractor:		# of Employees:		
Subcontractor:		# of Employees:		
All Other Visitors:				

Vendor Activities / Material Deliveries (Continue on Notes Sheet if Needed)

Deficiencies, Conflicts, Issues to be Resolved (Continue on Notes Sheet if Needed)

Short Term Look Ahead Activities (Continue on Notes Sheet if Needed)

Ahtna Superintendent Signature	Date	Client Representative Signature	Date
Kathy J Cleveland	5/9/17		

Ahtna Daily Field Construction Report: Comments, Notes, & Calculations

Project Title:		Project #:		Date:	

Sketches (or use space for notes and additional note sheets as needed)

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APPENDIX B

PHOTO LOG

PHOTOGRAPHIC LOG

Figure 1. Aerial photo of LPW

Figure 2. Aerial photo of Weir Cabin and Pan Abode Shop

Figure 3. White House - residence

Figure 4. Weir Cabin - not currently in use

Figure 5. Pan Abode Cabin with pressure treated deck

Figure 6. Generator Shed and Bulk Fuel Tanks

Figure 7. HazMat Shed and Work/Metal Shop

Figure 8. Bridge constructed of pressure treated lumber

Figure 9. Interior of Weir Cabin

Figure 10. XRF result of LBP at Weir Cabin

Figure 11. ACM sample location of bathroom drywall in White House

Figure 12. Storage tank at Pan Abode Cabin with history of spill

Figure 13. TPH soil investigation at the Pan Abode Cabin

Figure 14. LBP and Treated Lumber soil sample along dripline of White House

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APPENDIX C

ANALYTICAL RESULTS TABLE

ANALYTICAL LABORATORY REPORTS

- TESTAMERICA LABORATORY RESULTS
- NVL LABORATORY RESULTS

(NOT PRINTED IN HARD COPIES)

Table C-1 Sample Collection Summary

Sample Location	Associated Field Screening	Specific Location/Description	Sample Number
Soil Treated Lumber Investigation Samples			
Pan Abode Storage Area, across river from shop		Background Sample	LPW17-SL-PAST-Bkgd(0.5)
Weir Cabin		South side	LPW17-SL-WeirT-01(0.5)
		East side	LPW17-SL-WeirT-02(0.5)
		Northeast corner with duplicate	LPW17-SL-WeirT-03(0.5) LPW17-SL-WeirT-03D(0.5)
		Upstream across bride on the north side	LPW17-SL-WeirT-04(0.5)
Pan Abode Shop and Storage		Southwest corner of the deck	LPW17-SL-PAST-01(0.5)
		Southwest corner of house	LPW17-SL-PAST-02(0.5)
		North side of Storage Area	LPW17-SL-PAST-03(0.5)
Pan Abode Shop and Cabin		North side	LPW17-SL-FBT-01(0.5)
Closest to Shop		South side	LPW17-SL-FBT-02(0.5)
Middle Bridge between Pan Abode Shop and Cabin (closest to cabin)		North side	LPW17-SL-MBT-01(0.5)
		South side	LPW17-SL-MBT-02(0.5)
Pan Abode Cabin		South side with duplicate	LPW17-SL-PACT-01(0.5) LPW17-SL-PACT-01D(0.5)
		West side	LPW17-SL-PACT-02(0.5)
Bridge between Pan Abode Cabin and the Cove Cabin		South side	LPW17-SL-CCBT-01(0.5)
		Northwest Side	LPW17-SL-CCBT-02(0.5)
Cove Cabin		West side	LPW17-SL-CCT-01(0.5)
		North side	LPW17-SL-CCT-02(0.5)[1]
		East side	LPW17-SL-CCT-03(0.5)[1]
Incinerator Shed		Southwest corner	LPW17-SL-INT-01(0.5)
		Northeast corner	LPW17-SL-INT-02(0.5)
Warehouse, under overhanging portion of dock		Northwest corner	LPW17-WAT-01(0.5)
		Southwest corer	LPW17-WAT-02(0.5)
White House Bridge		Northeast side	LPW17-SL-WHBT-01(0.5)
		Northwest side	LPW17-SL-WHBT-02(0.5)
White House Deck		Southwest side	LPW17-SL-WHDT-01(0.5)
		Southside	LPW17-SL-WHDT-02(0.5) LPW17-SL-WHDT-02D(0.5)

Table C-1 Sample Collection Summary

Sample Location	Associated Field Screening	Specific Location/Description	Sample Number
Lead Paint Chip Samples			
Weir Cabin	19	Exterior white trim	LPW17-LBP-Weir-01
		Interior green window sill	LPW17-LBP-Weir-02
		White door on semi-exterior porch	LPW17-LBP-Weir-03
		Wood pile south of cabin near shore	LPW17-LBP-Weir-04
Pan Abode Cabin	7	**XRF did not register for lead**	NA
Generator Shed, Bulk Tanks, and Materials Shed	9	**XRF did not register for lead**	NA
Incinerator Shed	No Painted Surfaces	NA	NA
Metal/Woodworking Shop	6	**XRF did not register for lead except very low value on interior lighter green painted in metal shop**	NA
Outboard Motor Shed, Pump House, Tag and Feed Shed, Boat Barn	8	**XRF did not register for lead except very low value on white paint near roof on Boat Barn**	NA
White House	15	White stairway ceiling trim	LPW17-LBP-WH-01
		Green baseboard outside kitchen	LPW17-LBP-WH-02
		Orange chimney opening near laundry and dryer area	LPW17-LBP-WH-03
		Brown interior trim	LPW17-LBP-WH-04
		White painted interior pantry/closet	LPW17-LBP-WH-05
Lead Soil Samples			
Weir Cabin		West side of cabin	LPW17-SL-WeirL-01(0.5)
		West side of cabin, duplicate	LPW17-SL-WeirL-01D(0.5)
		South side of cabin	LPW17-SL-WeirL-02(0.5)
		East side of cabin	LPW17-SL-WeirL-03(0.5)
		North side of cabin	LPW17-SL-WeirL-04(0.5)
Pan Abode Shop		Dripline south side of shop	LPW17-SL-PASL-01(0.5)
Cove Cabin		Dripline of west side of cabin	LPW17-SL-CCL-01(0.5).
Generator Shed		North side of shed	LPW17-SL-GSL-01(0.5)
		West side of shed	LPW17-SL-GSL-02(0.5)
Workshop and Office Bldg.		Southwest corner	LPW17-SL-WSL-01(0.5)
		Northeast side	LPW17-SL-WSL-02(0.5)
		North side	LPW17-SL-WSL-03(0.5)
White House		West corner	LPW17-SL-WHL-01(0.5)
		West corner	LPW17-SL-WHL-02(0.5)
		East corner with duplicate	LPW17-SL-WHL-02(0.5) LPW17-SL-WHL-03D(0.5)
		North corner	LPW17-SL-WHL-04(0.5)

Table C-1 Sample Collection Summary

Sample Location	Associated Field Screening	Specific Location/Description	Sample Number
Petroleum Hydrocarbon Samples			
Far west of Pan Abode Cabin and Weir		Background Sample (TOC, DRO, and RRO)	LPW17-Bkgd-Weir-01(1.5)[2]
East side of White House		Background Sample (TOC, DRO, and RRO)	LPW17-Bkgd-WH-02(1)[2]
Pan Abode Cabin (former leak location)		1st Test Pit - Immediately down-gradient of AST	LPW17-SL-WeirP-01(2)
		2nd Test Pit – 5' further down-gradient, similar conditions existed	No Sample Collected
		3rd Test Pit – 3' further down-gradient, 2' bgs	LPW17-SL-WeirP-02(2)
		Final Test Pit – 4' west of Test Pit 3, 2.5 bgs, no odor or staining	LPW17-SS-WeirP-03(2.5)
Cove Cabin		Within 5' of AST, 2' bgs, 2' Northwest tank corner	LPW17-SL-CCP-01(2)
		Within 5' of AST, 2' bgs, 2' Northeast tank corner	LPW17-SL-CCP-02(2)
Generator Shed, South Hill Side, Utility Corridor		West side, 2' bgs	LPW17-SL-GSP-01(2)
		Southside, no odor/staining, 1.5' bgs	LPW17-GSP-03(1.5)
Workshop, Storage, and Flammables Sheds		No odor, PID reading, nor visible staining	LPW17-SL-WSP-01(2)
Woodworking/Metal Shop		Southeast corner near Hazardous Material Shed	LPW17-SS-HMP-02(2.5)
		Southwest corner near Hazardous Material Shed	LPW17-SL-HMP-01(2)
Outboard Motor Shed		West side, no odor, PID reading, nor visible staining	LPW17-SL-OBP-01(1.5)
		South side, No odor, PID reading, nor visible staining	LPW17-SL-OBP-02(2)
White House		2' bgs from location of former tank, no odor, PID reading, nor staining	LPW17-SL-WHP-01(2)
		1' bgs 10 feet east (down-gradient) along path, no odor, PID reading, nor staining	LPW17-SL-WHP-02(1)
		South of current AST, no odor, PID reading, nor staining	LPW17-SL-WHP-03(1)
		East of current AST, no odor, PID reading, nor staining	LPW17-SL-WHP-04(1)

Table C-1 Sample Collection Summary

Sample Location	Associated Field Screening	Specific Location/Description	Sample Number
Soil/Treated Lumber Samples			
Pan Abode Storage Area, across river from shop		Background Sample	LPW17-SL-PAST-Bkgd(0.5)
Weir Cabin		South side	LPW17-SL-WeirT-01(0.5)
		East side	LPW17-SL-WeirT-02(0.5)
		Northeast corner with duplicate	LPW17-SL-WeirT-03(0.5) LPW17-SL-WeirT-03D(0.5)
		Upstream across bride on the north side	LPW17-SL-WeirT-04(0.5)
Pan Abode Shop and Storage		Southwest corner of the deck	LPW17-SL-PAST-01(0.5)
		Southwest corner of house	LPW17-SL-PAST-02(0.5)
		North side of Storage Area	LPW17-SL-PAST-03(0.5)
Pan Abode Shop and Cabin		North side	LPW17-SL-FBT-01(0.5)
Closest to Shop		South side	LPW17-SL-FBT-02(0.5)
Middle Bridge between Pan Abode Shop and Cabin (closest to cabin)		North side	LPW17-SL-MBT-01(0.5)
		South side	LPW17-SL-MBT-02(0.5)
Pan Abode Cabin		South side with duplicate	LPW17-SL-PACT-01(0.5) LPW17-SL-PACT-01D(0.5)
		West side	LPW17-SL-PACT-02(0.5)
Bridge between Pan Abode Cabin and the Cove Cabin		South side	LPW17-SL-CCBT-01(0.5)
		Northwest Side	LPW17-SL-CCBT-02(0.5)
Cove Cabin		West side	LPW17-SL-CCT-01(0.5)
		North side	LPW17-SL-CCT-02(0.5)[1]
		East side	LPW17-SL-CCT-03(0.5)[1]
Incinerator Shed		Southwest corner	LPW17-SL-INT-01(0.5)
		Northeast corner	LPW17-SL-INT-02(0.5)
Warehouse, under overhanging portion of dock		Northwest corner	LPW17-WAT-01(0.5)
		Southwest corer	LPW17-WAT-02(0.5)
White House Bridge		Northeast side	LPW17-SL-WHBT-01(0.5)
		Northwest side	LPW17-SL-WHBT-02(0.5)
White House Deck		Southwest side	LPW17-SL-WHDT-01(0.5)
		Southside	LPW17-SL-WHDT-02(0.5) LPW17-SL-WHDT-02D(0.5)

Notes:

[1]: Analytical report identified these samples as LPW17-SL-CCL-02(0.5) and LPW17-SL-CCL-03(0.5) respectively; correct sample numbers are located in the table above.

[2] GRO analysis was not run for this sample.

*Values in parenthesis are sample depths in feet bgs

**Duplicate samples are not noted in the table

AST = aboveground storage tank

DRO = diesel range organics

PID = photoionization detector

RRO = residual range organics

Table C-2 Lead-Based Paint Chip Analytical Results

Analysis / Sample ID	Lead (EPA 6020A) (mg/kg)
Weir Cabin Interior	
LPW17-LBP-Weir-01	**51000**
LPW17-LBP-Weir-02	**32000**
LPW17-LBP-Weir-03	**60000**
LPW17-LBP-Weir-04	39
White House Interior	
LPW17-LBP-WH-01	**8500**
LPW17-LBP-WH-02	**1100**
LPW17-LBP-WH-03	**78000**
LPW17-LBP-WH-04	**14000**
LPW17-LBP-WH-05	**54000**

Key:

1	Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone
2	Source of Target Levels: Appendix G*, Vapor Intrusion Guidance* , 2017.
Q	Estimated quantity due to quality control errors.
UJ	The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected
H	estimated detected result due to hold time error
ADEC	Alaska Department of Environmental Conservation
bgs	below ground surface
DRO	diesel range organics
GRO	gasoline range organics
mg/kg	milligrams per kilogram
ND	not detected at the reporting limit listed in parantheses
PAH	polycyclic aromatic hydrocarbons
VOC	volatile organic compounds
Bold	Result exceeded one of the cleanup criteria
Red	Result was not detected. Reporting limit was above cleanup criteria
-	not analyzed

Table C-3 Asbestos Analytical Infrastrure Results

Analysis / Sample ID	Asbestos (PLM)
Over 40 Inch Zone Ingestion/Human Health (mg/kg)	**8,250**
Groundwater Cleanup Levels (µg/L)	**1,500**
Weir Cabin	
LPW17-AS-Weir-01	ND
White House	
LPW17-AS-WH-01	ND
LPW17-AS-WH-02	ND
LPW17-AS-WH-03	ND
LPW17-AS-WH-04	ND
LPW17-AS-WH-05	ND
LPW17-AS-WH-06	ND
LPW17-AS-WH-07	ND
LPW17-AS-WH-08	ND
LPW17-AS-WH-09	ND
LPW17-AS-WH-10	ND

Key:

1	Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone
2	Source of Target Levels: Appendix G, *Vapor Intrusion Guidance* , 2017.
Q	Estimated quantity due to quality control errors.
UJ	The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected
H	estimated detected result due to hold time error
ADEC	Alaska Department of Environmental Conservation
bgs	below ground surface
DRO	diesel range organics
GRO	gasoline range organics
mg/kg	milligrams per kilogram
ND	not detected at the reporting limit listed in parantheses
PAH	polycyclic aromatic hydrocarbons
VOC	volatile organic compounds
Bold	Result exceeded one of the cleanup criteria
Red	Result was not detected. Reporting limit was above cleanup criteria
-	not analyzed

Table C-4 Petroleum Hydrocarbon and VOC Analytical Soil Results

Locations						Pan Abode Cabin								Generator Shed				Cove Cabin				Workshop	
					Sample ID	LPW17-SL-WeirP-01(2)		LPW17-SL-WeirP-02(2)		LPW17-SL-WeirP-02D(2)		LPW17-SL-WeirP-03(2.5)		LPW17-SL-GSP-01(2)		LPW17-SL-GSP-03(1.5)		LPW17-SL-CCP-01(2)		LPW17-SL-CCP-02(2)		LPW17-SL-WSP-01(2)	
Analysis	Units	*Over 40 Inch Zone Ingestion/Human Health (mg/kg)*	*Migration to Ground-water (mg/kg)*	*Soil Inhalation Risk Screening Level Non-Carcinogenic3 (mg/kg)*	*Soil Inhalation Risk Screening Level Carcinogenic3 (mg/kg)*	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
PETROLUEM HYDORCARBONS (AK101,102,103)																							
Diesel range organics (DRO)	mg/kg	8,250	230			**1100**		**11000**	Q	**5000**	Q	44		33		17		60		30		13	
Residual range organics (RRO)	mg/kg	8,300	9,700			100		670		440		97		120		15		270		150		53	
Gasoline range organics (GRO)	mg/kg	1,400	260			ND(4.6)		ND(4.1)		6.3		ND(10)		ND(5.8)		ND(1.9)		ND(10)		ND		6.6	
Low Level VOC (EPA 8260B)																							
1,1,1,2-Tetrachloroethane	mg/kg	15	0.022			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,1,1-Trichloroethane	mg/kg	360	32			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,1,2,2-Tetrachloroethane	mg/kg	4.4	0.003			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,1,2-Trichloroethane	mg/kg	1.1	0.0014			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,1-Dichloroethane	mg/kg	33	0.092			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,2,3-Trichlorobenzene	mg/kg	66	0.15			ND(0.0313)		ND(0.0091)		ND(0.00621)		ND(0.00659)		ND(0.0101)		ND(0.0318)		ND(0.0099)		ND(0.0189)		-	
1,2,3-Trichloropropane	mg/kg	0.054	3.1×10^{-5}			ND(0.0125)		ND(0.00364)		ND(0.00248)		ND(0.00264)		ND(0.00405)		ND(0.0127)		ND(0.00396)		ND(0.00757)		-	
1,2,4-Trichlorobenzene	mg/kg	32	0.082			ND(0.0313)		ND(0.0091)		ND(0.00621)		ND(0.00659)		ND(0.0101)		ND(0.0318)		ND(0.0099)		ND(0.0189)		-	
1,2,4-Trimethylbenzene	mg/kg	33	0.16	32.7	-	ND(0.00625)		**0.208**		0.0468		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,2-Dibromoethane	mg/kg	0.31	0.00024			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,2-Dichlorobenzene	mg/kg	78	2.4			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,2-Dichloroethane	mg/kg	33	0.092			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,2-Dichloropropane	mg/kg	3.9	0.0055			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,3,5-Trimethylbenzene	mg/kg	37	1.3	-	-	ND(0.00625)		0.171		0.0235		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,3-Dichlorobenzene	mg/kg	62	2.3			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
1,4-Dichlorobenzene	mg/kg	15	0.037			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
2-Butanone	mg/kg	23000	15			0.22		ND(0.0091)		(0.0264)		ND(0.00659)		0.0323		ND(0.0318)		0.0488		0.025		-	
2-Chlorotoluene	mg/kg					ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
2-Hexanone	mg/kg	210	0.11			ND(0.0313)		ND(0.0091)		ND(0.00621)		ND(0.00659)		ND(0.0101)		ND(0.0318)		ND(0.0099)		ND(0.0189)		-	
4-Chlorotoluene	mg/kg					ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
4-Isopropyltoluene	mg/kg					ND(0.00625)		0.153		0.0302		ND(0.00132)		ND(0.00203)		ND(0.00636)		(0.00278)		ND(0.00379)		-	
4-Methyl-2-pentanone	mg/kg	2200	18			ND(0.0313)		ND(0.0091)		ND(0.00621)		ND(0.00659)		ND(0.0101)		ND(0.0318)		ND(0.0099)		ND(0.0189)		-	
Acetone	mg/kg	65000	38			1.05		0.148		0.174		0.0196		0.987		0.0681		0.2		0.303		-	
Benzene	mg/kg	8.1	0.022	74.9	8.62	ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Bromobenzene	mg/kg	160	0.36			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Bromodichloromethane	mg/kg	2.6	0.0043			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Bromoform	mg/kg	170	0.1			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Bromomethane	mg/kg	7.4	0.024			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Carbon disulfide	mg/kg	500	2.9			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Carbon tetrachloride	mg/kg	6.6	0.021			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Chlorobenzene	mg/kg	180	0.46			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Chloroform	mg/kg	2.9	0.0071			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Chloromethane	mg/kg	120	0.61			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Dibromochloromethane	mg/kg	88	0.0027			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Dibromomethane	mg/kg	22	0.025			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Dichlorodifluoromethane	mg/kg	110	3.9			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Ethylbenzene	mg/kg	35	0.13	3,470	37.4	ND(0.00625)		0.0367		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Hexachlorobutadiene	mg/kg	3.3	0.02			ND(0.0313)		ND(0.0091)		ND(0.00621)		ND(0.00659)		ND(0.0101)		ND(0.0318)		ND(0.0099)		ND(0.0189)		-	
Isopropylbenzene	mg/kg					ND(0.00625)		0.0267		0.0037		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Methyl-tert-butyl ether	mg/kg					ND0.00625		ND(0.00182)		0.0463		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND0.00198		ND0.00379		-	
Methylene chloride	mg/kg	360	0.33			ND(0.0125)		ND(0.00364)		ND(0.00248)		ND(0.00264)		ND(0.00405)		ND(0.0127)		ND(0.00396)		ND(0.00757)		-	
Naphthalene	mg/kg	20	0.038			ND(0.0313)		ND(0.0091)		0.0132		ND(0.00659)		ND(0.0101)		ND(0.0318)		ND(0.0099)		ND(0.0189)		-	
n-Butylbenzene	mg/kg	20	23			ND(0.00625)		ND(0.00182)		0.0463		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
n-Propylbenzene	mg/kg					ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
sec-Butylbenzene	mg/kg	28	42			ND(0.00625)		0.0879		0.0189		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Styrene	mg/kg	180	10			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
tert-Butylbenzene	mg/kg	35	11			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Tetrachloroethene (PCE)	mg/kg					ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Toluene	mg/kg	200	6.7	14,100	-	ND(0.00625)		0.00316		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		0.528		0.00442		-	
Trichloroethene (TCE)	mg/kg					ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Trichlorofluoromethane	mg/kg	980	41			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Vinyl chloride	mg/kg	0.61	0.0008			ND(0.00625)		ND(0.00182)		ND(0.00124)		ND(0.00132)		ND(0.00203)		ND(0.00636)		ND(0.00198)		ND(0.00379)		-	
Xylenes (total)	mg/kg	57	1.5	355	-	ND(0.0125)		0.087		0.00304		ND(0.00264)		ND(0.00405)		ND(0.0127)		ND(0.00396)		ND(0.00757)		-	

Table C-4 Petroleum Hydrocarbon and VOC Analytical Soil Results

Locations						HazMat Shed				Outboard Motor Shed				White House									
					Sample ID	LPW17-SL-HMP-01(2)		LPW17-SS-HMP-02(2.5)		LPW17-SL-OBP-01(1.5)		LPW17-SL-OBP-02(2)		LPW17-SL-WHP-01(2)		LPW17-SL-WHP-01D(2)		LPW17-SL-WHP-02(1)		LPW17-SL-WHP-03(1)		LPW17-SL-WHP-04(1)	
Analysis	Units	*Over 40 Inch Zone Ingestion/Human Health (mg/kg)*	*Migration to Ground-water (mg/kg)*	*Soil Inhalation Risk Screening Level Non-Carcinogenic3 (mg/kg)*	*Soil Inhalation Risk Screening Level Carcinogenic3 (mg/kg)*	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
PETROLUEM HYDORCARBONS (AK101,102,103)																							
Diesel range organics (DRO)	mg/kg	8,250	230			**1100**		**1700**		46		59		**26000**		**18000**		**3900**		55		**2800**	
Residual range organics (RRO)	mg/kg	8,300	9,700			210		3700		62		130		1700		1500		630		160		800	
Gasoline range organics (GRO)	mg/kg	1,400	260			1.9		ND(2.7)		ND(3.6)		ND(5.5)		ND(18)		ND(14)		ND(6.5)		ND(3.8)		99	
Low Level VOC (EPA 8260B)																							
1,1,1,2-Tetrachloroethane	mg/kg	15	0.022			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,1,1-Trichloroethane	mg/kg	360	32			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,1,2,2-Tetrachloroethane	mg/kg	4.4	0.003			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,1,2-Trichloroethane	mg/kg	1.1	0.0014			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,1-Dichloroethane	mg/kg	33	0.092			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,2,3-Trichlorobenzene	mg/kg	66	0.15			ND(0.0324)		ND(0.0133)		ND(0.0121)		ND(0.0108)		ND(0.00346)		ND(0.00599)		ND(0.0144)		ND(0.0201)		ND(0.018)	
1,2,3-Trichloropropane	mg/kg	0.054	3.1×10^{-5}			ND(0.0129)		ND(0.00532)		ND(0.00484)		ND(0.00433)		ND(0.00138)		ND(0.0024)		ND(0.00575)		ND(0.00802)		ND(0.00718)	
1,2,4-Trichlorobenzene	mg/kg	32	0.082			ND(0.0324)		ND(0.0133)		ND(0.0121)		ND(0.0108)		ND(0.00346)		ND(0.00599)		ND(0.0144)		ND(0.0201)		ND(0.018)	
1,2,4-Trimethylbenzene	mg/kg	33	0.16	32.7	-	ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		**1.98**	
1,2-Dibromoethane	mg/kg	0.31	0.00024			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,2-Dichlorobenzene	mg/kg	78	2.4			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,2-Dichloroethane	mg/kg	33	0.092			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,2-Dichloropropane	mg/kg	3.9	0.0055			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,3,5-Trimethylbenzene	mg/kg	37	1.3	-	-	ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		1.25	
1,3-Dichlorobenzene	mg/kg	62	2.3			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
1,4-Dichlorobenzene	mg/kg	15	0.037			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
2-Butanone	mg/kg	23000	15			ND(0.0324)		ND(0.0133)		0.0228		0.0631		0.319		0.137		0.161		0.0933		ND(0.018)	
2-Chlorotoluene	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
2-Hexanone	mg/kg	210	0.11			ND(0.0324)		ND(0.0133)		ND(0.0121)		ND(0.0108)		ND(0.00346)		ND(0.00599)		ND(0.0144)		ND(0.0201)		ND(0.018)	
4-Chlorotoluene	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
4-Isopropyltoluene	mg/kg					ND(0.00647)		ND(0.00266)		0.0446		0.00547		ND(0.00069)		0.0122		0.0173		0.0133		0.755	
4-Methyl-2-pentanone	mg/kg	2200	18			ND(0.0324)		ND(0.0133)		ND(0.0121)		ND(0.0108)		ND(0.00346)		ND(0.00599)		ND(0.0144)		ND(0.0201)		ND(0.018)	
Acetone	mg/kg	65000	38			0.171		0.0415		1.07		1.51		0.409		2.33		4.91		1.08		0.213	
Benzene	mg/kg	8.1	0.022	74.9	8.62	ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Bromobenzene	mg/kg	160	0.36			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Bromodichloromethane	mg/kg	2.6	0.0043			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Bromoform	mg/kg	170	0.1			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Bromomethane	mg/kg	7.4	0.024			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Carbon disulfide	mg/kg	500	2.9			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Carbon tetrachloride	mg/kg	6.6	0.021			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Chlorobenzene	mg/kg	180	0.46			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Chloroform	mg/kg	2.9	0.0071			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		(0.00511)		ND(0.00401)		ND(0.00359)	
Chloromethane	mg/kg	120	0.61			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Dibromochloromethane	mg/kg	88	0.0027			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Dibromomethane	mg/kg	22	0.025			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Dichlorodifluoromethane	mg/kg	110	3.9			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Ethylbenzene	mg/kg	35	0.13	3,470	37.4	ND(0.00647)		ND(0.00266)		0.00344		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		0.0862	
Hexachlorobutadiene	mg/kg	3.3	0.02			ND(0.0324)		ND(0.0133)		ND(0.0121)		ND(0.0108)		ND(0.00346)		ND(0.00599)		ND(0.0144)		ND(0.0201)		ND(0.018)	
Isopropylbenzene	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		0.181	
Methyl-tert-butyl ether	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND0.0012		ND0.00288		ND0.00401		ND0.00359	
Methylene chloride	mg/kg	360	0.33			ND(0.0129)		ND(0.00532)		ND(0.00484)		ND(0.00433)		ND(0.00138)		ND(0.0024)		ND(0.00575)		ND(0.00802)		ND(0.00718)	
Naphthalene	mg/kg	20	0.038			ND(0.0324)		ND(0.0133)		ND(0.0121)		ND(0.0108)		ND(0.00346)		ND(0.00599)		ND(0.0144)		ND(0.0201)		**0.122**	
n-Butylbenzene	mg/kg	20	23			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		1.11	
n-Propylbenzene	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		0.412	
sec-Butylbenzene	mg/kg	28	42			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		0.612	
Styrene	mg/kg	180	10			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
tert-Butylbenzene	mg/kg	35	11			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Tetrachloroethene (PCE)	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Toluene	mg/kg	200	6.7	14,100	-	ND(0.00647)		ND(0.00266)		(0.0151)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Trichloroethene (TCE)	mg/kg					ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Trichlorofluoromethane	mg/kg	980	41			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Vinyl chloride	mg/kg	0.61	0.0008			ND(0.00647)		ND(0.00266)		ND(0.00242)		ND(0.00217)		ND(0.00069)		ND(0.0012)		ND(0.00288)		ND(0.00401)		ND(0.00359)	
Xylenes (total)	mg/kg	57	1.5	355	-	ND(0.0129)		ND(0.00532)		(0.0227)		ND(0.00433)		ND(0.00138)		ND(0.0024)		ND(0.00575)		ND(0.00802)		0.21	

Table C-4 Petroleum Hydrocarbon and VOC Analytical Soil Results (continued)

Locations						Pan Abode Cabin								Generator Shed				Cove Cabin				Workshop	
					Sample ID	LPW17-SL-WeirP-01(2)		LPW17-SL-WeirP-02(2)		LPW17-SL-WeirP-02D(2)		LPW17-SL-WeirP-03(2.5)		LPW17-SL-GSP-01(2)		LPW17-SL-GSP-03(1.5)		LPW17-SL-CCP-01(2)		LPW17-SL-CCP-02(2)		LPW17-SL-WSP-01(2)	
Analysis	Units	*Over 40 Inch Zone Ingestion/Human Health (mg/kg)*	*Migration to Ground-water (mg/kg)*	*Soil Inhalation Risk Screening Level Non-Carcinogenic3 (mg/kg)*	*Soil Inhalation Risk Screening Level Carcinogenic3 (mg/kg)*	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
PAH (EPA 8270D SIM)																							
1-Methylnaphthalene	mg/kg	68	0.41	-	-	0.022		**1.7**		0.12		0.0041		0.003		0.0058		0.003		0.0058		ND(0.0048)	
2-Methylnaphthalene	mg/kg	250	1.3	-	-	0.022		1.3		0.15		0.0067		0.0031		0.013		0.0031		0.013		0.0011	
Acenaphthene	mg/kg	3,800	37	-	-	ND(0.0076)		ND(0.072)		0.029		ND(0.012)		ND(0.0086)		0.035		ND(0.0086)		0.035		ND(0.0048)	
Acenaphthylene	mg/kg	1,900	18	-	-	0.029		ND(0.072)		0.051		ND(0.012)		ND(0.0086)		0.0027		ND(0.0086)		0.0027		0.0012	
Anthracene	mg/kg	19,000	390	-	-	ND(0.0076)		ND(0.072)		0.11		ND(0.012)		ND(0.0086)		0.0096		ND(0.0086)		0.0096		0.0021	
Benzo(a)anthracene	mg/kg	1.7	0.3	-	211.0	0.013		0.18		**0.31**		0.0084		0.0020		0.0079		0.0020		0.0079		0.008	
Benzo(a)pyrene	mg/kg	0.17	0.27	-	55,800	0.0066		0.14		**0.3**		0.0042		ND(0.0086)		0.0042		ND(0.0086)		0.0042		0.0066	
Benzo(b)fluoranthene	mg/kg	1.70	2.70	-	558000.00	0.03		0.18		0.4		0.017		0.0042		0.013		0.0042		0.013		0.012	
Benzo(g.h.i)perylene	mg/kg	1,900	15,000	-	-	0.0051		0.082		0.16		0.0035		ND(0.0086)		0.0048		ND(0.0086)		0.0048		0.0051	
Benzo(k)fluoranthene	mg/kg	17	27	-	558000.00	0.011		0.076		0.17		0.0057		ND(0.0086)		0.0041		ND(0.0086)		0.0041		0.0054	
Chrysene	mg/kg	170	82	-	5.58 x 106	0.037		0.23		0.45		0.027		0.0079		0.015		0.0079		0.015		0.013	
Dibenzo(a,h)anthracene	mg/kg	0.17	0.87	-	51,200	0.0015		0.014		0.035		ND(0.012)		ND(0.0086)		ND(0.0054)		ND(0.0086)		ND(0.0054)		ND(0.0048)	
Fluoranthene	mg/kg	2,500	590	-	-	0.044		0.44		0.55		0.027		0.0089		0.035		0.0089		0.035		0.016	
Fluorene	mg/kg	2,500	36	-	-	ND(0.0076)		0.26		0.04		ND(0.012)		ND(0.0086)		0.018		ND(0.0086)		0.018		ND(0.0048)	
Indeno(1,2,3-c,d)pyrene	mg/kg	2	9	-	558,000	0.0073		0.086		0.21		0.0046		ND(0.0086)		0.0061		ND(0.0086)		0.0061		0.0061	
Phenanthrene	mg/kg	1,900	39	-	-	0.012		0.46		0.44		0.022		0.0055		0.025		0.0055		0.025		0.0049	
Pyrene	mg/kg	1,900	87	-	-	0.065		0.57		0.67		0.02		0.0035		0.031		0.0035		0.031		0.014	
Naphthalene	mg/kg	20	0.038	77	20	0.0087		**0.75**		**0.1**		0.023		0.0058		0.029		0.0058		0.029		0.0011	

Key:

1 Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone

2 Source of Target Levels: Appendix G, *Vapor Intrusion Guidance* , 2017.

Q Estimated quantity due to quality control errors.

UJ The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected

H estimated detected result due to hold time error

ADEC Alaska Department of Environmental Conservation

bgs below ground surface

DRO diesel range organics

GRO gasoline range organics

mg/kg milligrams per kilogram

ND not detected at the reporting limit listed in parantheses

PAH polycyclic aromatic hydrocarbons

VOC volatile organic compounds

Bold Result exceeded one of the cleanup criteria

Red Result was not detected. Reporting limit was above cleanup criteria

- not analyzed

Table C-4 Petroleum Hydrocarbon and VOC Analytical Soil Results (continued)

Locations						HazMat Shed				Outboard Motor Shed				White House									
Sample ID						LPW17-SL-HMP-01(2)		LPW17-SS-HMP-02(2.5)		LPW17-SL-OBP-01(1.5)		LPW17-SL-OBP-02(2)		LPW17-SL-WHP-01(2)		LPW17-SL-WHP-01D(2)		LPW17-SL-WHP-02(1)		LPW17-SL-WHP-03(1)		LPW17-SL-WHP-04(1)	
Analysis	Units	*Over 40 Inch Zone Ingestion/Human Health (mg/kg)*	*Migration to Ground-water (mg/kg)*	*Soil Inhalation Risk Screening Level Non-Carcinogenic3 (mg/kg)*	*Soil Inhalation Risk Screening Level Carcinogenic3 (mg/kg)*	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
PAH (EPA 8270D SIM)																							
1-Methylnaphthalene	mg/kg	68	0.41	-	-	0.03		0.082		0.0062		0.014		0.1		0.055		ND (0.0077)		0.0031		0.36	
2-Methylnaphthalene	mg/kg	250	1.3	-	-	0.024		0.098		0.017		0.028		0.17		0.12		0.0016		0.0056		0.54	
Acenaphthene	mg/kg	3,800	37	-	-	ND(0.0056)		ND(0.0066)		ND(0.0070)		ND(0.0076)		ND (0.019)		ND (0.015)		ND (0.0077)		ND (0.0063)		ND (0.030)	
Acenaphthylene	mg/kg	1,900	18	-	-	0.028		0.07		ND(0.0070)		ND(0.0076)		0.13		ND (0.015)		ND (0.0077)		ND (0.0063)		0.05	
Anthracene	mg/kg	19,000	390	-	-	ND(0.0056)		0.039		0.0033		0.0018		ND (0.019)		ND (0.015)		ND (0.0077)		0.0023		0.0096	
Benzo(a)anthracene	mg/kg	1.7	0.3	-	211.0	0.0018		0.021		ND(0.0070)		ND(0.0076)		0.0084		0.012		ND (0.0077)		0.0093		0.018	
Benzo(a)pyrene	mg/kg	0.17	0.27	-	55,800	ND(0.0056)		0.055		ND(0.0070)		ND(0.0076)		ND (0.019)		ND (0.015)		ND (0.0077)		0.0077		0.023	
Benzo(b)fluoranthene	mg/kg	1.70	2.70	-	558000.00	ND(0.0056)		0.064		0.0038		0.0028		0.033		0.03		0.0074		0.016		0.035	
Benzo(g.h.i)perylene	mg/kg	1,900	15,000	-	-	ND(0.0056)		0.066		ND(0.0070)		ND(0.0076)		ND (0.019)		ND (0.015)		ND (0.0077)		0.0037		0.016	
Benzo(k)fluoranthene	mg/kg	17	27	-	558000.00	ND(0.0056)		0.019		ND(0.0070)		ND(0.0076)		0.0074		0.0067		0.0011		0.0038		0.013	
Chrysene	mg/kg	170	82	-	5.58 x 106	0.0086		0.033		0.0041		ND(0.0076)		0.084		0.059		0.0074		0.011		0.029	
Dibenzo(a,h)anthracene	mg/kg	0.17	0.87	-	51,200	ND(0.0056)		0.0099		ND(0.0070)		ND(0.0076)		ND (0.019)		ND (0.015)		ND (0.0077)		ND (0.0063)		ND (0.030)	
Fluoranthene	mg/kg	2,500	590	-	-	ND(0.0056)		0.027		0.0039		0.0037		ND (0.019)		0.067		0.0075		0.02		0.04	
Fluorene	mg/kg	2,500	36	-	-	0.11		ND(0.0066)		0.0021		0.0027		ND (0.019)		ND (0.015)		ND (0.0077)		0.013		0.066	
Indeno(1,2,3-c,d)pyrene	mg/kg	2	9	-	558,000	ND(0.0056)		0.12		ND(0.0070)		ND(0.0076)		ND (0.019)		ND (0.015)		ND (0.0077)		0.0071		0.028	
Phenanthrene	mg/kg	1,900	39	-	-	ND(0.0056)		0.032		0.016		0.024		ND (0.019)		ND (0.015)		0.0059		0.011		0.049	
Pyrene	mg/kg	1,900	87	-	-	0.028		0.029		0.0035		0.0025		0.1		0.081		0.0031		0.021		0.043	
Naphthalene	mg/kg	20	0.038	77	20	0.017		0.044		**12**		0.022		**0.099**		**0.063**		0.007		0.0076		**0.21**	

Key:

1 Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone

2 Source of Target Levels: Appendix G, *Vapor Intrusion Guidance* , 2017.

Q Estimated quantity due to quality control errors.

UJ The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected

H estimated detected result due to hold time error

ADEC Alaska Department of Environmental Conservation

bgs below ground surface

DRO diesel range organics

GRO gasoline range organics

mg/kg milligrams per kilogram

ND not detected at the reporting limit listed in parantheses

PAH polycyclic aromatic hydrocarbons

VOC volatile organic compounds

Bold Result exceeded one of the cleanup criteria

Red Result was not detected. Reporting limit was above cleanup criteria

- not analyzed

Table C-5 Lead-Based Paint Analytical Soil Results

Analysis	Metals (EPA 6020A)			
Sample ID	Arsenic (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)
Over 40 Inch Zone Ingestion/Human Health (mg/kg)	**7.2**	**250**	**3,300**	**400**
Migration to Groundwater(mg/kg)	**0.2**	--	**370**	--
Soil Inhalation Risk Screening Level Non-Carcinogenic (mg/kg)	**94,700**	--	--	--
Soil Inhalation Risk Screening Level Carcinogenic (mg/kg)	**39,500**	--	--	--
Weir Cabin				
LPW17-SL-WeirL-01(0.5)	**33**	120		**600**
LPW17-SL-WeirL-01D(0.5)	**24**	68		**550**
LPW17-SL-WeirL-02(0.5)	**8.0**	65		**1200**
LPW17-SL-WeirL-03(0.5)	**44**	52		**720**
LPW17-SL-WeirL-04(0.5)	**18**	120		**3000**
Pan Abode Shop				
LPW17-SL-PASL-01(0.5)	**140**	81		150
Cove Cabin				
LPW17-SL-CCL-01(0.5)	**4.3**	35	12	88
Generator Shed				
LPW17-SL-GSL-01(0.5)	**13**	29		29
LPW17-SL-GSL-02(0.5)	**2.7**	18		3.9
Workshop				
LPW17-SL-WSL-01(0.5)	**12**	14		34
LPW17-SL-WSL-02(0.5)	**9.0**	21		33
LPW17-SL-WSL-03(0.5)	**12**	22		19
White House				
LPW17-SL-WHL-01(0.5)	**5.2**	22		**580**
LPW17-SL-WHL-02(0.5)	**23**	27		130
LPW17-SL-WHL-03(0.5)	**19**	41		140
LPW17-SL-WHL-03D(0.5)	**15**	30		110
LPW17-SL-WHL-04(0.5)	**19**	25		300

Key:

1 Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone

2 Source of Target Levels: Appendix G*, Vapor Intrusion Guidance* , 2017.

Q Estimated quantity due to quality control errors.

UJ The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected

H estimated detected result due to hold time error

ADEC Alaska Department of Environmental Conservation

bgs below ground surface

DRO diesel range organics

GRO gasoline range organics

mg/kg milligrams per kilogram

ND not detected at the reporting limit listed in parantheses

PAH polycyclic aromatic hydrocarbons

VOC volatile organic compounds

Bold Result exceeded one of the cleanup criteria

Red Result was not detected. Reporting limit was above cleanup criteria

- not analyzed

Table C-6 Treated Lumber Analytical Soil Results

Analysis	Metals (EPA 6020A)			
Sample ID	Arsenic (mg/kg)	Total Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)
Over 40 Inch Zone Ingestion/Human Health (mg/kg) Chromium III	**7.2**	**100,000**	**3,300**	**400**
Migration to Groundwater(mg/kg)	**0.2**	**--**	**370**	**--**
Soil Inhalation Risk Screening Level Non-Carcinogenic (mg/kg)	**94,700**	**--**	**--**	**--**
Soil Inhalation Risk Screening Level Carcinogenic (mg/kg)	**39,500**	**--**	**--**	**--**
Weir Cabin				
LPW17-SL-WeirT-01(0.5)	**45**	160	71	
LPW17-SL-WeirT-02(0.5)	**49**	280	49	
LPW17-SL-WeirT-03(0.5)	**44**	180	110	
LPW17-SL-WeirT-03D(0.5)	**240**	650	370	
LPW17-SL-WeirT-04(0.5)	**4.3**	49	3.4	
Pan Abode Shop				
LPW17-SL-PAST-01(0.5)	**780**	730	170	
LPW17-SL-PAST-02(0.5)	**150**	290	170	
LPW17-SL-PAST-03(0.5)	**49**	100	50	
Far Bridge				
LPW17-SL-FBT-01(0.5)	**43**	180	65	
LPW17-SL-FBT-02(0.5)	**530**	210	35	
Middle Bridge				
LPW17-SL-MBT-01(0.5)	**39**	46	21	
LPW17-SL-MBT-02(0.5)	**13**	72	7.4	
Pan Abode Cabin				
LPW17-SL-PACT-01(0.5)	**9.7**	15	15	
LPW17-SL-PACT-01D(0.5)	**4.9**	17	16	
LPW17-SL-PACT-02(0.5)	**26**	410	44	
Cove Cabin Bridge				
LPW17-SL-CCBT-01(0.5)	**2.7**	17	15	
LPW17-SL-CCBT-02(0.5)	**1.7**	8.0	18	
Cove Cabin				
LPW17-SL-CCT-02(0.5)	**3.1**	10	22	
LPW17-SL-CCT-03(0.5)	**1.5**	9.9	8.5	
Incinerator Shed				
LPW17-SL-INT-01(0.5)	**22**	110	30	
LPW17-SL-INT-02(0.5)	**31**	100	43	
Warehouse				
LPW17-SL-WAT-01(0.5)	**18**	100	29	
LPW17-SL-WAT-02(0.5)	**340**	820	79	
White House Bridge				
LPW17-SL-WHBT-01(0.5)	**14**	35	21	
LPW17-SL-WHBT-02(0.5)	**8.1**	11	20	
White House Deck				
LPW17-SL-WHDT-01(0.5)	**37**	72	38	
LPW17-SL-WHDT-02(0.5)	**15**	120	31	
LPW17-SL-WHDT-02D(0.5)	**14**	130	26	

Key:

1 Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone
2 Source of Target Levels: Appendix G, *Vapor Intrusion Guidance* , 2017.
Q Estimated quantity due to quality control errors.
UJ The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected
H estimated detected result due to hold time error
ADEC Alaska Department of Environmental Conservation
bgs below ground surface
DRO diesel range organics
GRO gasoline range organics
mg/kg milligrams per kilogram
ND not detected at the reporting limit listed in parantheses
PAH polycyclic aromatic hydrocarbons
VOC volatile organic compounds
Bold Result exceeded one of the cleanup criteria
Red Result was not detected. Reporting limit was above cleanup criteria
- not analyzed

Table C-7 Background Sample Results

						Background Samples					
					Sample ID	LPW17-Bkgd-Weir-01(1.5)		LPW17-Bkgd-WH-02(1)		LPW17-SL-PAST-Bkgd(0.5)	
					Sample Date						
					Field Sampling Results						
Analysis	**Units**	***Over 40 Inch Zone Ingestion/Human Health (mg/Kg)***	***Migration to Groundwater(mg/Kg)***	***Soil Inhalation Risk Screening Level Non-Carcinogenic3 (mg/Kg)***	***Soil Inhalation Risk Screening Level Carcinogenic3 (mg/kg)***	**Result**	**Flag**	**Result**	**Flag**	**Result**	**Flag**
PETROLUEM HYDORCARBONS (AK101,102,103)											
Diesel range organics (DRO)	mg/kg	8,250	230			31	H	37		-	-
Residual range organics (RRO)	mg/kg	8,300	9,700			77	H	110		-	-
Gasoline range organics (GRO)	mg/kg	1,400	260			-		-		-	-
Metals(EPA 6020A)											
Arsenic	mg/kg	7.2	0.2	94700	39,500	-		-		**3.9**	
Copper	mg/kg	3,300	370	-	-	-		-		12	
Total Chromium	mg/kg	250	--			-		-		4.5	
Lead	mg/kg	400	--			-		-		-	
Mercury	mg/kg	3.13	0.36	13.8	-	-		-		-	
Total Organic Carbon											
Total Organic Carbon	mg/kg					41000		28000		-	-

Key:

1 Source of Cleanup Levels: 18 AAC 75.341, Tables B1/B2 Over 40 In Zone
2 Source of Target Levels: Appendix G, *Vapor Intrusion Guidance* , 2017.
3 Source of Screening Levels: Appendix B, Over 40 Inch Procedures for Calculation Cumulative Risk, September 15, 2016c
Q Estimated quantity due to quality control errors.
UJ The reported quantitation limit is estimated because QC crieria we note met and the element or compound was not detected
H estimated detected result due to hold time error
ADEC Alaska Department of Environmental Conservation
bgs below ground surface
DRO diesel range organics
GRO gasoline range organics
mg/kg milligrams per kilogram
ND not detected at the reporting limit listed in parantheses
PAH polycyclic aromatic hydrocarbons
VOC volatile organic compounds
Bold Result exceeded one of the cleanup criteria
Red Result was not detected. Reporting limit was above cleanup criteria
Blue Result was not detected. Reporting limit was above Migration to Groundwater but below Over 40 inch Ingestion/Human Health Criteria
- not analyzed

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Seattle
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Tel: (253)922-2310

TestAmerica Job ID: 580-68287-1
Client Project/Site: Little Port Walter AK
Revision: 1

For:
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7/6/2017 3:23:12 PM

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Table of Contents

Job ID: 580-68287-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative
580-68287-1

Revision 1: July 6, 2017
Per client request, the medium level 8260C VOC analysis has been cancelled and only the low level analysis is being reported.

Comments
The samples requesting low level 8260C VOC analysis were subcontracted to ARI Laboratories, located in Tukwila, WA. Their data is included as an addendum to this report.

Receipt
Eighty-two samples were received on 5/10/2017 2:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.5º C, 0.5º C, 1.0º C and 3.3º C.

Receipt Exceptions

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): LPW17-SL-WeirP-01(2) (580-68287-4), LPW17-SL-WeirP-02(2) (580-68287-5), LPW17-SL-WeirP-02D(2) (580-68287-6), LPW17-SL-WeirP-03(2.5) (580-68287-7), LPW17-SL-WeirP-03(2.5) (580-68287-7[MS]), LPW17-SL-WeirP-03(2.5) (580-68287-7[MSD]), LPW17-SL-CCP-01(2) (580-68287-8), LPW17-SL-CCP-02(2) (580-68287-9), LPW17-SL-GSP-01(2) (580-68287-10), LPW17-SL-GSP-03(1.5) (580-68287-11), LPW17-SL-WSP-01(2) (580-68287-12), LPW17-SL-HMP-02(2.5) (580-68287-14), LPW17-SL-HMP-02(2.5) (580-68287-14[MS]), LPW17-SL-HMP-02(2.5) (580-68287-14[MSD]), LPW17-SL-OBP-01(1.5) (580-68287-15), LPW17-SL-PAST-Bkgd(0.5) (580-68287-38), LPW17-SL-FBT-02(0.5) (580-68287-40), LPW17-SL-CCL-01(0.5) (580-68287-49), LPW17-SL-CCL-03(0.5) (580-68287-51), LPW17-SL-GSP-W-01 (580-68287-71), LPW17-SL-GSP-W-01 (580-68287-71[MS]) and LPW17-SL-GSP-W-01 (580-68287-71[MSD]). The container labels contain a "T" in the name while the COC sample ID contains a "P". The sample ID was taken from the COC. Sample dates and times matched the COC.

The following samples was collected in a 4 oz. pre-tared MeOH container, but tape and labels were added to the jar, and the pre-tared weight label is obscured: LPW17-SL-WeirP-01(2) (580-68287-4), LPW17-SL-WeirP-02(2) (580-68287-5), LPW17-SL-WeirP-02D(2) (580-68287-6), LPW17-SL-WeirP-03(2.5) (580-68287-7), LPW17-SL-WeirP-03(2.5) (580-68287-7[MS]), LPW17-SL-WeirP-03(2.5) (580-68287-7[MSD]), LPW17-SL-CCP-01(2) (580-68287-8), LPW17-SL-CCP-02(2) (580-68287-9), LPW17-SL-GSP-03(1.5) (580-68287-11), LPW17-SL-OBP-02(2) (580-68287-16), LPW17-SL-WHP-01(2) (580-68287-17), LPW17-SL-WHP-01D(2) (580-68287-18), LPW17-SL-WHP-2(1) (580-68287-19), LPW17-SL-WHP-3(1) (580-68287-20), LPW17-SL-WHP-4(1) (580-68287-21), LPW17-SL-GSP-W-01 (580-68287-71), LPW17-SL-GSP-W-01 (580-68287-71[MS]), LPW17-SL-GSP-W-01 (580-68287-71[MSD]), LPW17-SL-GSP-Leak01 (580-68287-72), LPW17-SL-GSP-Leak02 (580-68287-73) and LPW17-SL-GSP-Leak03 (580-68287-74). The weight of these samples may be estimated because of the need to remove the labels and tape in the laboratory.

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): LPW17-SL-GSP-Leak01 (580-68287-72), LPW17-SL-GSP-Leak02 (580-68287-73) and LPW17-SL-GSP-Leak03 (580-68287-74). The sample time on the sample labels and the COC do not match. -72 label time 1500, COC time 1505; -73 label time 1555, COC time 1605; -74 label time 1605, COC time 1620. The sample time was logged in using the the COC.

The container label for the following samples did not match the information listed on the Chain-of-Custody (COC): LPW17-SL-CCL-01(0.5) (580-68287-49) and LPW17-SL-CCL-03(0.5) (580-68287-51). 580-68287-49 The container label lists -CCT-01(0.5) while the COC lists -CCT02(0.5)
580-68287-51 The container label lists -CCT-03(0.5) while the COC lists -CCT02(0.5) These two samples were logged in per the container label as this follows the standard nomenclature of the samples.

The following samples was activated for BTEX (medium level) Volatiles analysis by the client on 5-17-2017: LPW17-SL-GSP-Leak01 (580-68287-72), LPW17-SL-GSP-Leak02 (580-68287-73), and LPW17-SL-GSP-Leak03 (580-68287-74). This analysis was not originally requested on the chain-of-custody (COC).

GC VOA
Method(s) AK101: Surrogate recovery for the following samples was outside control limits: LPW17-SL-WeirP-01(2) (580-68287-4), LPW17-SL-WeirP-02(2) (580-68287-5), LPW17-SL-WeirP-02D(2) (580-68287-6), LPW17-SL-WeirP-03(2.5) (580-68287-7),

Job ID: 580-68287-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

LPW17-SL-WeirP-03(2.5) (580-68287-7[MS]), LPW17-SL-WeirP-03(2.5) (580-68287-7[MSD]), LPW17-SL-CCP-01(2) (580-68287-8), LPW17-SL-GSP-01(2) (580-68287-10), LPW17-SL-HMP-02(2.5) (580-68287-14), LPW17-SL-HMP-02(2.5) (580-68287-14[MS]), LPW17-SL-HMP-02(2.5) (580-68287-14[MSD]), LPW17-SL-OBP-02(2) (580-68287-16), LPW17-SL-WHP-01D(2) (580-68287-18) and LPW17-SL-WHP-4(1) (580-68287-21). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC/MS Semi VOA

Method(s) 8270D SIM: The method blank for preparation batch 580-246324 and analytical batch 580-246433 contained Benzo[a]anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and re-analysis of samples was not performed.

Method(s) 8270D SIM: The following samples was diluted due to the nature of the sample matrix: LPW17-SL-WeirP-02(2) (580-68287-5), LPW17-SL-WeirP-02D(2) (580-68287-6) and LPW17-SL-CCP-02(2) (580-68287-9). Elevated reporting limits (RLs) are provided.

Method(s) 8270D SIM: The method blank for preparation batch 580-246669 and analytical batch 580-246750 contained Benzo[a]anthracene, Fluoranthene, Phenanthrene and Pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D SIM: Reanalysis of the following sample was performed outside of the analytical holding time due to failure of quality control parameters in the initial analysis: LPW17-SL-GSP-Leak01 (580-68287-72).

Method(s) 8270D SIM: Surrogate recovery for the following samples was outside control limits: LPW17-SL-HMP-01(2) (580-68287-13), LPW17-SL-GSP-Leak01 (580-68287-72) and (580-68287-B-72-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D SIM: The method blank for preparation batch 580-246467 and analytical batch 580-247152 contained Benzo[a]anthracene above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D SIM: The matrix spike/matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-246436 and analytical batch 580-246475 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D SIM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-246467 and analytical batch 580-247152 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

GC Semi VOA

Method(s) AK102 & 103: The following samples contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LPW17-SL-CCP-01(2) (580-68287-8), LPW17-SL-CCP-02(2) (580-68287-9), LPW17-SL-OBP-01(1.5) (580-68287-15), LPW17-SL-OBP-02(2) (580-68287-16), and LPW17-SL-WHP-3(1) (580-68287-20), LPW17-Bkgd-WH-02(1) (580-68287-23), LPW17-SL-GSP-Leak02 (580-68287-73) and LPW17-SL-GSP-Leak04 (580-68287-82).

Method(s) AK102 & 103: The following sample contained a hydrocarbon pattern in the diesel range; however, the elution pattern was both earlier and later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: LPW17-SL-HMP-02(2.5) (580-68287-14).

Method(s) AK102 & 103: Due to the high concentration of DRO (nC10-<nC25), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 580-246440 and analytical batch 580-246593 could not be evaluated for accuracy and precision for DRO (nC10-<nC25). The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

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Laboratory: TestAmerica Seattle (Continued)

Method(s) AK102 & 103: The matrix spike / matrix spike duplicate (MS/MSD) precision for RRO (nC25-nC36) for preparation batch 580-246440 and analytical batch 580-246593 was outside control limits. Sample non-homogeneity is suspected.

Method(s) AK102 & 103: Surrogate o-Terphenyl recovery for the following sample was outside control limits: LPW17-SL-WHP-01(2) (580-68287-17) and LPW17-SL-WHP-01D(2) (580-68287-18). Evidence of matrix interference due to high target analytes is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) AK102 & 103: Due to the high concentration of DRO (nC10-<nC25) and RRO (nC25-nC36), the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 580-246440 and analytical batch 580-246482 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method(s) AK102 & 103: The following sample(s) was re-prepared outside of preparation holding time due to the client provided MS/MSD not being extracted along its parent sample in the initial preparation. Both sets of data have been reported.

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

Metals

Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) and Sample Duplicate recoveries for lead in preparation batch 580-246145 and analysis batch 580-246300 were outside control limits. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) and Sample Duplicate recoveries for lead in preparation batch 580-246491 and analysis batch 580-246576 were outside control limits. The MSD was outside control limits for Chromium. The %RPD was outside control limits for Lead. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

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

General Chemistry

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

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
E	Result exceeded calibration range.

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
X	Surrogate is outside control limits
H	Sample was prepped or analyzed beyond the specified holding time

Metals

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-Weir-01
Date Collected: 05/06/17 18:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-1
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	51000		69	6.6	mg/Kg		05/16/17 14:16	05/17/17 13:31	1000

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-Weir-02
Date Collected: 05/06/17 18:25
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-2
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	32000		75	7.2	mg/Kg		05/16/17 14:16	05/17/17 13:35	1000

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-Weir-03
Date Collected: 05/06/17 18:30
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-3
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	60000		54	5.2	mg/Kg		05/16/17 14:16	05/17/17 13:40	1000

Client Sample ID: LPW17-SL-WeirP-01(2)

Date Collected: 05/07/17 09:30
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-4

Matrix: Solid
Percent Solids: 64.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	22		7.6	0.95	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
2-Methylnaphthalene	22		7.6	0.68	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Acenaphthene	ND		7.6	0.91	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Acenaphthylene	29		7.6	0.76	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Anthracene	ND		7.6	0.91	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Benzo[a]anthracene	13	B	7.6	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Benzo[a]pyrene	6.6	J	7.6	0.61	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Benzo[b]fluoranthene	30		7.6	0.89	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Benzo[g,h,i]perylene	5.1	J	7.6	0.76	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Benzo[k]fluoranthene	11		7.6	0.91	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Chrysene	37		7.6	2.3	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Dibenz(a,h)anthracene	1.5	J	7.6	1.1	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Fluoranthene	44		7.6	2.1	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Fluorene	ND		7.6	0.76	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Indeno[1,2,3-cd]pyrene	7.3	J	7.6	0.91	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Naphthalene	8.7		7.6	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Phenanthrene	12		7.6	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1
Pyrene	65		7.6	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*68*		*68 - 138*	*05/19/17 09:58*	*05/20/17 13:42*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		4.6	1.4	mg/Kg	☼	05/16/17 08:55	05/16/17 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*49*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 16:24*	*1*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*	*05/16/17 08:55*	*05/16/17 16:24*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	1100		30	9.2	mg/Kg	☼	05/19/17 10:38	05/23/17 20:05	1
RRO (nC25-nC36)	100		75	17	mg/Kg	☼	05/19/17 10:38	05/23/17 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*05/19/17 10:38*	*05/23/17 20:05*	*1*
n-Triacontane-d62	*76*		*50 - 150*	*05/19/17 10:38*	*05/23/17 20:05*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	64.4		0.1	0.1	%			05/21/17 12:53	1
Percent Moisture	35.6		0.1	0.1	%			05/21/17 12:53	1

Client Sample ID: LPW17-SL-WeirP-02(2)

Date Collected: 05/07/17 09:40
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-5

Matrix: Solid
Percent Solids: 30.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1700		72	9.0	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
2-Methylnaphthalene	1300		72	6.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Acenaphthene	ND		72	8.6	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Acenaphthylene	ND		72	7.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Anthracene	ND		72	8.6	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Benzo[a]anthracene	180	B	72	11	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Benzo[a]pyrene	140		72	5.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Benzo[b]fluoranthene	180		72	8.5	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Benzo[g,h,i]perylene	82		72	7.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Benzo[k]fluoranthene	76		72	8.6	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Chrysene	230		72	21	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Dibenz(a,h)anthracene	14	J	72	10	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Fluoranthene	440		72	20	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Fluorene	260		72	7.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Indeno[1,2,3-cd]pyrene	86		72	8.6	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Naphthalene	750		72	11	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Phenanthrene	460		72	9.9	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5
Pyrene	570		72	14	ug/Kg	☼	05/19/17 09:58	05/20/17 14:05	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*81*		*68 - 138*	*05/19/17 09:58*	*05/20/17 14:05*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		14	4.1	mg/Kg	☼	05/16/17 08:55	05/16/17 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*39*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 16:55*	*1*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*	*05/16/17 08:55*	*05/16/17 16:55*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	11000		61	19	mg/Kg	☼	05/19/17 10:38	05/23/17 20:36	1
RRO (nC25-nC36)	670		150	33	mg/Kg	☼	05/19/17 10:38	05/23/17 20:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*79*		*50 - 150*	*05/19/17 10:38*	*05/23/17 20:36*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*05/19/17 10:38*	*05/23/17 20:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	30.4		0.1	0.1	%			05/21/17 12:53	1
Percent Moisture	69.6		0.1	0.1	%			05/21/17 12:53	1

Client Sample ID: LPW17-SL-WeirP-02D(2)

Date Collected: 05/07/17 09:40
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-6
Matrix: Solid
Percent Solids: 38.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	120		64	8.1	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
2-Methylnaphthalene	150		64	5.8	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Acenaphthene	29	J	64	7.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Acenaphthylene	51	J	64	6.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Anthracene	110		64	7.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Benzo[a]anthracene	310	B	64	9.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Benzo[a]pyrene	300		64	5.1	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Benzo[b]fluoranthene	400		64	7.6	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Benzo[g,h,i]perylene	160		64	6.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Benzo[k]fluoranthene	170		64	7.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Chrysene	450		64	19	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Dibenz(a,h)anthracene	35	J	64	9.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Fluoranthene	550		64	18	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Fluorene	40	J	64	6.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Indeno[1,2,3-cd]pyrene	210		64	7.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Naphthalene	100		64	10	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Phenanthrene	440		64	8.8	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5
Pyrene	670		64	12	ug/Kg	☼	05/19/17 09:58	05/20/17 14:27	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*79*		*68 - 138*	*05/19/17 09:58*	*05/20/17 14:27*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	6.3	J	9.1	2.7	mg/Kg	☼	05/16/17 08:55	05/16/17 17:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*36*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 17:26*	*1*
4-Bromofluorobenzene (Surr)	*103*		*50 - 150*	*05/16/17 08:55*	*05/16/17 17:26*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	5000		51	16	mg/Kg	☼	05/19/17 10:38	05/23/17 21:08	1
RRO (nC25-nC36)	440		130	28	mg/Kg	☼	05/19/17 10:38	05/23/17 21:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*05/19/17 10:38*	*05/23/17 21:08*	*1*
n-Triacontane-d62	*81*		*50 - 150*	*05/19/17 10:38*	*05/23/17 21:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	38.9		0.1	0.1	%			05/21/17 12:53	1
Percent Moisture	61.1		0.1	0.1	%			05/21/17 12:53	1

Client Sample ID: LPW17-SL-WeirP-03(2.5)

Date Collected: 05/07/17 10:00
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-7
Matrix: Solid
Percent Solids: 39.8

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	4.1	J	12	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
2-Methylnaphthalene	6.7	J	12	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Acenaphthene	ND		12	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Acenaphthylene	ND		12	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Anthracene	ND		12	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Benzo[a]anthracene	8.4	J B	12	1.8	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Benzo[a]pyrene	4.2	J	12	0.92	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Benzo[b]fluoranthene	17		12	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Benzo[g,h,i]perylene	3.5	J	12	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Benzo[k]fluoranthene	5.7	J	12	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Chrysene	27		12	3.5	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Dibenz(a,h)anthracene	ND		12	1.7	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Fluoranthene	27		12	3.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Fluorene	ND		12	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Indeno[1,2,3-cd]pyrene	4.6	J	12	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Naphthalene	23		12	1.8	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Phenanthrene	22		12	1.6	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1
Pyrene	20		12	2.2	ug/Kg	☼	05/19/17 09:58	05/20/17 14:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*74*		*68 - 138*	*05/19/17 09:58*	*05/20/17 14:50*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		10	3.1	mg/Kg	☼	05/16/17 08:55	05/16/17 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*28*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 17:56*	*1*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*	*05/16/17 08:55*	*05/16/17 17:56*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	44	J	45	14	mg/Kg	☼	05/19/17 10:38	05/23/17 21:39	1
RRO (nC25-nC36)	97	J	110	25	mg/Kg	☼	05/19/17 10:38	05/23/17 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*63*		*50 - 150*	*05/19/17 10:38*	*05/23/17 21:39*	*1*
n-Triacontane-d62	*70*		*50 - 150*	*05/19/17 10:38*	*05/23/17 21:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	39.8		0.1	0.1	%			05/23/17 09:15	1
Percent Moisture	60.2		0.1	0.1	%			05/23/17 09:15	1

Client Sample ID: LPW17-SL-CCP-01(2)

Date Collected: 05/07/17 10:50
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-8

Matrix: Solid
Percent Solids: 39.6

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	1.6	J	12	1.6	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
2-Methylnaphthalene	2.5	J	12	1.1	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Acenaphthene	ND		12	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Acenaphthylene	ND		12	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Anthracene	3.4	J	12	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Benzo[a]anthracene	7.9	J B	12	1.9	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Benzo[a]pyrene	3.3	J	12	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Benzo[b]fluoranthene	12		12	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Benzo[g,h,i]perylene	2.8	J	12	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Benzo[k]fluoranthene	4.1	J	12	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Chrysene	17		12	3.7	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Dibenz(a,h)anthracene	ND		12	1.8	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Fluoranthene	29		12	3.5	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Fluorene	ND		12	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Indeno[1,2,3-cd]pyrene	4.2	J	12	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Naphthalene	5.4	J	12	2.0	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Phenanthrene	9.7	J	12	1.7	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1
Pyrene	18		12	2.4	ug/Kg	☼	05/19/17 09:58	05/20/17 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*86*		*68 - 138*	*05/19/17 09:58*	*05/20/17 15:57*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		10	3.1	mg/Kg	☼	05/16/17 08:55	05/16/17 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*156*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 19:58*	*1*
4-Bromofluorobenzene (Surr)	*94*		*50 - 150*	*05/16/17 08:55*	*05/16/17 19:58*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	60		47	14	mg/Kg	☼	05/19/17 10:38	05/23/17 23:39	1
RRO (nC25-nC36)	270		120	26	mg/Kg	☼	05/19/17 10:38	05/23/17 23:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*50 - 150*	*05/19/17 10:38*	*05/23/17 23:39*	*1*
n-Triacontane-d62	*76*		*50 - 150*	*05/19/17 10:38*	*05/23/17 23:39*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	39.6		0.1	0.1	%			05/21/17 12:53	1
Percent Moisture	60.4		0.1	0.1	%			05/21/17 12:53	1

Client Sample ID: LPW17-SL-CCP-02(2)

Date Collected: 05/07/17 11:00
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-9

Matrix: Solid
Percent Solids: 70.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	12	J	35	4.4	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
2-Methylnaphthalene	15	J	35	3.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Acenaphthene	11	J	35	4.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Acenaphthylene	6.2	J	35	3.5	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Anthracene	44		35	4.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Benzo[a]anthracene	68	B	35	5.3	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Benzo[a]pyrene	47		35	2.8	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Benzo[b]fluoranthene	78		35	4.1	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Benzo[g,h,i]perylene	30	J	35	3.5	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Benzo[k]fluoranthene	27	J	35	4.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Chrysene	110		35	11	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Dibenz(a,h)anthracene	5.1	J	35	5.1	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Fluoranthene	170		35	9.8	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Fluorene	12	J	35	3.5	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Indeno[1,2,3-cd]pyrene	34	J	35	4.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Naphthalene	11	J	35	5.6	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Phenanthrene	130		35	4.8	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5
Pyrene	160		35	6.8	ug/Kg	☼	05/19/17 09:58	05/20/17 16:20	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*92*		*68 - 138*	*05/19/17 09:58*	*05/20/17 16:20*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		4.6	1.4	mg/Kg	☼	05/16/17 08:55	05/16/17 20:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*80*		*50 - 150*	*05/16/17 08:55*	*05/16/17 20:28*	*1*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*	*05/16/17 08:55*	*05/16/17 20:28*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	30		27	8.1	mg/Kg	☼	05/19/17 10:38	05/24/17 00:08	1
RRO (nC25-nC36)	150		66	15	mg/Kg	☼	05/19/17 10:38	05/24/17 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 150*	*05/19/17 10:38*	*05/24/17 00:08*	*1*
n-Triacontane-d62	*78*		*50 - 150*	*05/19/17 10:38*	*05/24/17 00:08*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	70.7		0.1	0.1	%			05/30/17 09:51	1
Percent Moisture	29.3		0.1	0.1	%			05/30/17 09:51	1

Client Sample ID: LPW17-SL-GSP-01(2)

Date Collected: 05/07/17 13:05
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-10

Matrix: Solid
Percent Solids: 53.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.0	J	8.6	1.1	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
2-Methylnaphthalene	3.1	J	8.6	0.77	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Acenaphthene	ND		8.6	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Acenaphthylene	ND		8.6	0.86	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Anthracene	ND		8.6	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Benzo[a]anthracene	2.0	J B	8.6	1.3	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Benzo[a]pyrene	ND		8.6	0.69	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Benzo[b]fluoranthene	4.2	J	8.6	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Benzo[g,h,i]perylene	ND		8.6	0.86	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Benzo[k]fluoranthene	ND		8.6	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Chrysene	7.9	J	8.6	2.6	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Dibenz(a,h)anthracene	ND		8.6	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Fluoranthene	8.9		8.6	2.4	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Fluorene	ND		8.6	0.86	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Indeno[1,2,3-cd]pyrene	ND		8.6	1.0	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Naphthalene	5.8	J	8.6	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Phenanthrene	5.5	J	8.6	1.2	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1
Pyrene	3.5	J	8.6	1.7	ug/Kg	☼	05/19/17 09:58	05/20/17 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*82*		*68 - 138*	*05/19/17 09:58*	*05/20/17 16:42*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		5.8	1.7	mg/Kg	☼	05/24/17 12:00	05/24/17 16:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*29*	*X*	*50 - 150*	*05/24/17 12:00*	*05/24/17 16:37*	*1*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*	*05/24/17 12:00*	*05/24/17 16:37*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	33	J	36	11	mg/Kg	☼	05/19/17 10:38	05/24/17 00:38	1
RRO (nC25-nC36)	120		90	20	mg/Kg	☼	05/19/17 10:38	05/24/17 00:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*50 - 150*	*05/19/17 10:38*	*05/24/17 00:38*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*05/19/17 10:38*	*05/24/17 00:38*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	53.4		0.1	0.1	%			05/30/17 09:51	1
Percent Moisture	46.6		0.1	0.1	%			05/30/17 09:51	1

Client Sample ID: LPW17-SL-GSP-03(1.5)

Date Collected: 05/07/17 15:30
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-11

Matrix: Solid
Percent Solids: 90.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	5.8		5.4	0.68	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
2-Methylnaphthalene	13		5.4	0.49	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Acenaphthene	35		5.4	0.65	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Acenaphthylene	2.7	J	5.4	0.54	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Anthracene	9.6		5.4	0.65	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Benzo[a]anthracene	7.9	B	5.4	0.82	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Benzo[a]pyrene	4.2	J	5.4	0.43	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Benzo[b]fluoranthene	13		5.4	0.64	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Benzo[g,h,i]perylene	4.8	J	5.4	0.54	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Benzo[k]fluoranthene	4.1	J	5.4	0.65	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Chrysene	15		5.4	1.6	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Dibenz(a,h)anthracene	ND		5.4	0.78	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Fluoranthene	35		5.4	1.5	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Fluorene	18		5.4	0.54	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Indeno[1,2,3-cd]pyrene	6.1		5.4	0.65	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Naphthalene	29		5.4	0.87	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Phenanthrene	25		5.4	0.75	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1
Pyrene	31		5.4	1.1	ug/Kg	☼	05/19/17 09:58	05/20/17 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*86*		*68 - 138*	*05/19/17 09:58*	*05/20/17 17:05*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		1.9	0.58	mg/Kg	☼	05/16/17 08:55	05/16/17 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*84*		*50 - 150*	*05/16/17 08:55*	*05/16/17 20:59*	*1*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*	*05/16/17 08:55*	*05/16/17 20:59*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	17	J	19	5.9	mg/Kg	☼	05/19/17 10:38	05/24/17 01:07	1
RRO (nC25-nC36)	15	J	48	11	mg/Kg	☼	05/19/17 10:38	05/24/17 01:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*50 - 150*	*05/19/17 10:38*	*05/24/17 01:07*	*1*
n-Triacontane-d62	*75*		*50 - 150*	*05/19/17 10:38*	*05/24/17 01:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.7		0.1	0.1	%			05/30/17 09:51	1
Percent Moisture	9.3		0.1	0.1	%			05/30/17 09:51	1

Client Sample ID: LPW17-SL-WSP-01(2)

Date Collected: 05/07/17 15:55
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-12

Matrix: Solid
Percent Solids: 89.5

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		4.8	0.60	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
2-Methylnaphthalene	**1.1**	**J**	4.8	0.43	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Acenaphthene	ND		4.8	0.57	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Acenaphthylene	**1.2**	**J**	4.8	0.48	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Anthracene	**2.1**	**J**	4.8	0.57	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Benzo[a]anthracene	**8.0**	**B**	4.8	0.73	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Benzo[a]pyrene	**6.6**		4.8	0.38	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Benzo[b]fluoranthene	**12**		4.8	0.57	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Benzo[g,h,i]perylene	**5.1**		4.8	0.48	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Benzo[k]fluoranthene	**5.4**		4.8	0.57	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Chrysene	**13**		4.8	1.4	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Dibenz(a,h)anthracene	ND		4.8	0.69	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Fluoranthene	**16**		4.8	1.3	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Fluorene	ND		4.8	0.48	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Indeno[1,2,3-cd]pyrene	**6.1**		4.8	0.57	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Naphthalene	**1.1**	**J**	4.8	0.77	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Phenanthrene	**4.9**		4.8	0.66	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1
Pyrene	**14**		4.8	0.93	ug/Kg	☼	05/19/17 09:58	05/20/17 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*86*		*68 - 138*	*05/19/17 09:58*	*05/20/17 17:27*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	**6.6**		1.8	0.55	mg/Kg	☼	05/16/17 08:55	05/16/17 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*82*		*50 - 150*	*05/16/17 08:55*	*05/16/17 21:30*	*1*
4-Bromofluorobenzene (Surr)	*132*		*50 - 150*	*05/16/17 08:55*	*05/16/17 21:30*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**13**	**J**	17	5.3	mg/Kg	☼	05/19/17 10:38	05/24/17 01:36	1
RRO (nC25-nC36)	**53**		43	9.5	mg/Kg	☼	05/19/17 10:38	05/24/17 01:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*05/19/17 10:38*	*05/24/17 01:36*	*1*
n-Triacontane-d62	*79*		*50 - 150*	*05/19/17 10:38*	*05/24/17 01:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**89.5**		0.1	0.1	%			05/30/17 09:51	1
Percent Moisture	**10.5**		0.1	0.1	%			05/30/17 09:51	1

Client Sample ID: LPW17-SL-HMP-01(2)

Date Collected: 05/07/17 15:45
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-13

Matrix: Solid
Percent Solids: 87.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	30		5.6	0.71	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
2-Methylnaphthalene	24		5.6	0.50	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Acenaphthene	ND		5.6	0.67	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Acenaphthylene	28		5.6	0.56	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Anthracene	ND		5.6	0.67	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Benzo[a]anthracene	1.8	J B	5.6	0.85	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Benzo[a]pyrene	ND		5.6	0.45	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Benzo[b]fluoranthene	ND		5.6	0.66	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Benzo[g,h,i]perylene	ND		5.6	0.56	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Benzo[k]fluoranthene	ND		5.6	0.67	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Chrysene	8.6		5.6	1.7	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Dibenz(a,h)anthracene	ND		5.6	0.81	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Fluoranthene	ND		5.6	1.6	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Fluorene	110		5.6	0.56	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Indeno[1,2,3-cd]pyrene	ND		5.6	0.67	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Naphthalene	17		5.6	0.90	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Phenanthrene	ND		5.6	0.77	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1
Pyrene	28		5.6	1.1	ug/Kg	☼	05/19/17 09:58	05/20/17 17:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*65*	*X*	*68 - 138*	*05/19/17 09:58*	*05/20/17 17:50*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	1.9		1.5	0.46	mg/Kg	☼	05/24/17 12:00	05/24/17 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*80*		*50 - 150*	*05/24/17 12:00*	*05/24/17 17:07*	*1*
4-Bromofluorobenzene (Surr)	*129*		*50 - 150*	*05/24/17 12:00*	*05/24/17 17:07*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	1100		21	6.3	mg/Kg	☼	05/19/17 10:38	05/24/17 02:06	1
RRO (nC25-nC36)	210		52	11	mg/Kg	☼	05/19/17 10:38	05/24/17 02:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*77*		*50 - 150*	*05/19/17 10:38*	*05/24/17 02:06*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*05/19/17 10:38*	*05/24/17 02:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.4		0.1	0.1	%			05/30/17 09:51	1
Percent Moisture	12.6		0.1	0.1	%			05/30/17 09:51	1

Client Sample ID: LPW17-SL-HMP-02(2.5)

Date Collected: 05/07/17 16:30
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-14

Matrix: Solid
Percent Solids: 76.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	82	F1 F2	6.6	0.83	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
2-Methylnaphthalene	98	F1 F2	6.6	0.59	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Acenaphthene	ND		6.6	0.79	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Acenaphthylene	70		6.6	0.66	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Anthracene	39		6.6	0.79	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Benzo[a]anthracene	21	F1	6.6	1.0	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Benzo[a]pyrene	55		6.6	0.52	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Benzo[b]fluoranthene	64		6.6	0.77	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Benzo[g,h,i]perylene	66	F1	6.6	0.66	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Benzo[k]fluoranthene	19		6.6	0.79	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Chrysene	33	F1	6.6	2.0	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Dibenz(a,h)anthracene	9.9	F1	6.6	0.94	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Fluoranthene	27		6.6	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Fluorene	ND		6.6	0.66	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Indeno[1,2,3-cd]pyrene	120	F1	6.6	0.79	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Naphthalene	44	F1 F2	6.6	1.0	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Phenanthrene	32	F1	6.6	0.90	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1
Pyrene	29		6.6	1.3	ug/Kg	☼	05/20/17 11:34	05/22/17 16:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*83*		*68 - 138*	*05/20/17 11:34*	*05/22/17 16:39*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		2.7	0.81	mg/Kg	☼	05/24/17 12:00	05/24/17 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*39*	*X*	*50 - 150*	*05/24/17 12:00*	*05/24/17 17:37*	*1*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*	*05/24/17 12:00*	*05/24/17 17:37*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	1700	F1 F2	27	8.1	mg/Kg	☼	05/20/17 12:17	05/22/17 18:24	1
RRO (nC25-nC36)	3700	F2	67	15	mg/Kg	☼	05/20/17 12:17	05/22/17 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*05/20/17 12:17*	*05/22/17 18:24*	*1*
n-Triacontane-d62	*78*		*50 - 150*	*05/20/17 12:17*	*05/22/17 18:24*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	76.0		0.1	0.1	%			05/30/17 09:51	1
Percent Moisture	24.0		0.1	0.1	%			05/30/17 09:51	1

Client Sample ID: LPW17-SL-OBP-01(1.5)

Date Collected: 05/07/17 16:35
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-15

Matrix: Solid
Percent Solids: 68.7

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	6.2	J	7.0	0.89	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
2-Methylnaphthalene	17		7.0	0.63	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Acenaphthene	ND		7.0	0.84	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Acenaphthylene	ND		7.0	0.70	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Anthracene	3.3	J	7.0	0.84	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Benzo[a]anthracene	ND		7.0	1.1	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Benzo[a]pyrene	ND		7.0	0.56	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Benzo[b]fluoranthene	3.8	J	7.0	0.83	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Benzo[g,h,i]perylene	ND		7.0	0.70	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Benzo[k]fluoranthene	ND		7.0	0.84	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Chrysene	4.1	J	7.0	2.1	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Dibenz(a,h)anthracene	ND		7.0	1.0	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Fluoranthene	3.9	J	7.0	2.0	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Fluorene	2.1	J	7.0	0.70	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Indeno[1,2,3-cd]pyrene	ND		7.0	0.84	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Naphthalene	12		7.0	1.1	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Phenanthrene	16		7.0	0.97	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1
Pyrene	3.5	J	7.0	1.4	ug/Kg	☼	05/20/17 11:34	05/22/17 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*89*		*68 - 138*	*05/20/17 11:34*	*05/22/17 17:53*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		3.6	1.1	mg/Kg	☼	05/24/17 12:00	05/24/17 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*57*		*50 - 150*	*05/24/17 12:00*	*05/24/17 19:08*	*1*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*	*05/24/17 12:00*	*05/24/17 19:08*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	46		29	8.8	mg/Kg	☼	05/20/17 12:17	05/22/17 19:34	1
RRO (nC25-nC36)	62	J	72	16	mg/Kg	☼	05/20/17 12:17	05/22/17 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*50 - 150*	*05/20/17 12:17*	*05/22/17 19:34*	*1*
n-Triacontane-d62	*64*		*50 - 150*	*05/20/17 12:17*	*05/22/17 19:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	68.7		0.1	0.1	%			05/30/17 12:06	1
Percent Moisture	31.3		0.1	0.1	%			05/30/17 12:06	1

Client Sample ID: LPW17-SL-OBP-02(2)

Date Collected: 05/07/17 16:45
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-16

Matrix: Solid
Percent Solids: 61.9

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**14**		7.6	0.96	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
2-Methylnaphthalene	**28**		7.6	0.69	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Acenaphthene	ND		7.6	0.92	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Acenaphthylene	ND		7.6	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Anthracene	**1.8**	**J**	7.6	0.92	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Benzo[a]anthracene	ND		7.6	1.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Benzo[a]pyrene	ND		7.6	0.61	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Benzo[b]fluoranthene	**2.8**	**J**	7.6	0.90	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Benzo[g,h,i]perylene	ND		7.6	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Benzo[k]fluoranthene	ND		7.6	0.92	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Chrysene	ND		7.6	2.3	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Dibenz(a,h)anthracene	ND		7.6	1.1	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Fluoranthene	**3.7**	**J**	7.6	2.1	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Fluorene	**2.7**	**J**	7.6	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Indeno[1,2,3-cd]pyrene	ND		7.6	0.92	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Naphthalene	**22**		7.6	1.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Phenanthrene	**24**		7.6	1.1	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1
Pyrene	**2.5**	**J**	7.6	1.5	ug/Kg	☼	05/20/17 11:34	05/22/17 18:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*86*		*68 - 138*	*05/20/17 11:34*	*05/22/17 18:18*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		5.5	1.6	mg/Kg	☼	05/16/17 08:55	05/16/17 22:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*42*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 22:00*	*1*
4-Bromofluorobenzene (Surr)	*92*		*50 - 150*	*05/16/17 08:55*	*05/16/17 22:00*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**59**		33	10	mg/Kg	☼	05/20/17 12:17	05/22/17 19:57	1
RRO (nC25-nC36)	**130**		83	18	mg/Kg	☼	05/20/17 12:17	05/22/17 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*05/20/17 12:17*	*05/22/17 19:57*	*1*
n-Triacontane-d62	*74*		*50 - 150*	*05/20/17 12:17*	*05/22/17 19:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**61.9**		0.1	0.1	%			05/30/17 12:06	1
Percent Moisture	**38.1**		0.1	0.1	%			05/30/17 12:06	1

Client Sample ID: LPW17-SL-WHP-01(2)

Date Collected: 05/07/17 17:50
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-17

Matrix: Solid
Percent Solids: 27.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**100**		19	2.3	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
2-Methylnaphthalene	**170**		19	1.7	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Acenaphthene	ND		19	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Acenaphthylene	**130**		19	1.9	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Anthracene	ND		19	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Benzo[a]anthracene	**8.4**	**J**	19	2.8	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Benzo[a]pyrene	ND		19	1.5	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Benzo[b]fluoranthene	**33**		19	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Benzo[g,h,i]perylene	ND		19	1.9	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Benzo[k]fluoranthene	**7.4**	**J**	19	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Chrysene	**84**		19	5.6	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Dibenz(a,h)anthracene	ND		19	2.7	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Fluoranthene	ND		19	5.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Fluorene	ND		19	1.9	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Indeno[1,2,3-cd]pyrene	ND		19	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Naphthalene	**99**		19	3.0	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Phenanthrene	ND		19	2.6	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1
Pyrene	**100**		19	3.6	ug/Kg	☼	05/20/17 11:34	05/22/17 18:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*82*		*68 - 138*	*05/20/17 11:34*	*05/22/17 18:43*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		18	5.4	mg/Kg	☼	05/16/17 08:55	05/16/17 22:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*65*		*50 - 150*	*05/16/17 08:55*	*05/16/17 22:30*	*1*
4-Bromofluorobenzene (Surr)	*100*		*50 - 150*	*05/16/17 08:55*	*05/16/17 22:30*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**26000**		68	21	mg/Kg	☼	05/20/17 12:17	05/22/17 20:19	1
RRO (nC25-nC36)	**1700**		170	38	mg/Kg	☼	05/20/17 12:17	05/22/17 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*248*	*X*	*50 - 150*	*05/20/17 12:17*	*05/22/17 20:19*	*1*
n-Triacontane-d62	*85*		*50 - 150*	*05/20/17 12:17*	*05/22/17 20:19*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**27.0**		0.1	0.1	%			05/30/17 12:06	1
Percent Moisture	**73.0**		0.1	0.1	%			05/30/17 12:06	1

Client Sample ID: LPW17-SL-WHP-01D(2)

Date Collected: 05/07/17 17:50
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-18

Matrix: Solid
Percent Solids: 31.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	55		15	1.9	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
2-Methylnaphthalene	120		15	1.4	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Acenaphthene	ND		15	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Acenaphthylene	ND		15	1.5	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Anthracene	ND		15	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Benzo[a]anthracene	12	J	15	2.3	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Benzo[a]pyrene	ND		15	1.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Benzo[b]fluoranthene	30		15	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Benzo[g,h,i]perylene	ND		15	1.5	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Benzo[k]fluoranthene	6.7	J	15	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Chrysene	59		15	4.5	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Dibenz(a,h)anthracene	ND		15	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Fluoranthene	67		15	4.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Fluorene	ND		15	1.5	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Indeno[1,2,3-cd]pyrene	ND		15	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Naphthalene	63		15	2.4	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Phenanthrene	ND		15	2.1	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1
Pyrene	81		15	2.9	ug/Kg	☼	05/20/17 11:34	05/22/17 19:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*77*		*68 - 138*	*05/20/17 11:34*	*05/22/17 19:07*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		14	4.1	mg/Kg	☼	05/16/17 08:55	05/16/17 23:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*12*	*X*	*50 - 150*	*05/16/17 08:55*	*05/16/17 23:01*	*1*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*	*05/16/17 08:55*	*05/16/17 23:01*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	18000		61	19	mg/Kg	☼	05/20/17 12:17	05/22/17 20:43	1
RRO (nC25-nC36)	1500		150	33	mg/Kg	☼	05/20/17 12:17	05/22/17 20:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*255*	*X*	*50 - 150*	*05/20/17 12:17*	*05/22/17 20:43*	*1*
n-Triacontane-d62	*97*		*50 - 150*	*05/20/17 12:17*	*05/22/17 20:43*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	31.4		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	68.6		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-WHP-2(1)

Date Collected: 05/07/17 18:10
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-19

Matrix: Solid
Percent Solids: 60.2

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		7.7	0.97	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
2-Methylnaphthalene	**1.6**	**J**	7.7	0.69	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Acenaphthene	ND		7.7	0.93	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Acenaphthylene	ND		7.7	0.77	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Anthracene	ND		7.7	0.93	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Benzo[a]anthracene	ND		7.7	1.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Benzo[a]pyrene	ND		7.7	0.62	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Benzo[b]fluoranthene	**7.4**	**J**	7.7	0.91	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Benzo[g,h,i]perylene	ND		7.7	0.77	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Benzo[k]fluoranthene	**1.1**	**J**	7.7	0.93	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Chrysene	**7.4**	**J**	7.7	2.3	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Dibenz(a,h)anthracene	ND		7.7	1.1	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Fluoranthene	**7.5**	**J**	7.7	2.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Fluorene	ND		7.7	0.77	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Indeno[1,2,3-cd]pyrene	ND		7.7	0.93	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Naphthalene	**7.0**	**J**	7.7	1.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Phenanthrene	**5.9**	**J**	7.7	1.1	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1
Pyrene	**3.1**	**J**	7.7	1.5	ug/Kg	☼	05/20/17 11:34	05/22/17 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*87*		*68 - 138*	*05/20/17 11:34*	*05/22/17 19:32*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		6.5	2.0	mg/Kg	☼	05/16/17 08:55	05/16/17 23:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*58*		*50 - 150*	*05/16/17 08:55*	*05/16/17 23:32*	*1*
4-Bromofluorobenzene (Surr)	*88*		*50 - 150*	*05/16/17 08:55*	*05/16/17 23:32*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**3900**		32	9.7	mg/Kg	☼	05/20/17 12:17	05/23/17 12:44	1
RRO (nC25-nC36)	**630**		80	18	mg/Kg	☼	05/20/17 12:17	05/23/17 12:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*120*		*50 - 150*	*05/20/17 12:17*	*05/23/17 12:44*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*05/20/17 12:17*	*05/23/17 12:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**60.2**		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	**39.8**		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-WHP-3(1)

Date Collected: 05/07/17 18:15
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-20

Matrix: Solid
Percent Solids: 76.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	3.1	J	6.3	0.80	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
2-Methylnaphthalene	5.6	J	6.3	0.57	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Acenaphthene	ND		6.3	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Acenaphthylene	ND		6.3	0.63	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Anthracene	2.3	J	6.3	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Benzo[a]anthracene	9.3		6.3	0.96	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Benzo[a]pyrene	7.7		6.3	0.51	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Benzo[b]fluoranthene	16		6.3	0.75	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Benzo[g,h,i]perylene	3.7	J	6.3	0.63	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Benzo[k]fluoranthene	3.8	J	6.3	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Chrysene	11		6.3	1.9	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Dibenz(a,h)anthracene	ND		6.3	0.91	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Fluoranthene	20		6.3	1.8	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Fluorene	13		6.3	0.63	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Indeno[1,2,3-cd]pyrene	7.1		6.3	0.76	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Naphthalene	7.6		6.3	1.0	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Phenanthrene	11		6.3	0.87	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1
Pyrene	21		6.3	1.2	ug/Kg	☼	05/20/17 11:34	05/22/17 19:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*92*		*68 - 138*	*05/20/17 11:34*	*05/22/17 19:57*	*1*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		3.8	1.2	mg/Kg	☼	05/16/17 08:55	05/17/17 00:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*81*		*50 - 150*	*05/16/17 08:55*	*05/17/17 00:02*	*1*
4-Bromofluorobenzene (Surr)	*89*		*50 - 150*	*05/16/17 08:55*	*05/17/17 00:02*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	55		27	8.1	mg/Kg	☼	05/20/17 12:17	05/23/17 13:07	1
RRO (nC25-nC36)	160		67	15	mg/Kg	☼	05/20/17 12:17	05/23/17 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*82*		*50 - 150*	*05/20/17 12:17*	*05/23/17 13:07*	*1*
n-Triacontane-d62	*84*		*50 - 150*	*05/20/17 12:17*	*05/23/17 13:07*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	76.0		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	24.0		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-WHP-4(1)

Date Collected: 05/07/17 18:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-21

Matrix: Solid
Percent Solids: 81.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	360		30	3.8	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
2-Methylnaphthalene	540		30	2.7	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Acenaphthene	ND		30	3.6	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Acenaphthylene	50		30	3.0	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Anthracene	9.6	J	30	3.6	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Benzo[a]anthracene	18	J	30	4.6	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Benzo[a]pyrene	23	J	30	2.4	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Benzo[b]fluoranthene	35		30	3.5	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Benzo[g,h,i]perylene	16	J	30	3.0	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Benzo[k]fluoranthene	13	J	30	3.6	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Chrysene	29	J	30	9.0	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Dibenz(a,h)anthracene	ND		30	4.3	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Fluoranthene	40		30	8.4	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Fluorene	66		30	3.0	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Indeno[1,2,3-cd]pyrene	28	J	30	3.6	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Naphthalene	210		30	4.8	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Phenanthrene	49		30	4.1	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5
Pyrene	43		30	5.8	ug/Kg	☼	05/20/17 11:34	05/22/17 20:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*98*		*68 - 138*	*05/20/17 11:34*	*05/22/17 20:22*	*5*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	99		2.6	0.79	mg/Kg	☼	05/16/17 08:55	05/17/17 00:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*92*		*50 - 150*	*05/16/17 08:55*	*05/17/17 00:32*	*1*
4-Bromofluorobenzene (Surr)	*590*	*X*	*50 - 150*	*05/16/17 08:55*	*05/17/17 00:32*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	2800		24	7.2	mg/Kg	☼	05/20/17 12:17	05/23/17 13:29	1
RRO (nC25-nC36)	800		59	13	mg/Kg	☼	05/20/17 12:17	05/23/17 13:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*76*		*50 - 150*	*05/20/17 12:17*	*05/23/17 13:29*	*1*
n-Triacontane-d62	*84*		*50 - 150*	*05/20/17 12:17*	*05/23/17 13:29*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.0		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	19.0		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-Bkgd-Weir-01(1.5) **Lab Sample ID: 580-68287-22**
Date Collected: 05/07/17 20:00 **Matrix: Solid**
Date Received: 05/10/17 14:00

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average Dup	41000		2000	44	mg/Kg			05/23/17 16:56	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-Bkgd-WH-02(1) — **Lab Sample ID: 580-68287-23**
Date Collected: 05/07/17 20:10 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 64.5**

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	37		32	9.6	mg/Kg	☼	05/20/17 12:17	05/23/17 13:52	1
DRO (nC10-<nC25)	43	H	30	9.3	mg/Kg	☼	05/23/17 13:39	05/25/17 01:06	1
RRO (nC25-nC36)	110		79	17	mg/Kg	☼	05/20/17 12:17	05/23/17 13:52	1
RRO (nC25-nC36)	210	H	76	17	mg/Kg	☼	05/23/17 13:39	05/25/17 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*50 - 150*	*05/20/17 12:17*	*05/23/17 13:52*	*1*
o-Terphenyl	*81*		*50 - 150*	*05/23/17 13:39*	*05/25/17 01:06*	*1*
n-Triacontane-d62	*86*		*50 - 150*	*05/20/17 12:17*	*05/23/17 13:52*	*1*
n-Triacontane-d62	*71*		*50 - 150*	*05/23/17 13:39*	*05/25/17 01:06*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average Dup	28000		2000	44	mg/Kg			05/23/17 16:37	1
Percent Solids	64.5		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	35.5		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirL-01(0.5) — **Lab Sample ID: 580-68287-24**
Date Collected: 05/08/17 09:05 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 13.7**

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	33		2.8	0.55	mg/Kg	☼	05/16/17 14:16	05/17/17 12:15	10
Chromium	120		2.8	0.35	mg/Kg	☼	05/16/17 14:16	05/17/17 12:15	10
Lead	600		2.8	0.26	mg/Kg	☼	05/16/17 14:16	05/17/17 12:15	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	13.7		0.1	0.1	%			05/30/17 12:06	1
Percent Moisture	86.3		0.1	0.1	%			05/30/17 12:06	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirL-01D(0.5)
Date Collected: 05/08/17 09:05
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-25
Matrix: Solid
Percent Solids: 19.3

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	24		2.1	0.42	mg/Kg	☼	05/16/17 14:16	05/17/17 12:19	10
Chromium	68		2.1	0.27	mg/Kg	☼	05/16/17 14:16	05/17/17 12:19	10
Lead	550		2.1	0.20	mg/Kg	☼	05/16/17 14:16	05/17/17 12:19	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	19.3		0.1	0.1	%			05/30/17 12:06	1
Percent Moisture	80.7		0.1	0.1	%			05/30/17 12:06	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirL-02(0.5) — **Lab Sample ID: 580-68287-26**
Date Collected: 05/08/17 09:08 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 26.1**

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.0		1.6	0.32	mg/Kg	☼	05/16/17 14:16	05/17/17 12:24	10
Chromium	65		1.6	0.20	mg/Kg	☼	05/16/17 14:16	05/17/17 12:24	10
Lead	1200		1.6	0.16	mg/Kg	☼	05/16/17 14:16	05/17/17 12:24	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	26.1		0.1	0.1	%			05/30/17 12:06	1
Percent Moisture	73.9		0.1	0.1	%			05/30/17 12:06	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirL-03(0.5)
Date Collected: 05/08/17 09:15
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-27
Matrix: Solid
Percent Solids: 17.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	44		2.5	0.49	mg/Kg	☼	05/16/17 14:16	05/17/17 12:28	10
Chromium	52		2.5	0.31	mg/Kg	☼	05/16/17 14:16	05/17/17 12:28	10
Lead	720		2.5	0.24	mg/Kg	☼	05/16/17 14:16	05/17/17 12:28	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	17.7		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	82.3		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirL-04(0.5)
Date Collected: 05/08/17 09:18
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-28
Matrix: Solid
Percent Solids: 17.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		2.5	0.49	mg/Kg	☼	05/16/17 14:16	05/17/17 12:33	10
Chromium	120		2.5	0.31	mg/Kg	☼	05/16/17 14:16	05/17/17 12:33	10
Lead	3000		2.5	0.24	mg/Kg	☼	05/16/17 14:16	05/17/17 12:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	17.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	82.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirT-01(0.5)
Date Collected: 05/08/17 09:11
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-29
Matrix: Solid
Percent Solids: 6.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	45		6.9	1.4	mg/Kg	☼	05/16/17 14:16	05/17/17 12:37	10
Chromium	71		6.9	0.87	mg/Kg	☼	05/16/17 14:16	05/17/17 12:37	10
Copper	160		14	3.0	mg/Kg	☼	05/16/17 14:16	05/17/17 12:37	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	6.1		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	93.9		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirT-02(0.5)
Date Collected: 05/08/17 09:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-30
Matrix: Solid
Percent Solids: 8.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	49		4.2	0.84	mg/Kg	☼	05/16/17 14:16	05/17/17 12:42	10
Chromium	49		4.2	0.53	mg/Kg	☼	05/16/17 14:16	05/17/17 12:42	10
Copper	280		8.4	1.9	mg/Kg	☼	05/16/17 14:16	05/17/17 12:42	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	8.0		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	92.0		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirT-03(0.5)
Date Collected: 05/08/17 09:22
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-31
Matrix: Solid
Percent Solids: 12.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	44		2.9	0.59	mg/Kg	☼	05/16/17 14:16	05/17/17 12:46	10
Chromium	110		2.9	0.37	mg/Kg	☼	05/16/17 14:16	05/17/17 12:46	10
Copper	180		5.9	1.3	mg/Kg	☼	05/16/17 14:16	05/17/17 12:46	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	12.1		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	87.9		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirT-03D(0.5)
Date Collected: 05/08/17 09:22
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-32
Matrix: Solid
Percent Solids: 4.4

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	240		9.4	1.9	mg/Kg	☼	05/17/17 15:12	05/18/17 12:41	10
Chromium	370		9.4	1.2	mg/Kg	☼	05/17/17 15:12	05/18/17 12:41	10
Copper	650		19	4.1	mg/Kg	☼	05/17/17 15:12	05/18/17 12:41	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	4.4		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	95.6		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WeirT-04(0.5)
Date Collected: 05/08/17 09:26
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-33
Matrix: Solid
Percent Solids: 15.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.3		2.9	0.58	mg/Kg	☼	05/17/17 15:12	05/18/17 13:22	10
Chromium	3.4		2.9	0.36	mg/Kg	☼	05/17/17 15:12	05/18/17 13:22	10
Copper	49		5.8	1.3	mg/Kg	☼	05/17/17 15:12	05/18/17 13:22	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	15.0		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	85.0		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-PASL-01(0.5)
Date Collected: 05/08/17 09:45
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-34
Matrix: Solid
Percent Solids: 17.3

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	140		2.5	0.51	mg/Kg	☼	05/17/17 15:12	05/18/17 13:26	10
Chromium	81		2.5	0.32	mg/Kg	☼	05/17/17 15:12	05/18/17 13:26	10
Lead	150		2.5	0.24	mg/Kg	☼	05/17/17 15:12	05/18/17 13:26	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	17.3		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	82.7		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-PAST-01(0.5)
Date Collected: 05/08/17 09:38
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-35
Matrix: Solid
Percent Solids: 17.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	780		2.3	0.46	mg/Kg	☼	05/17/17 15:12	05/18/17 13:31	10
Chromium	170		2.3	0.29	mg/Kg	☼	05/17/17 15:12	05/18/17 13:31	10
Copper	730		4.6	1.0	mg/Kg	☼	05/17/17 15:12	05/18/17 13:31	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	17.1		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	82.9		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PAST-02(0.5)
Date Collected: 05/08/17 09:42
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-36
Matrix: Solid
Percent Solids: 29.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	150		1.4	0.28	mg/Kg	☼	05/17/17 15:12	05/18/17 13:35	10
Chromium	170		1.4	0.17	mg/Kg	☼	05/17/17 15:12	05/18/17 13:35	10
Copper	290		2.8	0.61	mg/Kg	☼	05/17/17 15:12	05/18/17 13:35	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	29.7		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	70.3		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PAST-03(0.5)
Date Collected: 05/08/17 10:02
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-37
Matrix: Solid
Percent Solids: 28.8

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	49		1.1	0.22	mg/Kg	☼	05/17/17 15:12	05/18/17 13:40	10
Chromium	50		1.1	0.14	mg/Kg	☼	05/17/17 15:12	05/18/17 13:40	10
Copper	100		2.2	0.48	mg/Kg	☼	05/17/17 15:12	05/18/17 13:40	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	28.8		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	71.2		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PAST-Bkgd(0.5) — **Lab Sample ID: 580-68287-38**
Date Collected: 05/08/17 09:56 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 17.7**

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9		2.5	0.50	mg/Kg	☼	05/17/17 15:12	05/18/17 13:44	10
Chromium	4.5		2.5	0.32	mg/Kg	☼	05/17/17 15:12	05/18/17 13:44	10
Copper	12		5.0	1.1	mg/Kg	☼	05/17/17 15:12	05/18/17 13:44	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	17.7		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	82.3		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-FBT-01(0.5)
Date Collected: 05/08/17 10:16
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-39
Matrix: Solid
Percent Solids: 21.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	43		1.6	0.31	mg/Kg	☼	05/17/17 15:12	05/18/17 13:49	10
Chromium	65		1.6	0.20	mg/Kg	☼	05/17/17 15:12	05/18/17 13:49	10
Copper	180		3.1	0.68	mg/Kg	☼	05/17/17 15:12	05/18/17 13:49	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	21.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	78.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-FBT-02(0.5)
Date Collected: 05/08/17 10:19
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-40
Matrix: Solid
Percent Solids: 16.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	530		2.7	0.54	mg/Kg	☼	05/17/17 15:12	05/18/17 13:53	10
Chromium	35		2.7	0.34	mg/Kg	☼	05/17/17 15:12	05/18/17 13:53	10
Copper	210		5.4	1.2	mg/Kg	☼	05/17/17 15:12	05/18/17 13:53	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	16.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	83.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-MBT-01(0.5) — **Lab Sample ID: 580-68287-41**
Date Collected: 05/08/17 10:28 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 60.9**

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	39		0.66	0.13	mg/Kg	☼	05/17/17 15:12	05/18/17 13:58	10
Chromium	21		0.66	0.084	mg/Kg	☼	05/17/17 15:12	05/18/17 13:58	10
Copper	46		1.3	0.29	mg/Kg	☼	05/17/17 15:12	05/18/17 13:58	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	60.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	39.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-MBT-02(0.5)
Date Collected: 05/08/17 10:31
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-42
Matrix: Solid
Percent Solids: 18.5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		2.0	0.40	mg/Kg	☼	05/17/17 15:12	05/18/17 14:20	10
Chromium	7.4		2.0	0.25	mg/Kg	☼	05/17/17 15:12	05/18/17 14:20	10
Copper	72		4.0	0.89	mg/Kg	☼	05/17/17 15:12	05/18/17 14:20	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	18.5		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	81.5		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PACT-01(0.5)
Date Collected: 05/08/17 10:39
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-43
Matrix: Solid
Percent Solids: 71.4

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.7		0.64	0.13	mg/Kg	☼	05/17/17 15:12	05/18/17 14:25	10
Chromium	15		0.64	0.080	mg/Kg	☼	05/17/17 15:12	05/18/17 14:25	10
Copper	15		1.3	0.28	mg/Kg	☼	05/17/17 15:12	05/18/17 14:25	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	71.4		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	28.6		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PACT-01D(0.5)
Date Collected: 05/08/17 10:39
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-44
Matrix: Solid
Percent Solids: 74.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.9		0.62	0.12	mg/Kg	☼	05/18/17 11:56	05/19/17 00:33	10
Chromium	16		0.62	0.079	mg/Kg	☼	05/18/17 11:56	05/19/17 00:33	10
Copper	17		1.2	0.27	mg/Kg	☼	05/18/17 11:56	05/19/17 00:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	74.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	25.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PACT-02(0.5)
Date Collected: 05/08/17 10:44
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-45
Matrix: Solid
Percent Solids: 24.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26		2.0	0.39	mg/Kg	☼	05/18/17 11:56	05/19/17 00:37	10
Chromium	44		2.0	0.25	mg/Kg	☼	05/18/17 11:56	05/19/17 00:37	10
Copper	410		3.9	0.87	mg/Kg	☼	05/18/17 11:56	05/19/17 00:37	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	24.0		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	76.0		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-CCBT-01(0.5)
Date Collected: 05/08/17 10:55
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-46
Matrix: Solid
Percent Solids: 79.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7		0.55	0.11	mg/Kg	☼	05/18/17 11:56	05/19/17 00:42	10
Chromium	15		0.55	0.069	mg/Kg	☼	05/18/17 11:56	05/19/17 00:42	10
Copper	17		1.1	0.24	mg/Kg	☼	05/18/17 11:56	05/19/17 00:42	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	20.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-CCBT-02(0.5)
Date Collected: 05/08/17 11:00
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-47
Matrix: Solid
Percent Solids: 66.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.7		0.62	0.12	mg/Kg	☼	05/18/17 11:56	05/19/17 00:46	10
Chromium	18		0.62	0.079	mg/Kg	☼	05/18/17 11:56	05/19/17 00:46	10
Copper	8.0		1.2	0.27	mg/Kg	☼	05/18/17 11:56	05/19/17 00:46	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	66.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	33.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-CCL-01(0.5)
Date Collected: 05/08/17 11:08
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-48
Matrix: Solid

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	15.0		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	85.0		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-CCL-01(0.5)
Date Collected: 05/08/17 11:08
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-48
Matrix: Solid
Percent Solids: 15.0

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	88		3.0	0.29	mg/Kg	☼	05/18/17 11:56	05/19/17 00:50	10

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-CCL-01(0.5)
Date Collected: 05/08/17 11:10
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-49
Matrix: Solid
Percent Solids: 14.2

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.3		3.4	0.68	mg/Kg	☼	05/18/17 11:56	05/19/17 00:55	10
Chromium	12		3.4	0.43	mg/Kg	☼	05/18/17 11:56	05/19/17 00:55	10
Copper	35		6.8	1.5	mg/Kg	☼	05/18/17 11:56	05/19/17 00:55	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	14.2		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	85.8		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-CCL-02(0.5)
Date Collected: 05/08/17 11:40
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-50
Matrix: Solid
Percent Solids: 63.5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.1		0.68	0.14	mg/Kg	☼	05/18/17 11:56	05/19/17 00:59	10
Chromium	22		0.68	0.086	mg/Kg	☼	05/18/17 11:56	05/19/17 00:59	10
Copper	10		1.4	0.30	mg/Kg	☼	05/18/17 11:56	05/19/17 00:59	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	63.5		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	36.5		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-CCL-03(0.5)

Lab Sample ID: 580-68287-51

Date Collected: 05/08/17 11:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 12.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.5	J	3.6	0.71	mg/Kg	☼	05/18/17 11:56	05/19/17 01:04	10
Chromium	8.5		3.6	0.45	mg/Kg	☼	05/18/17 11:56	05/19/17 01:04	10
Copper	9.9		7.1	1.6	mg/Kg	☼	05/18/17 11:56	05/19/17 01:04	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	12.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	87.1		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-GSL-01(0.5)

Lab Sample ID: 580-68287-52
Date Collected: 05/08/17 12:03
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 71.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		0.68	0.14	mg/Kg	☼	05/18/17 11:56	05/19/17 01:08	10
Chromium	29		0.68	0.086	mg/Kg	☼	05/18/17 11:56	05/19/17 01:08	10
Lead	29		0.68	0.065	mg/Kg	☼	05/18/17 11:56	05/19/17 01:08	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	71.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	28.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-GSL-02(0.5)
Date Collected: 05/08/17 12:06
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-53
Matrix: Solid
Percent Solids: 63.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7		0.75	0.15	mg/Kg	☼	05/18/17 11:56	05/19/17 01:31	10
Chromium	18		0.75	0.094	mg/Kg	☼	05/18/17 11:56	05/19/17 01:31	10
Lead	3.9		0.75	0.072	mg/Kg	☼	05/18/17 11:56	05/19/17 01:31	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	63.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	36.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-INT-01(0.5)
Date Collected: 05/08/17 12:12
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-54
Matrix: Solid
Percent Solids: 70.3

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22		0.62	0.12	mg/Kg	☼	05/18/17 11:56	05/19/17 01:35	10
Chromium	30		0.62	0.078	mg/Kg	☼	05/18/17 11:56	05/19/17 01:35	10
Copper	110		1.2	0.27	mg/Kg	☼	05/18/17 11:56	05/19/17 01:35	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	70.3		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	29.7		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-INT-02(0.5)
Date Collected: 05/08/17 12:16
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-55
Matrix: Solid
Percent Solids: 55.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	31		0.84	0.17	mg/Kg	☼	05/18/17 11:56	05/19/17 01:39	10
Chromium	43		0.84	0.11	mg/Kg	☼	05/18/17 11:56	05/19/17 01:39	10
Copper	100		1.7	0.37	mg/Kg	☼	05/18/17 11:56	05/19/17 01:39	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	55.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	44.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WAT-01(0.5)
Date Collected: 05/08/17 12:18
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-56
Matrix: Solid
Percent Solids: 79.2

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	18		0.55	0.11	mg/Kg	☼	05/18/17 11:56	05/19/17 01:44	10
Chromium	29		0.55	0.069	mg/Kg	☼	05/18/17 11:56	05/19/17 01:44	10
Copper	100		1.1	0.24	mg/Kg	☼	05/18/17 11:56	05/19/17 01:44	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.2		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	20.8		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WAT-02(0.5)
Date Collected: 05/08/17 12:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-57
Matrix: Solid
Percent Solids: 47.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	340		0.94	0.19	mg/Kg	☼	05/18/17 11:56	05/19/17 01:48	10
Chromium	79		0.94	0.12	mg/Kg	☼	05/18/17 11:56	05/19/17 01:48	10
Copper	820		1.9	0.41	mg/Kg	☼	05/18/17 11:56	05/19/17 01:48	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	47.1		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	52.9		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WSL-01(0.5) — **Lab Sample ID: 580-68287-58**
Date Collected: 05/08/17 12:32 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 73.1**

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		0.57	0.11	mg/Kg	☼	05/18/17 11:56	05/19/17 01:53	10
Chromium	14		0.57	0.072	mg/Kg	☼	05/18/17 11:56	05/19/17 01:53	10
Lead	34		0.57	0.055	mg/Kg	☼	05/18/17 11:56	05/19/17 01:53	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	73.1		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	26.9		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WSL-02(0.5)
Date Collected: 05/08/17 12:42
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-59
Matrix: Solid
Percent Solids: 51.8

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.0		0.94	0.19	mg/Kg	☼	05/22/17 10:05	05/22/17 18:27	10
Chromium	21		0.94	0.12	mg/Kg	☼	05/22/17 10:05	05/22/17 18:27	10
Lead	33		0.94	0.090	mg/Kg	☼	05/22/17 10:05	05/22/17 18:27	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	51.8		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	48.2		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WSL-03(0.5)
Date Collected: 05/08/17 12:45
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-60
Matrix: Solid
Percent Solids: 58.1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		0.76	0.15	mg/Kg	☼	05/22/17 10:05	05/22/17 18:31	10
Chromium	22		0.76	0.096	mg/Kg	☼	05/22/17 10:05	05/22/17 18:31	10
Lead	19		0.76	0.073	mg/Kg	☼	05/22/17 10:05	05/22/17 18:31	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	58.1		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	41.9		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHBT-01(0.5)
Date Collected: 05/08/17 12:50
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-61
Matrix: Solid
Percent Solids: 15.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14		3.1	0.62	mg/Kg	☼	05/22/17 10:05	05/22/17 18:36	10
Chromium	21		3.1	0.39	mg/Kg	☼	05/22/17 10:05	05/22/17 18:36	10
Copper	35		6.2	1.4	mg/Kg	☼	05/22/17 10:05	05/22/17 18:36	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	15.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	84.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHBT-02(0.5)
Date Collected: 05/08/17 12:53
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-62
Matrix: Solid
Percent Solids: 51.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.1		0.77	0.15	mg/Kg	☼	05/22/17 10:05	05/22/17 18:06	10
Chromium	20		0.77	0.097	mg/Kg	☼	05/22/17 10:05	05/22/17 18:06	10
Copper	11		1.5	0.34	mg/Kg	☼	05/22/17 10:05	05/22/17 18:06	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	51.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	48.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHDT-01(0.5)
Date Collected: 05/08/17 13:00
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-63
Matrix: Solid
Percent Solids: 57.6

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	37		0.83	0.17	mg/Kg	☼	05/22/17 10:05	05/22/17 18:10	10
Chromium	38		0.83	0.10	mg/Kg	☼	05/22/17 10:05	05/22/17 18:10	10
Copper	72		1.7	0.36	mg/Kg	☼	05/22/17 10:05	05/22/17 18:10	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	57.6		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	42.4		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHDT-02(0.5)
Date Collected: 05/08/17 13:04
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-64
Matrix: Solid
Percent Solids: 30.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		1.4	0.29	mg/Kg	☼	05/22/17 10:05	05/22/17 18:15	10
Chromium	31		1.4	0.18	mg/Kg	☼	05/22/17 10:05	05/22/17 18:15	10
Copper	120		2.9	0.63	mg/Kg	☼	05/22/17 10:05	05/22/17 18:15	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	30.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	69.1		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHDT-02D(0.5)
Date Collected: 05/08/17 13:04
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-65
Matrix: Solid
Percent Solids: 26.8

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14		1.7	0.33	mg/Kg	☼	05/22/17 10:05	05/22/17 18:19	10
Chromium	26		1.7	0.21	mg/Kg	☼	05/22/17 10:05	05/22/17 18:19	10
Copper	130		3.3	0.73	mg/Kg	☼	05/22/17 10:05	05/22/17 18:19	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	26.8		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	73.2		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHL-01(0.5)
Date Collected: 05/08/17 13:12
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-66
Matrix: Solid
Percent Solids: 40.5

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.2		1.2	0.24	mg/Kg	☼	05/22/17 10:05	05/22/17 18:23	10
Chromium	22		1.2	0.15	mg/Kg	☼	05/22/17 10:05	05/22/17 18:23	10
Lead	580		1.2	0.11	mg/Kg	☼	05/22/17 10:05	05/22/17 18:23	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	40.5		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	59.5		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-WHL-02(0.5)
Date Collected: 05/08/17 13:14
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-67
Matrix: Solid
Percent Solids: 60.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23		0.60	0.12	mg/Kg	☼	05/22/17 11:58	05/22/17 21:33	10
Chromium	37	F1	0.60	0.075	mg/Kg	☼	05/22/17 11:58	05/22/17 21:33	10
Lead	130	F1 F2	0.60	0.057	mg/Kg	☼	05/22/17 11:58	05/22/17 21:33	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	60.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	39.1		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-WHL-03(0.5)
Date Collected: 05/08/17 13:16
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-68
Matrix: Solid
Percent Solids: 56.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		0.83	0.17	mg/Kg	☼	05/22/17 11:58	05/22/17 22:11	10
Chromium	41		0.83	0.10	mg/Kg	☼	05/22/17 11:58	05/22/17 22:11	10
Lead	140		0.83	0.079	mg/Kg	☼	05/22/17 11:58	05/22/17 22:11	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	56.7		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	43.3		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHL-03D(0.5)
Date Collected: 05/08/17 13:16
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-69
Matrix: Solid
Percent Solids: 60.7

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		0.62	0.12	mg/Kg	☼	05/22/17 11:58	05/22/17 22:15	10
Chromium	30		0.62	0.079	mg/Kg	☼	05/22/17 11:58	05/22/17 22:15	10
Lead	110		0.62	0.060	mg/Kg	☼	05/22/17 11:58	05/22/17 22:15	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	60.7		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	39.3		0.1	0.1	%			05/30/17 10:01	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-WHL-04(0.5)
Date Collected: 05/08/17 13:18
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-70
Matrix: Solid
Percent Solids: 39.9

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		1.0	0.21	mg/Kg	☼	05/22/17 11:58	05/22/17 22:19	10
Chromium	25		1.0	0.13	mg/Kg	☼	05/22/17 11:58	05/22/17 22:19	10
Lead	300		1.0	0.10	mg/Kg	☼	05/22/17 11:58	05/22/17 22:19	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	39.9		0.1	0.1	%			05/30/17 10:01	1
Percent Moisture	60.1		0.1	0.1	%			05/30/17 10:01	1

Client Sample ID: LPW17-SL-GSP-W-01

Date Collected: 05/08/17 15:40
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-71

Matrix: Solid
Percent Solids: 58.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	870		8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
2-Methylnaphthalene	1200	F1	8.3	0.75	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Acenaphthene	58		8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Acenaphthylene	ND		8.3	0.83	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Anthracene	20		8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[a]anthracene	7.0	J B	8.3	1.3	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[a]pyrene	2.9	J	8.3	0.66	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[b]fluoranthene	13		8.3	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[g,h,i]perylene	3.7	J	8.3	0.83	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[k]fluoranthene	4.7	J	8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Chrysene	19		8.3	2.5	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Dibenz(a,h)anthracene	1.2	J	8.3	1.2	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Fluoranthene	43		8.3	2.3	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Fluorene	120		8.3	0.83	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Indeno[1,2,3-cd]pyrene	4.0	J	8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Naphthalene	630		8.3	1.3	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Phenanthrene	98		8.3	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Pyrene	74		8.3	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*73*		*68 - 138*	*05/22/17 09:33*	*05/30/17 13:35*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	9000	F2	32	9.9	mg/Kg	☼	05/20/17 12:17	05/23/17 14:15	1
RRO (nC25-nC36)	200	F2	81	18	mg/Kg	☼	05/20/17 12:17	05/23/17 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*106*		*50 - 150*	*05/20/17 12:17*	*05/23/17 14:15*	*1*
n-Triacontane-d62	*89*		*50 - 150*	*05/20/17 12:17*	*05/23/17 14:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	58.4		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	41.6		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak01

Date Collected: 05/08/17 15:55
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-72

Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		11	4.7	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
Toluene	**25**	**J**	83	17	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
Ethylbenzene	**93**		22	5.0	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
m-Xylene & p-Xylene	**370**		110	18	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
o-Xylene	**240**		22	7.4	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*91*		*52 - 152*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
Toluene-d8 (Surr)	*97*		*79 - 119*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 121*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 120*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
Dibromofluoromethane (Surr)	*98*		*78 - 118*	*05/17/17 14:40*	*05/18/17 00:47*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**75**		5.8	0.73	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
2-Methylnaphthalene	**77**		5.8	0.52	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Acenaphthene	**18**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Acenaphthylene	**13**		5.8	0.58	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Anthracene	**11**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[a]anthracene	**15**	**B**	5.8	0.89	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[a]pyrene	**43**		5.8	0.47	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[b]fluoranthene	**60**		5.8	0.69	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[g,h,i]perylene	**71**		5.8	0.58	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[k]fluoranthene	**18**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Chrysene	**22**		5.8	1.7	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Dibenz(a,h)anthracene	**8.3**		5.8	0.84	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Fluoranthene	**45**		5.8	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Fluorene	**20**		5.8	0.58	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Indeno[1,2,3-cd]pyrene	**80**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Naphthalene	**45**		5.8	0.93	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Phenanthrene	**26**		5.8	0.80	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Pyrene	**74**		5.8	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*76*		*68 - 138*	*05/22/17 09:33*	*05/30/17 15:04*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**750**		22	6.7	mg/Kg	☼	05/20/17 12:17	05/23/17 15:23	1
RRO (nC25-nC36)	**47**	**J**	55	12	mg/Kg	☼	05/20/17 12:17	05/23/17 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:23*	*1*
n-Triacontane-d62	*87*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.2**		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	**15.8**		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak02

Date Collected: 05/08/17 16:05
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-73

Matrix: Solid
Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		12	5.4	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
Toluene	ND		94	20	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
Ethylbenzene	ND		25	5.7	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
m-Xylene & p-Xylene	ND		120	20	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
o-Xylene	ND		25	8.4	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*109*		*52 - 152*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
Toluene-d8 (Surr)	*98*		*79 - 119*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*81 - 121*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
Dibromofluoromethane (Surr)	*96*		*78 - 118*	*05/17/17 14:40*	*05/18/17 01:13*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	11		5.4	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
2-Methylnaphthalene	11		5.4	0.49	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Acenaphthene	3.9	J	5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Acenaphthylene	3.9	J	5.4	0.54	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Anthracene	6.9		5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[a]anthracene	14	B	5.4	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[a]pyrene	65		5.4	0.43	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[b]fluoranthene	73		5.4	0.64	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[g,h,i]perylene	71		5.4	0.54	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[k]fluoranthene	27		5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Chrysene	35		5.4	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Dibenz(a,h)anthracene	11		5.4	0.78	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Fluoranthene	32		5.4	1.5	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Fluorene	4.0	J	5.4	0.54	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Indeno[1,2,3-cd]pyrene	82		5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Naphthalene	9.8		5.4	0.87	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Phenanthrene	15		5.4	0.75	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Pyrene	32		5.4	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*74*		*68 - 138*	*05/22/17 09:33*	*05/30/17 14:42*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	47		22	6.8	mg/Kg	☼	05/20/17 12:17	05/23/17 15:46	1
RRO (nC25-nC36)	50	J	56	12	mg/Kg	☼	05/20/17 12:17	05/23/17 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:46*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.6		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	15.4		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak03
Date Collected: 05/08/17 16:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-74
Matrix: Solid
Percent Solids: 85.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	4.5	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
Toluene	ND		78	16	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
Ethylbenzene	ND		21	4.7	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
m-Xylene & p-Xylene	ND		100	17	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
o-Xylene	ND		21	7.0	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*98*		*52 - 152*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
Toluene-d8 (Surr)	*98*		*79 - 119*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 121*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
Dibromofluoromethane (Surr)	*106*		*78 - 118*	*05/17/17 14:40*	*05/18/17 01:40*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	5.2	J	5.6	0.71	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
2-Methylnaphthalene	7.1		5.6	0.51	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Acenaphthene	1.3	J	5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Acenaphthylene	2.0	J	5.6	0.56	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Anthracene	2.8	J	5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[a]anthracene	5.6	B	5.6	0.86	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[a]pyrene	19		5.6	0.45	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[b]fluoranthene	18		5.6	0.67	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[g,h,i]perylene	21		5.6	0.56	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[k]fluoranthene	5.8		5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Chrysene	10		5.6	1.7	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Dibenz(a,h)anthracene	3.0	J	5.6	0.81	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Fluoranthene	8.3		5.6	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Fluorene	1.5	J	5.6	0.56	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Indeno[1,2,3-cd]pyrene	23		5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Naphthalene	4.4	J	5.6	0.90	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Phenanthrene	4.9	J	5.6	0.78	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Pyrene	9.4		5.6	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*78*		*68 - 138*	*05/22/17 09:33*	*05/30/17 15:27*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	9.9	J	22	6.7	mg/Kg	☼	05/20/17 12:17	05/23/17 16:09	1
RRO (nC25-nC36)	19	J	55	12	mg/Kg	☼	05/20/17 12:17	05/23/17 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:09*	*1*
n-Triacontane-d62	*78*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	14.6		0.1	0.1	%			05/23/17 15:47	1

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-WH-01
Date Collected: 05/09/17 09:30
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-75
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	8500		6.3	0.61	mg/Kg		05/22/17 11:58	05/22/17 22:49	100

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-WH-02
Date Collected: 05/09/17 09:35
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-76
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1100		47	4.5	mg/Kg		05/22/17 11:58	05/22/17 22:57	100

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-WH-03
Date Collected: 05/09/17 09:40
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-77
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	78000		50	4.8	mg/Kg		05/22/17 11:58	05/22/17 22:53	100

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-WH-04
Date Collected: 05/09/17 09:45
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-78
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	14000		44	4.3	mg/Kg		05/22/17 11:58	05/22/17 23:01	100

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-WH-05
Date Collected: 05/09/17 09:50
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-79
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	54000		23	2.3	mg/Kg		05/22/17 11:58	05/22/17 22:44	100

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-Weir04
Date Collected: 05/06/17 18:35
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-80
Matrix: Solid

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	39		6.6	0.63	mg/Kg		05/22/17 11:58	05/22/17 22:40	100

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: Trip Blank
Date Collected: 05/08/17 00:00
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-81
Matrix: Solid

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		100	30	mg/Kg		05/16/17 08:55	05/16/17 15:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*99*		*50 - 150*	*05/16/17 08:55*	*05/16/17 15:54*	*1*
4-Bromofluorobenzene (Surr)	*93*		*50 - 150*	*05/16/17 08:55*	*05/16/17 15:54*	*1*

Client Sample ID: LPW17-SL-GSP-Leak04

Date Collected: 05/08/17 16:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-82

Matrix: Solid
Percent Solids: 58.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		8.2	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
2-Methylnaphthalene	ND		8.2	0.73	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Acenaphthene	ND		8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Acenaphthylene	ND		8.2	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Anthracene	**1.1**	**J**	8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[a]anthracene	**4.3**	**J B**	8.2	1.2	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[a]pyrene	**7.3**	**J**	8.2	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[b]fluoranthene	**9.0**		8.2	0.96	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[g,h,i]perylene	**6.1**	**J**	8.2	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[k]fluoranthene	**3.0**	**J**	8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Chrysene	**3.3**	**J**	8.2	2.4	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Dibenz(a,h)anthracene	ND		8.2	1.2	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Fluoranthene	**5.4**	**J**	8.2	2.3	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Fluorene	ND		8.2	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Indeno[1,2,3-cd]pyrene	**6.4**	**J**	8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Naphthalene	ND		8.2	1.3	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Phenanthrene	**4.3**	**J**	8.2	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Pyrene	**4.5**	**J**	8.2	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*82*		*68 - 138*	*05/22/17 09:33*	*05/30/17 15:49*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**42**		33	10	mg/Kg	☼	05/20/17 12:17	05/23/17 16:55	1
RRO (nC25-nC36)	**110**		82	18	mg/Kg	☼	05/20/17 12:17	05/23/17 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:55*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**58.0**		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	**42.0**		0.1	0.1	%			05/23/17 15:47	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-246134/1-A
Matrix: Solid
Analysis Batch: 246158

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246134

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		20	8.6	ug/Kg		05/17/17 14:40	05/17/17 22:33	1
Toluene	ND		150	32	ug/Kg		05/17/17 14:40	05/17/17 22:33	1
Ethylbenzene	ND		40	9.1	ug/Kg		05/17/17 14:40	05/17/17 22:33	1
m-Xylene & p-Xylene	ND		200	33	ug/Kg		05/17/17 14:40	05/17/17 22:33	1
o-Xylene	ND		40	13	ug/Kg		05/17/17 14:40	05/17/17 22:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*105*		*52 - 152*	*05/17/17 14:40*	*05/17/17 22:33*	*1*
Toluene-d8 (Surr)	*98*		*79 - 119*	*05/17/17 14:40*	*05/17/17 22:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*107*		*81 - 121*	*05/17/17 14:40*	*05/17/17 22:33*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*05/17/17 14:40*	*05/17/17 22:33*	*1*
Dibromofluoromethane (Surr)	*104*		*78 - 118*	*05/17/17 14:40*	*05/17/17 22:33*	*1*

Lab Sample ID: LCS 580-246134/2-A
Matrix: Solid
Analysis Batch: 246158

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246134

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	800	879		ug/Kg		110	70 - 118
Toluene	800	881		ug/Kg		110	67 - 119
Ethylbenzene	800	880		ug/Kg		110	66 - 119
m-Xylene & p-Xylene	800	870		ug/Kg		109	69 - 126
o-Xylene	800	816		ug/Kg		102	66 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*102*		*52 - 152*
Toluene-d8 (Surr)	*104*		*79 - 119*
1,2-Dichloroethane-d4 (Surr)	*97*		*81 - 121*
4-Bromofluorobenzene (Surr)	*99*		*79 - 120*
Dibromofluoromethane (Surr)	*99*		*78 - 118*

Lab Sample ID: LCSD 580-246134/3-A
Matrix: Solid
Analysis Batch: 246158

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246134

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	800	852		ug/Kg		106	70 - 118	3	19
Toluene	800	840		ug/Kg		105	67 - 119	5	19
Ethylbenzene	800	872		ug/Kg		109	66 - 119	1	23
m-Xylene & p-Xylene	800	848		ug/Kg		106	69 - 126	3	23
o-Xylene	800	776		ug/Kg		97	66 - 127	5	22

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*99*		*52 - 152*
Toluene-d8 (Surr)	*97*		*79 - 119*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 121*
4-Bromofluorobenzene (Surr)	*88*		*79 - 120*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-246134/3-A
Matrix: Solid
Analysis Batch: 246158

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246134

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Dibromofluoromethane (Surr)	97		78 - 118

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-246324/1-A
Matrix: Solid
Analysis Batch: 246433

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246324

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		5.0	0.63	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
2-Methylnaphthalene	ND		5.0	0.45	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Acenaphthene	ND		5.0	0.60	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Acenaphthylene	ND		5.0	0.50	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Anthracene	ND		5.0	0.60	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Benzo[a]anthracene	0.939	J	5.0	0.76	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Benzo[a]pyrene	ND		5.0	0.40	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Benzo[b]fluoranthene	ND		5.0	0.59	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Benzo[g,h,i]perylene	ND		5.0	0.50	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Benzo[k]fluoranthene	ND		5.0	0.60	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Chrysene	ND		5.0	1.5	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Dibenz(a,h)anthracene	ND		5.0	0.72	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Fluoranthene	ND		5.0	1.4	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Fluorene	ND		5.0	0.50	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.60	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Naphthalene	ND		5.0	0.80	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Phenanthrene	ND		5.0	0.69	ug/Kg		05/19/17 09:58	05/20/17 11:50	1
Pyrene	ND		5.0	0.97	ug/Kg		05/19/17 09:58	05/20/17 11:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	98		68 - 138	05/19/17 09:58	05/20/17 11:50	1

Lab Sample ID: LCS 580-246324/2-A
Matrix: Solid
Analysis Batch: 246433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1000	891		ug/Kg		89	71 - 118
2-Methylnaphthalene	1000	911		ug/Kg		91	75 - 119
Acenaphthene	1000	870		ug/Kg		87	68 - 116
Acenaphthylene	1000	910		ug/Kg		91	68 - 120
Anthracene	1000	984		ug/Kg		98	73 - 125
Benzo[a]anthracene	1000	911		ug/Kg		91	66 - 119
Benzo[a]pyrene	1000	987		ug/Kg		99	72 - 124
Benzo[b]fluoranthene	1000	869		ug/Kg		87	63 - 121
Benzo[g,h,i]perylene	1000	916		ug/Kg		92	63 - 124
Benzo[k]fluoranthene	1000	939		ug/Kg		94	63 - 129
Chrysene	1000	926		ug/Kg		93	69 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-246324/2-A
Matrix: Solid
Analysis Batch: 246433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz(a,h)anthracene	1000	937		ug/Kg		94	70 - 125
Fluoranthene	1000	933		ug/Kg		93	65 - 125
Fluorene	1000	921		ug/Kg		92	66 - 121
Indeno[1,2,3-cd]pyrene	1000	842		ug/Kg		84	65 - 121
Naphthalene	1000	878		ug/Kg		88	70 - 112
Phenanthrene	1000	865		ug/Kg		87	73 - 106
Pyrene	1000	874		ug/Kg		87	64 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*82*		*68 - 138*

Lab Sample ID: 580-68287-7 MS
Matrix: Solid
Analysis Batch: 246433

Client Sample ID: LPW17-SL-WeirP-03(2.5)
Prep Type: Total/NA
Prep Batch: 246324

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	4.1	J	2150	1750		ug/Kg	☼	81	71 - 118
2-Methylnaphthalene	6.7	J	2150	1780		ug/Kg	☼	82	75 - 119
Acenaphthene	ND		2150	1600		ug/Kg	☼	74	68 - 116
Acenaphthylene	ND		2150	1700		ug/Kg	☼	79	68 - 120
Anthracene	ND		2150	1900		ug/Kg	☼	88	73 - 125
Benzo[a]anthracene	8.4	J B	2150	1800		ug/Kg	☼	83	66 - 119
Benzo[a]pyrene	4.2	J	2150	1690		ug/Kg	☼	78	72 - 124
Benzo[b]fluoranthene	17		2150	1540		ug/Kg	☼	71	63 - 121
Benzo[g,h,i]perylene	3.5	J	2150	1490		ug/Kg	☼	69	63 - 124
Benzo[k]fluoranthene	5.7	J	2150	1490		ug/Kg	☼	69	63 - 129
Chrysene	27		2150	1750		ug/Kg	☼	80	69 - 120
Dibenz(a,h)anthracene	ND		2150	1550		ug/Kg	☼	72	70 - 125
Fluoranthene	27		2150	1770		ug/Kg	☼	81	65 - 125
Fluorene	ND		2150	1690		ug/Kg	☼	78	66 - 121
Indeno[1,2,3-cd]pyrene	4.6	J	2150	1620		ug/Kg	☼	75	65 - 121
Naphthalene	23		2150	1720		ug/Kg	☼	79	70 - 112
Phenanthrene	22		2150	1670		ug/Kg	☼	77	73 - 106
Pyrene	20		2150	1690		ug/Kg	☼	78	64 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Terphenyl-d14	*72*		*68 - 138*

Lab Sample ID: 580-68287-7 MSD
Matrix: Solid
Analysis Batch: 246433

Client Sample ID: LPW17-SL-WeirP-03(2.5)
Prep Type: Total/NA
Prep Batch: 246324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	4.1	J	2320	1900		ug/Kg	☼	82	71 - 118	8	40
2-Methylnaphthalene	6.7	J	2320	1930		ug/Kg	☼	83	75 - 119	8	40
Acenaphthene	ND		2320	1760		ug/Kg	☼	76	68 - 116	10	40
Acenaphthylene	ND		2320	1880		ug/Kg	☼	81	68 - 120	10	40
Anthracene	ND		2320	2070		ug/Kg	☼	89	73 - 125	8	40

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-68287-7 MSD
Matrix: Solid
Analysis Batch: 246433

Client Sample ID: LPW17-SL-WeirP-03(2.5)
Prep Type: Total/NA
Prep Batch: 246324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]anthracene	8.4	J B	2320	2030		ug/Kg	☼	87	66 - 119	12	40
Benzo[a]pyrene	4.2	J	2320	1860		ug/Kg	☼	80	72 - 124	9	40
Benzo[b]fluoranthene	17		2320	1680		ug/Kg	☼	71	63 - 121	8	40
Benzo[g,h,i]perylene	3.5	J	2320	1610		ug/Kg	☼	69	63 - 124	8	40
Benzo[k]fluoranthene	5.7	J	2320	1660		ug/Kg	☼	71	63 - 129	11	40
Chrysene	27		2320	1860		ug/Kg	☼	79	69 - 120	6	40
Dibenz(a,h)anthracene	ND		2320	1710		ug/Kg	☼	74	70 - 125	9	40
Fluoranthene	27		2320	1930		ug/Kg	☼	82	65 - 125	9	40
Fluorene	ND		2320	1850		ug/Kg	☼	80	66 - 121	9	40
Indeno[1,2,3-cd]pyrene	4.6	J	2320	1750		ug/Kg	☼	75	65 - 121	8	40
Naphthalene	23		2320	1870		ug/Kg	☼	79	70 - 112	8	40
Phenanthrene	22		2320	1820		ug/Kg	☼	78	73 - 106	8	40
Pyrene	20		2320	1840		ug/Kg	☼	78	64 - 120	8	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Terphenyl-d14	*73*		*68 - 138*

Lab Sample ID: MB 580-246436/1-A
Matrix: Solid
Analysis Batch: 246475

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246436

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		5.0	0.63	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
2-Methylnaphthalene	ND		5.0	0.45	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Acenaphthene	ND		5.0	0.60	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Acenaphthylene	ND		5.0	0.50	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Anthracene	ND		5.0	0.60	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Benzo[a]anthracene	ND		5.0	0.76	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Benzo[a]pyrene	ND		5.0	0.40	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Benzo[b]fluoranthene	ND		5.0	0.59	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Benzo[g,h,i]perylene	ND		5.0	0.50	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Benzo[k]fluoranthene	ND		5.0	0.60	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Chrysene	ND		5.0	1.5	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Dibenz(a,h)anthracene	ND		5.0	0.72	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Fluoranthene	ND		5.0	1.4	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Fluorene	ND		5.0	0.50	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Indeno[1,2,3-cd]pyrene	ND		5.0	0.60	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Naphthalene	ND		5.0	0.80	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Phenanthrene	ND		5.0	0.69	ug/Kg		05/20/17 11:34	05/22/17 10:06	1
Pyrene	ND		5.0	0.97	ug/Kg		05/20/17 11:34	05/22/17 10:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*79*		*68 - 138*	*05/20/17 11:34*	*05/22/17 10:06*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-246436/2-A
Matrix: Solid
Analysis Batch: 246475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1000	922		ug/Kg		92	71 - 118
2-Methylnaphthalene	1000	1070		ug/Kg		107	75 - 119
Acenaphthene	1000	886		ug/Kg		89	68 - 116
Acenaphthylene	1000	1030		ug/Kg		103	68 - 120
Anthracene	1000	871		ug/Kg		87	73 - 125
Benzo[a]anthracene	1000	1060		ug/Kg		106	66 - 119
Benzo[a]pyrene	1000	1050		ug/Kg		105	72 - 124
Benzo[b]fluoranthene	1000	1020		ug/Kg		102	63 - 121
Benzo[g,h,i]perylene	1000	928		ug/Kg		93	63 - 124
Benzo[k]fluoranthene	1000	951		ug/Kg		95	63 - 129
Chrysene	1000	845		ug/Kg		85	69 - 120
Dibenz(a,h)anthracene	1000	948		ug/Kg		95	70 - 125
Fluoranthene	1000	931		ug/Kg		93	65 - 125
Fluorene	1000	971		ug/Kg		97	66 - 121
Indeno[1,2,3-cd]pyrene	1000	936		ug/Kg		94	65 - 121
Naphthalene	1000	928		ug/Kg		93	70 - 112
Phenanthrene	1000	984		ug/Kg		98	73 - 106
Pyrene	1000	897		ug/Kg		90	64 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*79*		*68 - 138*

Lab Sample ID: 580-68287-14 MS
Matrix: Solid
Analysis Batch: 246475

Client Sample ID: LPW17-SL-HMP-02(2.5)
Prep Type: Total/NA
Prep Batch: 246436

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	82	F1 F2	1260	16200	E F1	ug/Kg	☼	1281	71 - 118
2-Methylnaphthalene	98	F1 F2	1260	19700	E F1	ug/Kg	☼	1562	75 - 119
Acenaphthene	ND		1260	1250		ug/Kg	☼	100	68 - 116
Acenaphthylene	70		1260	1350		ug/Kg	☼	102	68 - 120
Anthracene	39		1260	1230		ug/Kg	☼	95	73 - 125
Benzo[a]anthracene	21	F1	1260	1110		ug/Kg	☼	87	66 - 119
Benzo[a]pyrene	55		1260	1300		ug/Kg	☼	99	72 - 124
Benzo[b]fluoranthene	64		1260	1290		ug/Kg	☼	97	63 - 121
Benzo[g,h,i]perylene	66	F1	1260	721	F1	ug/Kg	☼	52	63 - 124
Benzo[k]fluoranthene	19		1260	1110		ug/Kg	☼	87	63 - 129
Chrysene	33	F1	1260	857	F1	ug/Kg	☼	66	69 - 120
Dibenz(a,h)anthracene	9.9	F1	1260	804	F1	ug/Kg	☼	63	70 - 125
Fluoranthene	27		1260	1200		ug/Kg	☼	93	65 - 125
Fluorene	ND		1260	1340		ug/Kg	☼	107	66 - 121
Indeno[1,2,3-cd]pyrene	120	F1	1260	888	F1	ug/Kg	☼	61	65 - 121
Naphthalene	44	F1 F2	1260	10100	E F1	ug/Kg	☼	800	70 - 112
Phenanthrene	32	F1	1260	1600	F1	ug/Kg	☼	125	73 - 106
Pyrene	29		1260	1290		ug/Kg	☼	101	64 - 120

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-68287-14 MS
Matrix: Solid
Analysis Batch: 246475

Client Sample ID: LPW17-SL-HMP-02(2.5)
Prep Type: Total/NA
Prep Batch: 246436

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Terphenyl-d14	*75*		*68 - 138*

Lab Sample ID: 580-68287-14 MSD
Matrix: Solid
Analysis Batch: 246475

Client Sample ID: LPW17-SL-HMP-02(2.5)
Prep Type: Total/NA
Prep Batch: 246436

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	82	F1 F2	1240	1460	F2	ug/Kg	☼	112	71 - 118	167	40
2-Methylnaphthalene	98	F1 F2	1240	1760	F1 F2	ug/Kg	☼	134	75 - 119	167	40
Acenaphthene	ND		1240	1220		ug/Kg	☼	98	68 - 116	3	40
Acenaphthylene	70		1240	1440		ug/Kg	☼	111	68 - 120	7	40
Anthracene	39		1240	1330		ug/Kg	☼	104	73 - 125	8	40
Benzo[a]anthracene	21	F1	1240	1510	F1	ug/Kg	☼	120	66 - 119	30	40
Benzo[a]pyrene	55		1240	1340		ug/Kg	☼	104	72 - 124	3	40
Benzo[b]fluoranthene	64		1240	1390		ug/Kg	☼	107	63 - 121	7	40
Benzo[g,h,i]perylene	66	F1	1240	710	F1	ug/Kg	☼	52	63 - 124	2	40
Benzo[k]fluoranthene	19		1240	1200		ug/Kg	☼	95	63 - 129	8	40
Chrysene	33	F1	1240	1130		ug/Kg	☼	89	69 - 120	28	40
Dibenz(a,h)anthracene	9.9	F1	1240	844	F1	ug/Kg	☼	67	70 - 125	5	40
Fluoranthene	27		1240	1400		ug/Kg	☼	111	65 - 125	16	40
Fluorene	ND		1240	1360		ug/Kg	☼	110	66 - 121	1	40
Indeno[1,2,3-cd]pyrene	120	F1	1240	918		ug/Kg	☼	65	65 - 121	3	40
Naphthalene	44	F1 F2	1240	1390	F2	ug/Kg	☼	108	70 - 112	152	40
Phenanthrene	32	F1	1240	1530	F1	ug/Kg	☼	121	73 - 106	4	40
Pyrene	29		1240	1510		ug/Kg	☼	120	64 - 120	15	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Terphenyl-d14	*91*		*68 - 138*

Lab Sample ID: MB 580-246467/1-A
Matrix: Solid
Analysis Batch: 247152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246467

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		5.0	0.63	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
2-Methylnaphthalene	ND		5.0	0.45	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Acenaphthene	ND		5.0	0.60	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Acenaphthylene	ND		5.0	0.50	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Anthracene	ND		5.0	0.60	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Benzo[a]anthracene	0.788	J	5.0	0.76	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Benzo[a]pyrene	ND		5.0	0.40	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Benzo[b]fluoranthene	ND		5.0	0.59	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Benzo[g,h,i]perylene	ND		5.0	0.50	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Benzo[k]fluoranthene	ND		5.0	0.60	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Chrysene	ND		5.0	1.5	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Dibenz(a,h)anthracene	ND		5.0	0.72	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Fluoranthene	ND		5.0	1.4	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Fluorene	ND		5.0	0.50	ug/Kg		05/22/17 09:33	05/30/17 12:51	1

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-246467/1-A
Matrix: Solid
Analysis Batch: 247152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246467

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		5.0	0.60	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Naphthalene	ND		5.0	0.80	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Phenanthrene	ND		5.0	0.69	ug/Kg		05/22/17 09:33	05/30/17 12:51	1
Pyrene	ND		5.0	0.97	ug/Kg		05/22/17 09:33	05/30/17 12:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*83*		*68 - 138*	*05/22/17 09:33*	*05/30/17 12:51*	*1*

Lab Sample ID: LCS 580-246467/2-A
Matrix: Solid
Analysis Batch: 247152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246467

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1000	924		ug/Kg		92	71 - 118
2-Methylnaphthalene	1000	932		ug/Kg		93	75 - 119
Acenaphthene	1000	949		ug/Kg		95	68 - 116
Acenaphthylene	1000	1000		ug/Kg		100	68 - 120
Anthracene	1000	1030		ug/Kg		103	73 - 125
Benzo[a]anthracene	1000	1010		ug/Kg		101	66 - 119
Benzo[a]pyrene	1000	1060		ug/Kg		106	72 - 124
Benzo[b]fluoranthene	1000	937		ug/Kg		94	63 - 121
Benzo[g,h,i]perylene	1000	975		ug/Kg		97	63 - 124
Benzo[k]fluoranthene	1000	986		ug/Kg		99	63 - 129
Chrysene	1000	999		ug/Kg		100	69 - 120
Dibenz(a,h)anthracene	1000	962		ug/Kg		96	70 - 125
Fluoranthene	1000	985		ug/Kg		98	65 - 125
Fluorene	1000	1000		ug/Kg		100	66 - 121
Indeno[1,2,3-cd]pyrene	1000	984		ug/Kg		98	65 - 121
Naphthalene	1000	924		ug/Kg		92	70 - 112
Phenanthrene	1000	930		ug/Kg		93	73 - 106
Pyrene	1000	920		ug/Kg		92	64 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14	*79*		*68 - 138*

Lab Sample ID: 580-68287-71 MS
Matrix: Solid
Analysis Batch: 247152

Client Sample ID: LPW17-SL-GSP-W-01
Prep Type: Total/NA
Prep Batch: 246467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	870		1600	2170		ug/Kg	☼	81	71 - 118
2-Methylnaphthalene	1200	F1	1600	2400	F1	ug/Kg	☼	72	75 - 119
Acenaphthene	58		1600	1550		ug/Kg	☼	93	68 - 116
Acenaphthylene	ND		1600	1410		ug/Kg	☼	88	68 - 120
Anthracene	20		1600	1600		ug/Kg	☼	99	73 - 125
Benzo[a]anthracene	7.0	J B	1600	1530		ug/Kg	☼	95	66 - 119
Benzo[a]pyrene	2.9	J	1600	1490		ug/Kg	☼	93	72 - 124
Benzo[b]fluoranthene	13		1600	1370		ug/Kg	☼	85	63 - 121

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-68287-71 MS
Matrix: Solid
Analysis Batch: 247152

Client Sample ID: LPW17-SL-GSP-W-01
Prep Type: Total/NA
Prep Batch: 246467

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzo[g,h,i]perylene	3.7	J	1600	1360		ug/Kg	☼	85	63 - 124
Benzo[k]fluoranthene	4.7	J	1600	1330		ug/Kg	☼	83	63 - 129
Chrysene	19		1600	1460		ug/Kg	☼	90	69 - 120
Dibenz(a,h)anthracene	1.2	J	1600	1350		ug/Kg	☼	85	70 - 125
Fluoranthene	43		1600	1550		ug/Kg	☼	94	65 - 125
Fluorene	120		1600	1630		ug/Kg	☼	94	66 - 121
Indeno[1,2,3-cd]pyrene	4.0	J	1600	1450		ug/Kg	☼	90	65 - 121
Naphthalene	630		1600	1870		ug/Kg	☼	78	70 - 112
Phenanthrene	98		1600	1510		ug/Kg	☼	89	73 - 106
Pyrene	74		1600	1470		ug/Kg	☼	87	64 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Terphenyl-d14	*74*		*68 - 138*

Lab Sample ID: 580-68287-71 MSD
Matrix: Solid
Analysis Batch: 247152

Client Sample ID: LPW17-SL-GSP-W-01
Prep Type: Total/NA
Prep Batch: 246467

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1-Methylnaphthalene	870		1650	2510		ug/Kg	☼	99	71 - 118	15	40
2-Methylnaphthalene	1200	F1	1650	2790		ug/Kg	☼	93	75 - 119	15	40
Acenaphthene	58		1650	1300		ug/Kg	☼	75	68 - 116	18	40
Acenaphthylene	ND		1650	1320		ug/Kg	☼	80	68 - 120	7	40
Anthracene	20		1650	1640		ug/Kg	☼	98	73 - 125	2	40
Benzo[a]anthracene	7.0	J B	1650	1660		ug/Kg	☼	100	66 - 119	8	40
Benzo[a]pyrene	2.9	J	1650	1540		ug/Kg	☼	93	72 - 124	3	40
Benzo[b]fluoranthene	13		1650	1350		ug/Kg	☼	81	63 - 121	2	40
Benzo[g,h,i]perylene	3.7	J	1650	1400		ug/Kg	☼	85	63 - 124	3	40
Benzo[k]fluoranthene	4.7	J	1650	1440		ug/Kg	☼	87	63 - 129	8	40
Chrysene	19		1650	1570		ug/Kg	☼	94	69 - 120	7	40
Dibenz(a,h)anthracene	1.2	J	1650	1420		ug/Kg	☼	86	70 - 125	5	40
Fluoranthene	43		1650	1600		ug/Kg	☼	94	65 - 125	3	40
Fluorene	120		1650	1470		ug/Kg	☼	81	66 - 121	10	40
Indeno[1,2,3-cd]pyrene	4.0	J	1650	1460		ug/Kg	☼	88	65 - 121	0	40
Naphthalene	630		1650	1950		ug/Kg	☼	80	70 - 112	4	40
Phenanthrene	98		1650	1580		ug/Kg	☼	89	73 - 106	4	40
Pyrene	74		1650	1530		ug/Kg	☼	88	64 - 120	4	40

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Terphenyl-d14	*75*		*68 - 138*

Method: AK101 - Alaska - Gasoline Range Organics (GC)

Lab Sample ID: MB 580-245940/1-A
Matrix: Solid
Analysis Batch: 245984

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245940

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		4.0	1.2	mg/Kg		05/16/17 08:55	05/16/17 14:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*102*		*50 - 150*	*05/16/17 08:55*	*05/16/17 14:23*	*1*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*	*05/16/17 08:55*	*05/16/17 14:23*	*1*

Lab Sample ID: LCS 580-245940/2-A
Matrix: Solid
Analysis Batch: 245984

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245940

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	40.0	39.5		mg/Kg		99	60 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*97*		*50 - 150*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*

Lab Sample ID: LCSD 580-245940/3-A
Matrix: Solid
Analysis Batch: 245984

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245940

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	40.0	40.0		mg/Kg		100	60 - 120	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*98*		*50 - 150*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*

Lab Sample ID: 580-68287-7 MS
Matrix: Solid
Analysis Batch: 245984

Client Sample ID: LPW17-SL-WeirP-03(2.5)
Prep Type: Total/NA
Prep Batch: 245940

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	ND		102	94.2		mg/Kg	☼	92	60 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*27*	*X*	*50 - 150*
4-Bromofluorobenzene (Surr)	*97*		*50 - 150*

Method: AK101 - Alaska - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: 580-68287-7 MSD — **Client Sample ID: LPW17-SL-WeirP-03(2.5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 245984 — **Prep Batch: 245940**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	ND		102	89.7		mg/Kg	☼	88	60 - 120	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*26*	*X*	*50 - 150*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*

Lab Sample ID: MB 580-246738/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246740 — **Prep Batch: 246738**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		4.0	1.2	mg/Kg		05/24/17 12:00	05/24/17 12:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*94*		*50 - 150*	*05/24/17 12:00*	*05/24/17 12:49*	*1*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*	*05/24/17 12:00*	*05/24/17 12:49*	*1*

Lab Sample ID: LCS 580-246738/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246740 — **Prep Batch: 246738**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	40.0	36.5		mg/Kg		91	60 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*92*		*50 - 150*
4-Bromofluorobenzene (Surr)	*95*		*50 - 150*

Lab Sample ID: LCSD 580-246738/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246740 — **Prep Batch: 246738**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	40.0	38.6		mg/Kg		97	60 - 120	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*93*		*50 - 150*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*

Method: AK101 - Alaska - Gasoline Range Organics (GC) (Continued)

Lab Sample ID: 580-68287-14 MS
Matrix: Solid
Analysis Batch: 246740

Client Sample ID: LPW17-SL-HMP-02(2.5)
Prep Type: Total/NA
Prep Batch: 246738

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	ND		29.1	26.4		mg/Kg	☼	91	60 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Trifluorotoluene (Surr)	*31*	*X*	*50 - 150*
4-Bromofluorobenzene (Surr)	*96*		*50 - 150*

Lab Sample ID: 580-68287-14 MSD
Matrix: Solid
Analysis Batch: 246740

Client Sample ID: LPW17-SL-HMP-02(2.5)
Prep Type: Total/NA
Prep Batch: 246738

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	ND		29.1	26.4		mg/Kg	☼	91	60 - 120	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Trifluorotoluene (Surr)	*30*	*X*	*50 - 150*
4-Bromofluorobenzene (Surr)	*98*		*50 - 150*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Lab Sample ID: MB 580-246328/1-A
Matrix: Solid
Analysis Batch: 246473

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246328

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		20	6.1	mg/Kg		05/19/17 10:38	05/22/17 17:15	1
RRO (nC25-nC36)	ND		50	11	mg/Kg		05/19/17 10:38	05/22/17 17:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*91*		*50 - 150*	*05/19/17 10:38*	*05/22/17 17:15*	*1*
n-Triacontane-d62	*60*		*50 - 150*	*05/19/17 10:38*	*05/22/17 17:15*	*1*

Lab Sample ID: MB 580-246328/1-A
Matrix: Solid
Analysis Batch: 246650

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246328

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		20	6.1	mg/Kg		05/19/17 10:38	05/23/17 17:59	1
RRO (nC25-nC36)	ND		50	11	mg/Kg		05/19/17 10:38	05/23/17 17:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*72*		*50 - 150*	*05/19/17 10:38*	*05/23/17 17:59*	*1*
n-Triacontane-d62	*81*		*50 - 150*	*05/19/17 10:38*	*05/23/17 17:59*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-246328/2-A
Matrix: Solid
Analysis Batch: 246473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246328

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			503	453		mg/Kg		90	75 - 125		
RRO (nC25-nC36)			503	465		mg/Kg		92	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*85*		*50 - 150*
n-Triacontane-d62	*73*		*50 - 150*

Lab Sample ID: LCSD 580-246328/3-A
Matrix: Solid
Analysis Batch: 246473

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246328

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			503	460		mg/Kg		91	75 - 125	2	20
RRO (nC25-nC36)			503	477		mg/Kg		95	60 - 120	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*85*		*50 - 150*
n-Triacontane-d62	*72*		*50 - 150*

Lab Sample ID: 580-68287-7 MS
Matrix: Solid
Analysis Batch: 246650

Client Sample ID: LPW17-SL-WeirP-03(2.5)
Prep Type: Total/NA
Prep Batch: 246328

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)	44	J	1130	952		mg/Kg	☼	80	75 - 125		
RRO (nC25-nC36)	97	J	1130	1180		mg/Kg	☼	95	60 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*77*		*50 - 150*
n-Triacontane-d62	*77*		*50 - 150*

Lab Sample ID: 580-68287-7 MSD
Matrix: Solid
Analysis Batch: 246650

Client Sample ID: LPW17-SL-WeirP-03(2.5)
Prep Type: Total/NA
Prep Batch: 246328

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)	44	J	1150	951		mg/Kg	☼	79	75 - 125	0	20
RRO (nC25-nC36)	97	J	1150	1250		mg/Kg	☼	101	60 - 120	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*76*		*50 - 150*
n-Triacontane-d62	*73*		*50 - 150*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: MB 580-246440/1-A
Matrix: Solid
Analysis Batch: 247366

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246440

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		20	6.1	mg/Kg		05/20/17 12:17	06/01/17 14:33	1
RRO (nC25-nC36)	ND		50	11	mg/Kg		05/20/17 12:17	06/01/17 14:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*88*		*50 - 150*	*05/20/17 12:17*	*06/01/17 14:33*	*1*
n-Triacontane-d62	*92*		*50 - 150*	*05/20/17 12:17*	*06/01/17 14:33*	*1*

Lab Sample ID: LCS 580-246440/2-A
Matrix: Solid
Analysis Batch: 246482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246440

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			503	443		mg/Kg		88	75 - 125		
RRO (nC25-nC36)			503	423		mg/Kg		84	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*84*		*50 - 150*
n-Triacontane-d62	*66*		*50 - 150*

Lab Sample ID: LCSD 580-246440/3-A
Matrix: Solid
Analysis Batch: 246482

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246440

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			503	427		mg/Kg		85	75 - 125	4	20
RRO (nC25-nC36)			503	409		mg/Kg		81	60 - 120	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*84*		*50 - 150*
n-Triacontane-d62	*63*		*50 - 150*

Lab Sample ID: 580-68287-14 MS
Matrix: Solid
Analysis Batch: 246482

Client Sample ID: LPW17-SL-HMP-02(2.5)
Prep Type: Total/NA
Prep Batch: 246440

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)	1700	F1 F2	711	1430	F1	mg/Kg	☼	-34	75 - 125		
RRO (nC25-nC36)	3700	F2	711	2640	4	mg/Kg	☼	-152	60 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*73*		*50 - 150*
n-Triacontane-d62	*90*		*50 - 150*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: 580-68287-14 MSD — **Client Sample ID: LPW17-SL-HMP-02(2.5)**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246482 — **Prep Batch: 246440**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)	1700	F1 F2	660	1130	F1 F2	mg/Kg	☼	-81	75 - 125	23	20
RRO (nC25-nC36)	3700	F2	661	1910	4 F2	mg/Kg	☼	-274	60 - 120	32	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*74*		*50 - 150*
n-Triacontane-d62	*88*		*50 - 150*

Lab Sample ID: 580-68287-71 MS — **Client Sample ID: LPW17-SL-GSP-W-01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246593 — **Prep Batch: 246440**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (nC10-<nC25)	9000	F2	942	6760	4	mg/Kg	☼	-241	75 - 125
RRO (nC25-nC36)	200	F2	942	972		mg/Kg	☼	81	60 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*102*		*50 - 150*
n-Triacontane-d62	*83*		*50 - 150*

Lab Sample ID: 580-68287-71 MSD — **Client Sample ID: LPW17-SL-GSP-W-01**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246593 — **Prep Batch: 246440**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)	9000	F2	791	4200	4 F2	mg/Kg	☼	-610	75 - 125	47	20
RRO (nC25-nC36)	200	F2	791	760	F2	mg/Kg	☼	70	60 - 120	24	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*91*		*50 - 150*
n-Triacontane-d62	*77*		*50 - 150*

Lab Sample ID: MB 580-246621/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 246770 — **Prep Batch: 246621**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	ND		20	6.1	mg/Kg		05/23/17 11:51	05/24/17 18:27	1
RRO (nC25-nC36)	ND		50	11	mg/Kg		05/23/17 11:51	05/24/17 18:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*05/23/17 11:51*	*05/24/17 18:27*	*1*
n-Triacontane-d62	*90*		*50 - 150*	*05/23/17 11:51*	*05/24/17 18:27*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC) (Continued)

Lab Sample ID: LCS 580-246621/2-A
Matrix: Solid
Analysis Batch: 246770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246621

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)			503	481		mg/Kg		96	75 - 125		
RRO (nC25-nC36)			503	490		mg/Kg		97	60 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*81*		*50 - 150*
n-Triacontane-d62	*88*		*50 - 150*

Lab Sample ID: LCSD 580-246621/3-A
Matrix: Solid
Analysis Batch: 246770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246621

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)			503	511		mg/Kg		102	75 - 125	6	20
RRO (nC25-nC36)			503	523		mg/Kg		104	60 - 120	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
o-Terphenyl	*87*		*50 - 150*
n-Triacontane-d62	*91*		*50 - 150*

Lab Sample ID: 580-68287-23 MS
Matrix: Solid
Analysis Batch: 246770

Client Sample ID: LPW17-Bkgd-WH-02(1)
Prep Type: Total/NA
Prep Batch: 246621

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
DRO (nC10-<nC25)	43	H	772	826	H	mg/Kg	☼	101	75 - 125		
RRO (nC25-nC36)	210	H	772	1130	H	mg/Kg	☼	119	60 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*80*		*50 - 150*
n-Triacontane-d62	*88*		*50 - 150*

Lab Sample ID: 580-68287-23 MSD
Matrix: Solid
Analysis Batch: 246770

Client Sample ID: LPW17-Bkgd-WH-02(1)
Prep Type: Total/NA
Prep Batch: 246621

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (nC10-<nC25)	43	H	740	758	H	mg/Kg	☼	97	75 - 125	9	20
RRO (nC25-nC36)	210	H	740	948	H	mg/Kg	☼	100	60 - 120	17	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*79*		*50 - 150*
n-Triacontane-d62	*90*		*50 - 150*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-246022/22-A
Matrix: Solid
Analysis Batch: 246144

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246022

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.10	mg/Kg		05/16/17 14:16	05/17/17 11:21	10
Chromium	ND		0.50	0.063	mg/Kg		05/16/17 14:16	05/17/17 11:21	10
Copper	ND		1.0	0.22	mg/Kg		05/16/17 14:16	05/17/17 11:21	10
Lead	ND		0.50	0.048	mg/Kg		05/16/17 14:16	05/17/17 11:21	10

Lab Sample ID: LCS 580-246022/23-A
Matrix: Solid
Analysis Batch: 246144

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246022

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	201		mg/Kg		101	80 - 120
Chromium	20.0	20.4		mg/Kg		102	80 - 120
Copper	25.0	25.5		mg/Kg		102	80 - 120
Lead	50.0	48.7		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 580-246022/24-A
Matrix: Solid
Analysis Batch: 246144

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246022

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	195		mg/Kg		98	80 - 120	3	20
Chromium	20.0	19.7		mg/Kg		98	80 - 120	4	20
Copper	25.0	24.9		mg/Kg		99	80 - 120	2	20
Lead	50.0	47.8		mg/Kg		96	80 - 120	2	20

Lab Sample ID: MB 580-246145/21-A
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.10	mg/Kg		05/17/17 15:12	05/18/17 12:19	10
Chromium	ND		0.50	0.063	mg/Kg		05/17/17 15:12	05/18/17 12:19	10
Copper	ND		1.0	0.22	mg/Kg		05/17/17 15:12	05/18/17 12:19	10
Lead	ND		0.50	0.048	mg/Kg		05/17/17 15:12	05/18/17 12:19	10

Lab Sample ID: LCS 580-246145/22-A
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	203		mg/Kg		101	80 - 120
Chromium	20.0	19.5		mg/Kg		97	80 - 120
Copper	25.0	25.5		mg/Kg		102	80 - 120
Lead	50.0	47.2		mg/Kg		94	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 580-246145/23-A
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246145

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			200	205		mg/Kg		103	80 - 120	1	20
Chromium			20.0	19.7		mg/Kg		99	80 - 120	2	20
Copper			25.0	25.7		mg/Kg		103	80 - 120	1	20
Lead			50.0	47.2		mg/Kg		94	80 - 120	0	20

Lab Sample ID: 580-68287-32 MS
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: LPW17-SL-WeirT-03D(0.5)
Prep Type: Total/NA
Prep Batch: 246145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	240		3440	3890		mg/Kg	☼	106	80 - 120
Chromium	370		344	692		mg/Kg	☼	94	80 - 120
Copper	650		430	1140		mg/Kg	☼	115	80 - 120
Lead	2300	F1	860	3340	F1	mg/Kg	☼	125	80 - 120

Lab Sample ID: 580-68287-32 MSD
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: LPW17-SL-WeirT-03D(0.5)
Prep Type: Total/NA
Prep Batch: 246145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	240		4000	4390		mg/Kg	☼	104	80 - 120	12	20
Chromium	370		400	743		mg/Kg	☼	94	80 - 120	7	20
Copper	650		500	1160		mg/Kg	☼	102	80 - 120	1	20
Lead	2300	F1	999	3190		mg/Kg	☼	93	80 - 120	5	20

Lab Sample ID: 580-68287-32 DU
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: LPW17-SL-WeirT-03D(0.5)
Prep Type: Total/NA
Prep Batch: 246145

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	240		249		mg/Kg	☼	5	20
Chromium	370		360		mg/Kg	☼	2	20
Copper	650		765		mg/Kg	☼	16	20
Lead	2300	F1	2790	F3	mg/Kg	☼	21	20

Lab Sample ID: MB 580-246236/21-A
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246236

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.10	mg/Kg		05/18/17 11:56	05/18/17 16:40	10
Chromium	ND		0.50	0.063	mg/Kg		05/18/17 11:56	05/18/17 16:40	10
Copper	ND		1.0	0.22	mg/Kg		05/18/17 11:56	05/18/17 16:40	10
Lead	ND		0.50	0.048	mg/Kg		05/18/17 11:56	05/18/17 16:40	10

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-246236/22-A
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246236

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	201		mg/Kg		101	80 - 120
Chromium	20.0	19.5		mg/Kg		97	80 - 120
Copper	25.0	25.0		mg/Kg		100	80 - 120
Lead	50.0	46.9		mg/Kg		94	80 - 120

Lab Sample ID: LCSD 580-246236/23-A
Matrix: Solid
Analysis Batch: 246300

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246236

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	203		mg/Kg		101	80 - 120	1	20
Chromium	20.0	19.3		mg/Kg		97	80 - 120	1	20
Copper	25.0	25.5		mg/Kg		102	80 - 120	2	20
Lead	50.0	47.8		mg/Kg		96	80 - 120	2	20

Lab Sample ID: MB 580-246480/20-A
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246480

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		05/22/17 10:05	05/22/17 17:16	5
Chromium	ND		0.25	0.032	mg/Kg		05/22/17 10:05	05/22/17 17:16	5
Copper	ND		0.50	0.11	mg/Kg		05/22/17 10:05	05/22/17 17:16	5
Lead	ND		0.25	0.024	mg/Kg		05/22/17 10:05	05/22/17 17:16	5

Lab Sample ID: LCS 580-246480/21-A
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246480

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	193		mg/Kg		96	80 - 120
Chromium	20.0	18.5		mg/Kg		93	80 - 120
Copper	25.0	24.1		mg/Kg		97	80 - 120
Lead	50.0	45.2		mg/Kg		90	80 - 120

Lab Sample ID: LCSD 580-246480/22-A
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246480

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	194		mg/Kg		97	80 - 120	1	20
Chromium	20.0	19.1		mg/Kg		96	80 - 120	3	20
Copper	25.0	24.2		mg/Kg		97	80 - 120	0	20
Lead	50.0	45.4		mg/Kg		91	80 - 120	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-246491/17-A
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 246491

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.25	0.050	mg/Kg		05/22/17 11:58	05/22/17 21:16	5
Chromium	ND		0.25	0.032	mg/Kg		05/22/17 11:58	05/22/17 21:16	5
Lead	ND		0.25	0.024	mg/Kg		05/22/17 11:58	05/22/17 21:16	5

Lab Sample ID: LCS 580-246491/18-A
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 246491

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	200	201		mg/Kg		101	80 - 120
Chromium	20.0	19.6		mg/Kg		98	80 - 120
Lead	50.0	47.5		mg/Kg		95	80 - 120

Lab Sample ID: LCSD 580-246491/19-A
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 246491

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	200	201		mg/Kg		101	80 - 120	0	20
Chromium	20.0	19.4		mg/Kg		97	80 - 120	1	20
Lead	50.0	47.9		mg/Kg		96	80 - 120	1	20

Lab Sample ID: 580-68287-67 MS
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: LPW17-SL-WHL-02(0.5)
Prep Type: Total/NA
Prep Batch: 246491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	23		245	267		mg/Kg	☼	100	80 - 120
Chromium	37	F1	24.5	63.1		mg/Kg	☼	107	80 - 120
Lead	130	F1 F2	61.1	176	F1	mg/Kg	☼	67	80 - 120

Lab Sample ID: 580-68287-67 MSD
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: LPW17-SL-WHL-02(0.5)
Prep Type: Total/NA
Prep Batch: 246491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	23		264	325		mg/Kg	☼	114	80 - 120	20	20
Chromium	37	F1	26.4	77.0	F1	mg/Kg	☼	152	80 - 120	20	20
Lead	130	F1 F2	66.1	220	F1 F2	mg/Kg	☼	130	80 - 120	22	20

Lab Sample ID: 580-68287-67 DU
Matrix: Solid
Analysis Batch: 246576

Client Sample ID: LPW17-SL-WHL-02(0.5)
Prep Type: Total/NA
Prep Batch: 246491

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	23		21.8		mg/Kg	☼	5	20
Chromium	37	F1	36.7		mg/Kg	☼	0.4	20
Lead	130	F1 F2	129		mg/Kg	☼	5	20

Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 580-246730/3
Matrix: Solid
Analysis Batch: 246730

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Average Dup	ND		2000	44	mg/Kg			05/23/17 15:22	1

Lab Sample ID: LCS 580-246730/4
Matrix: Solid
Analysis Batch: 246730

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Average Dup			4620	4700		mg/Kg		102	49 - 151		

Lab Sample ID: LCSD 580-246730/5
Matrix: Solid
Analysis Batch: 246730

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average Dup			4620	4560		mg/Kg		99	49 - 151	3	35

Lab Sample ID: 580-68287-23 MS
Matrix: Solid
Analysis Batch: 246730

Client Sample ID: LPW17-Bkgd-WH-02(1)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Average Dup	28000		120000	138000		mg/Kg		91	50 - 140		

Lab Sample ID: 580-68287-23 MSD
Matrix: Solid
Analysis Batch: 246730

Client Sample ID: LPW17-Bkgd-WH-02(1)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Average Dup	28000		120000	131000		mg/Kg		85	50 - 140	5	35

Lab Sample ID: 580-68287-23 DU
Matrix: Solid
Analysis Batch: 246730

Client Sample ID: LPW17-Bkgd-WH-02(1)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Organic Carbon - Average Dup	28000			29900		mg/Kg				5	50

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-68287-40 DU
Matrix: Solid
Analysis Batch: 247141

Client Sample ID: LPW17-SL-FBT-02(0.5)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	16.9			20.8		%				3	20

Method: D 2216 - Percent Moisture (Continued)

Lab Sample ID: 580-68287-40 DU
Matrix: Solid
Analysis Batch: 247141

Client Sample ID: LPW17-SL-FBT-02(0.5)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	83.1			79.2		%				0.7	20

Lab Sample ID: 580-68287-56 DU
Matrix: Solid
Analysis Batch: 247141

Client Sample ID: LPW17-SL-WAT-01(0.5)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	79.2			82.7		%				4	20
Percent Moisture	20.8			17.3		%				18	20

Lab Sample ID: 580-68287-73 DU
Matrix: Solid
Analysis Batch: 247141

Client Sample ID: LPW17-SL-GSP-Leak02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	86.9			86.0		%				1	20
Percent Moisture	13.1			14.0		%				7	20

Lab Sample ID: 580-68287-15 DU
Matrix: Solid
Analysis Batch: 247156

Client Sample ID: LPW17-SL-OBP-01(1.5)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	68.7			61.8		%				11	20
Percent Moisture	31.3			38.2		%				20	20

GC/MS VOA

Prep Batch: 246134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	5035	
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	5035	
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	5035	
MB 580-246134/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-246134/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-246134/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 246158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	8260C	246134
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	8260C	246134
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	8260C	246134
MB 580-246134/1-A	Method Blank	Total/NA	Solid	8260C	246134
LCS 580-246134/2-A	Lab Control Sample	Total/NA	Solid	8260C	246134
LCSD 580-246134/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C	246134

GC/MS Semi VOA

Prep Batch: 246324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	3546	
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	3546	
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	3546	
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	3546	
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	3546	
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	3546	
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	3546	
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	3546	
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	3546	
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	3546	
MB 580-246324/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-246324/2-A	Lab Control Sample	Total/NA	Solid	3546	
580-68287-7 MS	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	3546	
580-68287-7 MSD	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	3546	

Analysis Batch: 246433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	8270D SIM	246324
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	8270D SIM	246324
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	8270D SIM	246324
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	8270D SIM	246324
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	8270D SIM	246324
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	8270D SIM	246324
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	8270D SIM	246324
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	8270D SIM	246324
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	8270D SIM	246324
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	8270D SIM	246324
MB 580-246324/1-A	Method Blank	Total/NA	Solid	8270D SIM	246324
LCS 580-246324/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	246324
580-68287-7 MS	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	8270D SIM	246324

GC/MS Semi VOA (Continued)

Analysis Batch: 246433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-7 MSD	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	8270D SIM	246324

Prep Batch: 246436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	3546	
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	3546	
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	3546	
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	3546	
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	3546	
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	3546	
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	3546	
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	3546	
MB 580-246436/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-246436/2-A	Lab Control Sample	Total/NA	Solid	3546	
580-68287-14 MS	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	3546	
580-68287-14 MSD	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	3546	

Prep Batch: 246467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-71	LPW17-SL-GSP-W-01	Total/NA	Solid	3546	
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	3546	
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	3546	
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	3546	
580-68287-82	LPW17-SL-GSP-Leak04	Total/NA	Solid	3546	
MB 580-246467/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-246467/2-A	Lab Control Sample	Total/NA	Solid	3546	
580-68287-71 MS	LPW17-SL-GSP-W-01	Total/NA	Solid	3546	
580-68287-71 MSD	LPW17-SL-GSP-W-01	Total/NA	Solid	3546	

Analysis Batch: 246475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	8270D SIM	246436
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	8270D SIM	246436
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	8270D SIM	246436
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	8270D SIM	246436
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	8270D SIM	246436
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	8270D SIM	246436
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	8270D SIM	246436
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	8270D SIM	246436
MB 580-246436/1-A	Method Blank	Total/NA	Solid	8270D SIM	246436
LCS 580-246436/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	246436
580-68287-14 MS	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	8270D SIM	246436
580-68287-14 MSD	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	8270D SIM	246436

Analysis Batch: 247152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-71	LPW17-SL-GSP-W-01	Total/NA	Solid	8270D SIM	246467
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	8270D SIM	246467
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	8270D SIM	246467
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	8270D SIM	246467
580-68287-82	LPW17-SL-GSP-Leak04	Total/NA	Solid	8270D SIM	246467

GC/MS Semi VOA (Continued)

Analysis Batch: 247152 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-246467/1-A	Method Blank	Total/NA	Solid	8270D SIM	246467
LCS 580-246467/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	246467
580-68287-71 MS	LPW17-SL-GSP-W-01	Total/NA	Solid	8270D SIM	246467
580-68287-71 MSD	LPW17-SL-GSP-W-01	Total/NA	Solid	8270D SIM	246467

GC VOA

Prep Batch: 245940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	5035	
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	5035	
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	5035	
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	5035	
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	5035	
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	5035	
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	5035	
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	5035	
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	5035	
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	5035	
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	5035	
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	5035	
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	5035	
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	5035	
580-68287-81	Trip Blank	Total/NA	Solid	5035	
MB 580-245940/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-245940/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-245940/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
580-68287-7 MS	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	5035	
580-68287-7 MSD	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	5035	

Analysis Batch: 245984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	AK101	245940
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	AK101	245940
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	AK101	245940
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	AK101	245940
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	AK101	245940
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	AK101	245940
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	AK101	245940
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	AK101	245940
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	AK101	245940
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	AK101	245940
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	AK101	245940
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	AK101	245940
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	AK101	245940
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	AK101	245940
580-68287-81	Trip Blank	Total/NA	Solid	AK101	245940
MB 580-245940/1-A	Method Blank	Total/NA	Solid	AK101	245940
LCS 580-245940/2-A	Lab Control Sample	Total/NA	Solid	AK101	245940
LCSD 580-245940/3-A	Lab Control Sample Dup	Total/NA	Solid	AK101	245940

GC VOA (Continued)

Analysis Batch: 245984 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-7 MS	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	AK101	245940
580-68287-7 MSD	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	AK101	245940

Prep Batch: 246738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	5035	
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	5035	
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	5035	
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	5035	
MB 580-246738/1-A	Method Blank	Total/NA	Solid	5035	
LCS 580-246738/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-246738/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
580-68287-14 MS	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	5035	
580-68287-14 MSD	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	5035	

Analysis Batch: 246740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	AK101	246738
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	AK101	246738
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	AK101	246738
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	AK101	246738
MB 580-246738/1-A	Method Blank	Total/NA	Solid	AK101	246738
LCS 580-246738/2-A	Lab Control Sample	Total/NA	Solid	AK101	246738
LCSD 580-246738/3-A	Lab Control Sample Dup	Total/NA	Solid	AK101	246738
580-68287-14 MS	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	AK101	246738
580-68287-14 MSD	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	AK101	246738

GC Semi VOA

Prep Batch: 246328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	3546	
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	3546	
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	3546	
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	3546	
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	3546	
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	3546	
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	3546	
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	3546	
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	3546	
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	3546	
MB 580-246328/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-246328/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-246328/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
580-68287-7 MS	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	3546	
580-68287-7 MSD	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	3546	

Prep Batch: 246440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 246440 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	3546	
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	3546	
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	3546	
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	3546	
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	3546	
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	3546	
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	3546	
580-68287-23	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	3546	
580-68287-71	LPW17-SL-GSP-W-01	Total/NA	Solid	3546	
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	3546	
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	3546	
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	3546	
580-68287-82	LPW17-SL-GSP-Leak04	Total/NA	Solid	3546	
MB 580-246440/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-246440/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-246440/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
580-68287-14 MS	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	3546	
580-68287-14 MSD	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	3546	
580-68287-71 MS	LPW17-SL-GSP-W-01	Total/NA	Solid	3546	
580-68287-71 MSD	LPW17-SL-GSP-W-01	Total/NA	Solid	3546	

Analysis Batch: 246473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-246328/1-A	Method Blank	Total/NA	Solid	AK102 & 103	246328
LCS 580-246328/2-A	Lab Control Sample	Total/NA	Solid	AK102 & 103	246328
LCSD 580-246328/3-A	Lab Control Sample Dup	Total/NA	Solid	AK102 & 103	246328

Analysis Batch: 246482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	AK102 & 103	246440
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	AK102 & 103	246440
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	AK102 & 103	246440
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	AK102 & 103	246440
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	AK102 & 103	246440
LCS 580-246440/2-A	Lab Control Sample	Total/NA	Solid	AK102 & 103	246440
LCSD 580-246440/3-A	Lab Control Sample Dup	Total/NA	Solid	AK102 & 103	246440
580-68287-14 MS	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	AK102 & 103	246440
580-68287-14 MSD	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	AK102 & 103	246440

Analysis Batch: 246593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	AK102 & 103	246440
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	AK102 & 103	246440
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	AK102 & 103	246440
580-68287-23	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	AK102 & 103	246440
580-68287-71	LPW17-SL-GSP-W-01	Total/NA	Solid	AK102 & 103	246440
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	AK102 & 103	246440
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	AK102 & 103	246440
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	AK102 & 103	246440
580-68287-82	LPW17-SL-GSP-Leak04	Total/NA	Solid	AK102 & 103	246440
580-68287-71 MS	LPW17-SL-GSP-W-01	Total/NA	Solid	AK102 & 103	246440

GC Semi VOA (Continued)

Analysis Batch: 246593 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-71 MSD	LPW17-SL-GSP-W-01	Total/NA	Solid	AK102 & 103	246440

Prep Batch: 246621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-23	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	3546	
MB 580-246621/1-A	Method Blank	Total/NA	Solid	3546	
LCS 580-246621/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-246621/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
580-68287-23 MS	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	3546	
580-68287-23 MSD	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	3546	

Analysis Batch: 246650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	AK102 & 103	246328
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	AK102 & 103	246328
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	AK102 & 103	246328
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	AK102 & 103	246328
MB 580-246328/1-A	Method Blank	Total/NA	Solid	AK102 & 103	246328
580-68287-7 MS	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	AK102 & 103	246328
580-68287-7 MSD	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	AK102 & 103	246328

Analysis Batch: 246770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-23	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	AK102 & 103	246621
MB 580-246621/1-A	Method Blank	Total/NA	Solid	AK102 & 103	246621
LCS 580-246621/2-A	Lab Control Sample	Total/NA	Solid	AK102 & 103	246621
LCSD 580-246621/3-A	Lab Control Sample Dup	Total/NA	Solid	AK102 & 103	246621
580-68287-23 MS	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	AK102 & 103	246621
580-68287-23 MSD	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	AK102 & 103	246621

Analysis Batch: 247366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-246440/1-A	Method Blank	Total/NA	Solid	AK102 & 103	246440

Metals

Prep Batch: 246022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-1	LPW17-LBP-Weir-01	Total/NA	Solid	3050B	
580-68287-2	LPW17-LBP-Weir-02	Total/NA	Solid	3050B	
580-68287-3	LPW17-LBP-Weir-03	Total/NA	Solid	3050B	
580-68287-24	LPW17-SL-WeirL-01(0.5)	Total/NA	Solid	3050B	
580-68287-25	LPW17-SL-WeirL-01D(0.5)	Total/NA	Solid	3050B	
580-68287-26	LPW17-SL-WeirL-02(0.5)	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 246022 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-27	LPW17-SL-WeirL-03(0.5)	Total/NA	Solid	3050B	
580-68287-28	LPW17-SL-WeirL-04(0.5)	Total/NA	Solid	3050B	
580-68287-29	LPW17-SL-WeirT-01(0.5)	Total/NA	Solid	3050B	
580-68287-30	LPW17-SL-WeirT-02(0.5)	Total/NA	Solid	3050B	
580-68287-31	LPW17-SL-WeirT-03(0.5)	Total/NA	Solid	3050B	
MB 580-246022/22-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-246022/23-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-246022/24-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 246144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-1	LPW17-LBP-Weir-01	Total/NA	Solid	6020A	246022
580-68287-2	LPW17-LBP-Weir-02	Total/NA	Solid	6020A	246022
580-68287-3	LPW17-LBP-Weir-03	Total/NA	Solid	6020A	246022
580-68287-24	LPW17-SL-WeirL-01(0.5)	Total/NA	Solid	6020A	246022
580-68287-25	LPW17-SL-WeirL-01D(0.5)	Total/NA	Solid	6020A	246022
580-68287-26	LPW17-SL-WeirL-02(0.5)	Total/NA	Solid	6020A	246022
580-68287-27	LPW17-SL-WeirL-03(0.5)	Total/NA	Solid	6020A	246022
580-68287-28	LPW17-SL-WeirL-04(0.5)	Total/NA	Solid	6020A	246022
580-68287-29	LPW17-SL-WeirT-01(0.5)	Total/NA	Solid	6020A	246022
580-68287-30	LPW17-SL-WeirT-02(0.5)	Total/NA	Solid	6020A	246022
580-68287-31	LPW17-SL-WeirT-03(0.5)	Total/NA	Solid	6020A	246022
MB 580-246022/22-A	Method Blank	Total/NA	Solid	6020A	246022
LCS 580-246022/23-A	Lab Control Sample	Total/NA	Solid	6020A	246022
LCSD 580-246022/24-A	Lab Control Sample Dup	Total/NA	Solid	6020A	246022

Prep Batch: 246145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-32	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	3050B	
580-68287-33	LPW17-SL-WeirT-04(0.5)	Total/NA	Solid	3050B	
580-68287-34	LPW17-SL-PASL-01(0.5)	Total/NA	Solid	3050B	
580-68287-35	LPW17-SL-PAST-01(0.5)	Total/NA	Solid	3050B	
580-68287-36	LPW17-SL-PAST-02(0.5)	Total/NA	Solid	3050B	
580-68287-37	LPW17-SL-PAST-03(0.5)	Total/NA	Solid	3050B	
580-68287-38	LPW17-SL-PAST-Bkgd(0.5)	Total/NA	Solid	3050B	
580-68287-39	LPW17-SL-FBT-01(0.5)	Total/NA	Solid	3050B	
580-68287-40	LPW17-SL-FBT-02(0.5)	Total/NA	Solid	3050B	
580-68287-41	LPW17-SL-MBT-01(0.5)	Total/NA	Solid	3050B	
580-68287-42	LPW17-SL-MBT-02(0.5)	Total/NA	Solid	3050B	
580-68287-43	LPW17-SL-PACT-01(0.5)	Total/NA	Solid	3050B	
MB 580-246145/21-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-246145/22-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-246145/23-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
580-68287-32 MS	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	3050B	
580-68287-32 MSD	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	3050B	
580-68287-32 DU	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	3050B	

Prep Batch: 246236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-44	LPW17-SL-PACT-01D(0.5)	Total/NA	Solid	3050B	
580-68287-45	LPW17-SL-PACT-02(0.5)	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 246236 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-46	LPW17-SL-CCBT-01(0.5)	Total/NA	Solid	3050B	
580-68287-47	LPW17-SL-CCBT-02(0.5)	Total/NA	Solid	3050B	
580-68287-48	LPW17-SL-CCL-01(0.5)	Total/NA	Solid	3050B	
580-68287-49	LPW17-SL-CCL-01(0.5)	Total/NA	Solid	3050B	
580-68287-50	LPW17-SL-CCL-02(0.5)	Total/NA	Solid	3050B	
580-68287-51	LPW17-SL-CCL-03(0.5)	Total/NA	Solid	3050B	
580-68287-52	LPW17-SL-GSL-01(0.5)	Total/NA	Solid	3050B	
580-68287-53	LPW17-SL-GSL-02(0.5)	Total/NA	Solid	3050B	
580-68287-54	LPW17-SL-INT-01(0.5)	Total/NA	Solid	3050B	
580-68287-55	LPW17-SL-INT-02(0.5)	Total/NA	Solid	3050B	
580-68287-56	LPW17-SL-WAT-01(0.5)	Total/NA	Solid	3050B	
580-68287-57	LPW17-SL-WAT-02(0.5)	Total/NA	Solid	3050B	
580-68287-58	LPW17-SL-WSL-01(0.5)	Total/NA	Solid	3050B	
MB 580-246236/21-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-246236/22-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-246236/23-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Analysis Batch: 246300

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-32	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	6020A	246145
580-68287-33	LPW17-SL-WeirT-04(0.5)	Total/NA	Solid	6020A	246145
580-68287-34	LPW17-SL-PASL-01(0.5)	Total/NA	Solid	6020A	246145
580-68287-35	LPW17-SL-PAST-01(0.5)	Total/NA	Solid	6020A	246145
580-68287-36	LPW17-SL-PAST-02(0.5)	Total/NA	Solid	6020A	246145
580-68287-37	LPW17-SL-PAST-03(0.5)	Total/NA	Solid	6020A	246145
580-68287-38	LPW17-SL-PAST-Bkgd(0.5)	Total/NA	Solid	6020A	246145
580-68287-39	LPW17-SL-FBT-01(0.5)	Total/NA	Solid	6020A	246145
580-68287-40	LPW17-SL-FBT-02(0.5)	Total/NA	Solid	6020A	246145
580-68287-41	LPW17-SL-MBT-01(0.5)	Total/NA	Solid	6020A	246145
580-68287-42	LPW17-SL-MBT-02(0.5)	Total/NA	Solid	6020A	246145
580-68287-43	LPW17-SL-PACT-01(0.5)	Total/NA	Solid	6020A	246145
580-68287-44	LPW17-SL-PACT-01D(0.5)	Total/NA	Solid	6020A	246236
580-68287-45	LPW17-SL-PACT-02(0.5)	Total/NA	Solid	6020A	246236
580-68287-46	LPW17-SL-CCBT-01(0.5)	Total/NA	Solid	6020A	246236
580-68287-47	LPW17-SL-CCBT-02(0.5)	Total/NA	Solid	6020A	246236
580-68287-48	LPW17-SL-CCL-01(0.5)	Total/NA	Solid	6020A	246236
580-68287-49	LPW17-SL-CCL-01(0.5)	Total/NA	Solid	6020A	246236
580-68287-50	LPW17-SL-CCL-02(0.5)	Total/NA	Solid	6020A	246236
580-68287-51	LPW17-SL-CCL-03(0.5)	Total/NA	Solid	6020A	246236
580-68287-52	LPW17-SL-GSL-01(0.5)	Total/NA	Solid	6020A	246236
580-68287-53	LPW17-SL-GSL-02(0.5)	Total/NA	Solid	6020A	246236
580-68287-54	LPW17-SL-INT-01(0.5)	Total/NA	Solid	6020A	246236
580-68287-55	LPW17-SL-INT-02(0.5)	Total/NA	Solid	6020A	246236
580-68287-56	LPW17-SL-WAT-01(0.5)	Total/NA	Solid	6020A	246236
580-68287-57	LPW17-SL-WAT-02(0.5)	Total/NA	Solid	6020A	246236
580-68287-58	LPW17-SL-WSL-01(0.5)	Total/NA	Solid	6020A	246236
MB 580-246145/21-A	Method Blank	Total/NA	Solid	6020A	246145
MB 580-246236/21-A	Method Blank	Total/NA	Solid	6020A	246236
LCS 580-246145/22-A	Lab Control Sample	Total/NA	Solid	6020A	246145
LCS 580-246236/22-A	Lab Control Sample	Total/NA	Solid	6020A	246236
LCSD 580-246145/23-A	Lab Control Sample Dup	Total/NA	Solid	6020A	246145

Metals (Continued)

Analysis Batch: 246300 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 580-246236/23-A	Lab Control Sample Dup	Total/NA	Solid	6020A	246236
580-68287-32 MS	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	6020A	246145
580-68287-32 MSD	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	6020A	246145
580-68287-32 DU	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	6020A	246145

Prep Batch: 246480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-59	LPW17-SL-WSL-02(0.5)	Total/NA	Solid	3050B	
580-68287-60	LPW17-SL-WSL-03(0.5)	Total/NA	Solid	3050B	
580-68287-61	LPW17-SL-WHBT-01(0.5)	Total/NA	Solid	3050B	
580-68287-62	LPW17-SL-WHBT-02(0.5)	Total/NA	Solid	3050B	
580-68287-63	LPW17-SL-WHDT-01(0.5)	Total/NA	Solid	3050B	
580-68287-64	LPW17-SL-WHDT-02(0.5)	Total/NA	Solid	3050B	
580-68287-65	LPW17-SL-WHDT-02D(0.5)	Total/NA	Solid	3050B	
580-68287-66	LPW17-SL-WHL-01(0.5)	Total/NA	Solid	3050B	
MB 580-246480/20-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-246480/21-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-246480/22-A	Lab Control Sample Dup	Total/NA	Solid	3050B	

Prep Batch: 246491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-67	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	3050B	
580-68287-68	LPW17-SL-WHL-03(0.5)	Total/NA	Solid	3050B	
580-68287-69	LPW17-SL-WHL-03D(0.5)	Total/NA	Solid	3050B	
580-68287-70	LPW17-SL-WHL-04(0.5)	Total/NA	Solid	3050B	
580-68287-75	LPW17-LBP-WH-01	Total/NA	Solid	3050B	
580-68287-76	LPW17-LBP-WH-02	Total/NA	Solid	3050B	
580-68287-77	LPW17-LBP-WH-03	Total/NA	Solid	3050B	
580-68287-78	LPW17-LBP-WH-04	Total/NA	Solid	3050B	
580-68287-79	LPW17-LBP-WH-05	Total/NA	Solid	3050B	
580-68287-80	LPW17-LBP-Weir04	Total/NA	Solid	3050B	
MB 580-246491/17-A	Method Blank	Total/NA	Solid	3050B	
LCS 580-246491/18-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-246491/19-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
580-68287-67 MS	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	3050B	
580-68287-67 MSD	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	3050B	
580-68287-67 DU	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	3050B	

Analysis Batch: 246576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-59	LPW17-SL-WSL-02(0.5)	Total/NA	Solid	6020A	246480
580-68287-60	LPW17-SL-WSL-03(0.5)	Total/NA	Solid	6020A	246480
580-68287-61	LPW17-SL-WHBT-01(0.5)	Total/NA	Solid	6020A	246480
580-68287-62	LPW17-SL-WHBT-02(0.5)	Total/NA	Solid	6020A	246480
580-68287-63	LPW17-SL-WHDT-01(0.5)	Total/NA	Solid	6020A	246480
580-68287-64	LPW17-SL-WHDT-02(0.5)	Total/NA	Solid	6020A	246480
580-68287-65	LPW17-SL-WHDT-02D(0.5)	Total/NA	Solid	6020A	246480
580-68287-66	LPW17-SL-WHL-01(0.5)	Total/NA	Solid	6020A	246480
580-68287-67	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	6020A	246491
580-68287-68	LPW17-SL-WHL-03(0.5)	Total/NA	Solid	6020A	246491
580-68287-69	LPW17-SL-WHL-03D(0.5)	Total/NA	Solid	6020A	246491

Metals (Continued)

Analysis Batch: 246576 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-70	LPW17-SL-WHL-04(0.5)	Total/NA	Solid	6020A	246491
580-68287-75	LPW17-LBP-WH-01	Total/NA	Solid	6020A	246491
580-68287-76	LPW17-LBP-WH-02	Total/NA	Solid	6020A	246491
580-68287-77	LPW17-LBP-WH-03	Total/NA	Solid	6020A	246491
580-68287-78	LPW17-LBP-WH-04	Total/NA	Solid	6020A	246491
580-68287-79	LPW17-LBP-WH-05	Total/NA	Solid	6020A	246491
580-68287-80	LPW17-LBP-Weir04	Total/NA	Solid	6020A	246491
MB 580-246480/20-A	Method Blank	Total/NA	Solid	6020A	246480
MB 580-246491/17-A	Method Blank	Total/NA	Solid	6020A	246491
LCS 580-246480/21-A	Lab Control Sample	Total/NA	Solid	6020A	246480
LCS 580-246491/18-A	Lab Control Sample	Total/NA	Solid	6020A	246491
LCSD 580-246480/22-A	Lab Control Sample Dup	Total/NA	Solid	6020A	246480
LCSD 580-246491/19-A	Lab Control Sample Dup	Total/NA	Solid	6020A	246491
580-68287-67 MS	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	6020A	246491
580-68287-67 MSD	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	6020A	246491
580-68287-67 DU	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	6020A	246491

General Chemistry

Analysis Batch: 246450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-4	LPW17-SL-WeirP-01(2)	Total/NA	Solid	D 2216	
580-68287-5	LPW17-SL-WeirP-02(2)	Total/NA	Solid	D 2216	
580-68287-6	LPW17-SL-WeirP-02D(2)	Total/NA	Solid	D 2216	
580-68287-8	LPW17-SL-CCP-01(2)	Total/NA	Solid	D 2216	

Analysis Batch: 246595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-7	LPW17-SL-WeirP-03(2.5)	Total/NA	Solid	D 2216	

Analysis Batch: 246667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-71	LPW17-SL-GSP-W-01	Total/NA	Solid	D 2216	
580-68287-72	LPW17-SL-GSP-Leak01	Total/NA	Solid	D 2216	
580-68287-73	LPW17-SL-GSP-Leak02	Total/NA	Solid	D 2216	
580-68287-74	LPW17-SL-GSP-Leak03	Total/NA	Solid	D 2216	
580-68287-82	LPW17-SL-GSP-Leak04	Total/NA	Solid	D 2216	

Analysis Batch: 246730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-22	LPW17-Bkgd-Weir-01(1.5)	Total/NA	Solid	9060A	
580-68287-23	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	9060A	
MB 580-246730/3	Method Blank	Total/NA	Solid	9060A	
LCS 580-246730/4	Lab Control Sample	Total/NA	Solid	9060A	
LCSD 580-246730/5	Lab Control Sample Dup	Total/NA	Solid	9060A	
580-68287-23 MS	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	9060A	
580-68287-23 MSD	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	9060A	
580-68287-23 DU	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	9060A	

General Chemistry (Continued)

Analysis Batch: 247136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-9	LPW17-SL-CCP-02(2)	Total/NA	Solid	D 2216	
580-68287-10	LPW17-SL-GSP-01(2)	Total/NA	Solid	D 2216	
580-68287-11	LPW17-SL-GSP-03(1.5)	Total/NA	Solid	D 2216	
580-68287-12	LPW17-SL-WSP-01(2)	Total/NA	Solid	D 2216	
580-68287-13	LPW17-SL-HMP-01(2)	Total/NA	Solid	D 2216	
580-68287-14	LPW17-SL-HMP-02(2.5)	Total/NA	Solid	D 2216	

Analysis Batch: 247141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-18	LPW17-SL-WHP-01D(2)	Total/NA	Solid	D 2216	
580-68287-19	LPW17-SL-WHP-2(1)	Total/NA	Solid	D 2216	
580-68287-20	LPW17-SL-WHP-3(1)	Total/NA	Solid	D 2216	
580-68287-21	LPW17-SL-WHP-4(1)	Total/NA	Solid	D 2216	
580-68287-23	LPW17-Bkgd-WH-02(1)	Total/NA	Solid	D 2216	
580-68287-27	LPW17-SL-WeirL-03(0.5)	Total/NA	Solid	D 2216	
580-68287-28	LPW17-SL-WeirL-04(0.5)	Total/NA	Solid	D 2216	
580-68287-29	LPW17-SL-WeirT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-30	LPW17-SL-WeirT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-31	LPW17-SL-WeirT-03(0.5)	Total/NA	Solid	D 2216	
580-68287-32	LPW17-SL-WeirT-03D(0.5)	Total/NA	Solid	D 2216	
580-68287-33	LPW17-SL-WeirT-04(0.5)	Total/NA	Solid	D 2216	
580-68287-34	LPW17-SL-PASL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-35	LPW17-SL-PAST-01(0.5)	Total/NA	Solid	D 2216	
580-68287-36	LPW17-SL-PAST-02(0.5)	Total/NA	Solid	D 2216	
580-68287-37	LPW17-SL-PAST-03(0.5)	Total/NA	Solid	D 2216	
580-68287-38	LPW17-SL-PAST-Bkgd(0.5)	Total/NA	Solid	D 2216	
580-68287-39	LPW17-SL-FBT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-40	LPW17-SL-FBT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-41	LPW17-SL-MBT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-42	LPW17-SL-MBT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-43	LPW17-SL-PACT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-44	LPW17-SL-PACT-01D(0.5)	Total/NA	Solid	D 2216	
580-68287-45	LPW17-SL-PACT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-46	LPW17-SL-CCBT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-47	LPW17-SL-CCBT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-48	LPW17-SL-CCL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-49	LPW17-SL-CCL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-50	LPW17-SL-CCL-02(0.5)	Total/NA	Solid	D 2216	
580-68287-51	LPW17-SL-CCL-03(0.5)	Total/NA	Solid	D 2216	
580-68287-52	LPW17-SL-GSL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-53	LPW17-SL-GSL-02(0.5)	Total/NA	Solid	D 2216	
580-68287-54	LPW17-SL-INT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-55	LPW17-SL-INT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-56	LPW17-SL-WAT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-57	LPW17-SL-WAT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-58	LPW17-SL-WSL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-59	LPW17-SL-WSL-02(0.5)	Total/NA	Solid	D 2216	
580-68287-60	LPW17-SL-WSL-03(0.5)	Total/NA	Solid	D 2216	
580-68287-61	LPW17-SL-WHBT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-62	LPW17-SL-WHBT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-63	LPW17-SL-WHDT-01(0.5)	Total/NA	Solid	D 2216	

General Chemistry (Continued)

Analysis Batch: 247141 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-64	LPW17-SL-WHDT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-65	LPW17-SL-WHDT-02D(0.5)	Total/NA	Solid	D 2216	
580-68287-66	LPW17-SL-WHL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-67	LPW17-SL-WHL-02(0.5)	Total/NA	Solid	D 2216	
580-68287-68	LPW17-SL-WHL-03(0.5)	Total/NA	Solid	D 2216	
580-68287-69	LPW17-SL-WHL-03D(0.5)	Total/NA	Solid	D 2216	
580-68287-70	LPW17-SL-WHL-04(0.5)	Total/NA	Solid	D 2216	
580-68287-40 DU	LPW17-SL-FBT-02(0.5)	Total/NA	Solid	D 2216	
580-68287-56 DU	LPW17-SL-WAT-01(0.5)	Total/NA	Solid	D 2216	
580-68287-73 DU	LPW17-SL-GSP-Leak02	Total/NA	Solid	D 2216	

Analysis Batch: 247156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-68287-15	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	D 2216	
580-68287-16	LPW17-SL-OBP-02(2)	Total/NA	Solid	D 2216	
580-68287-17	LPW17-SL-WHP-01(2)	Total/NA	Solid	D 2216	
580-68287-24	LPW17-SL-WeirL-01(0.5)	Total/NA	Solid	D 2216	
580-68287-25	LPW17-SL-WeirL-01D(0.5)	Total/NA	Solid	D 2216	
580-68287-26	LPW17-SL-WeirL-02(0.5)	Total/NA	Solid	D 2216	
580-68287-15 DU	LPW17-SL-OBP-01(1.5)	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-Weir-01

Lab Sample ID: 580-68287-1
Date Collected: 05/06/17 18:20
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		1000	246144	05/17/17 13:31	FCW	TAL SEA

Client Sample ID: LPW17-LBP-Weir-02

Lab Sample ID: 580-68287-2
Date Collected: 05/06/17 18:25
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		1000	246144	05/17/17 13:35	FCW	TAL SEA

Client Sample ID: LPW17-LBP-Weir-03

Lab Sample ID: 580-68287-3
Date Collected: 05/06/17 18:30
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		1000	246144	05/17/17 13:40	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirP-01(2)

Lab Sample ID: 580-68287-4
Date Collected: 05/07/17 09:30
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246450	05/21/17 12:53	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirP-01(2)

Lab Sample ID: 580-68287-4
Date Collected: 05/07/17 09:30
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 64.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 13:42	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 16:24	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/23/17 20:05	KZ1	TAL SEA

Client Sample ID: LPW17-SL-WeirP-02(2)

Lab Sample ID: 580-68287-5
Date Collected: 05/07/17 09:40
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246450	05/21/17 12:53	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirP-02(2)

Lab Sample ID: 580-68287-5
Date Collected: 05/07/17 09:40
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 30.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		5	246433	05/20/17 14:05	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 16:55	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/23/17 20:36	KZ1	TAL SEA

Client Sample ID: LPW17-SL-WeirP-02D(2)

Lab Sample ID: 580-68287-6
Date Collected: 05/07/17 09:40
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246450	05/21/17 12:53	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirP-02D(2)

Lab Sample ID: 580-68287-6
Date Collected: 05/07/17 09:40
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 38.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		5	246433	05/20/17 14:27	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 17:26	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/23/17 21:08	KZ1	TAL SEA

Client Sample ID: LPW17-SL-WeirP-03(2.5)

Lab Sample ID: 580-68287-7
Date Collected: 05/07/17 10:00
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246595	05/23/17 09:15	Y1W	TAL SEA

Client Sample ID: LPW17-SL-WeirP-03(2.5)

Lab Sample ID: 580-68287-7
Date Collected: 05/07/17 10:00
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 39.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 14:50	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 17:56	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/23/17 21:39	KZ1	TAL SEA

Client Sample ID: LPW17-SL-CCP-01(2)

Lab Sample ID: 580-68287-8
Date Collected: 05/07/17 10:50
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246450	05/21/17 12:53	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCP-01(2)

Lab Sample ID: 580-68287-8
Date Collected: 05/07/17 10:50
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 39.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 15:57	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 19:58	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/23/17 23:39	KZ1	TAL SEA

Client Sample ID: LPW17-SL-CCP-02(2)

Lab Sample ID: 580-68287-9
Date Collected: 05/07/17 11:00
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247136	05/30/17 09:51	DSO	TAL SEA

Client Sample ID: LPW17-SL-CCP-02(2)

Lab Sample ID: 580-68287-9
Date Collected: 05/07/17 11:00
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 70.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		5	246433	05/20/17 16:20	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 20:28	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA

Client Sample ID: LPW17-SL-CCP-02(2)

Lab Sample ID: 580-68287-9
Date Collected: 05/07/17 11:00
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 70.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK102 & 103		1	246650	05/24/17 00:08	KZ1	TAL SEA

Client Sample ID: LPW17-SL-GSP-01(2)

Lab Sample ID: 580-68287-10
Date Collected: 05/07/17 13:05
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247136	05/30/17 09:51	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-01(2)

Lab Sample ID: 580-68287-10
Date Collected: 05/07/17 13:05
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 53.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 16:42	D1R	TAL SEA
Total/NA	Prep	5035			246738	05/24/17 12:00	J1J	TAL SEA
Total/NA	Analysis	AK101		1	246740	05/24/17 16:37	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/24/17 00:38	KZ1	TAL SEA

Client Sample ID: LPW17-SL-GSP-03(1.5)

Lab Sample ID: 580-68287-11
Date Collected: 05/07/17 15:30
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247136	05/30/17 09:51	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-03(1.5)

Lab Sample ID: 580-68287-11
Date Collected: 05/07/17 15:30
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 17:05	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 20:59	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/24/17 01:07	KZ1	TAL SEA

Client Sample ID: LPW17-SL-WSP-01(2)

Lab Sample ID: 580-68287-12
Date Collected: 05/07/17 15:55
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247136	05/30/17 09:51	DSO	TAL SEA

Client Sample ID: LPW17-SL-WSP-01(2)

Lab Sample ID: 580-68287-12
Date Collected: 05/07/17 15:55
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 89.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 17:27	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 21:30	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/24/17 01:36	KZ1	TAL SEA

Client Sample ID: LPW17-SL-HMP-01(2)

Lab Sample ID: 580-68287-13
Date Collected: 05/07/17 15:45
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247136	05/30/17 09:51	DSO	TAL SEA

Client Sample ID: LPW17-SL-HMP-01(2)

Lab Sample ID: 580-68287-13
Date Collected: 05/07/17 15:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246324	05/19/17 09:58	Y1W	TAL SEA
Total/NA	Analysis	8270D SIM		1	246433	05/20/17 17:50	D1R	TAL SEA
Total/NA	Prep	5035			246738	05/24/17 12:00	J1J	TAL SEA
Total/NA	Analysis	AK101		1	246740	05/24/17 17:07	J1J	TAL SEA
Total/NA	Prep	3546			246328	05/19/17 10:38	DSO	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246650	05/24/17 02:06	KZ1	TAL SEA

Client Sample ID: LPW17-SL-HMP-02(2.5)

Lab Sample ID: 580-68287-14
Date Collected: 05/07/17 16:30
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247136	05/30/17 09:51	DSO	TAL SEA

Client Sample ID: LPW17-SL-HMP-02(2.5)

Lab Sample ID: 580-68287-14

Date Collected: 05/07/17 16:30
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 16:39	D1R	TAL SEA
Total/NA	Prep	5035			246738	05/24/17 12:00	J1J	TAL SEA
Total/NA	Analysis	AK101		1	246740	05/24/17 17:37	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246482	05/22/17 18:24	CJ	TAL SEA

Client Sample ID: LPW17-SL-OBP-01(1.5)

Lab Sample ID: 580-68287-15

Date Collected: 05/07/17 16:35
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247156	05/30/17 12:06	DSO	TAL SEA

Client Sample ID: LPW17-SL-OBP-01(1.5)

Lab Sample ID: 580-68287-15

Date Collected: 05/07/17 16:35
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 68.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 17:53	D1R	TAL SEA
Total/NA	Prep	5035			246738	05/24/17 12:00	J1J	TAL SEA
Total/NA	Analysis	AK101		1	246740	05/24/17 19:08	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246482	05/22/17 19:34	CJ	TAL SEA

Client Sample ID: LPW17-SL-OBP-02(2)

Lab Sample ID: 580-68287-16

Date Collected: 05/07/17 16:45
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247156	05/30/17 12:06	DSO	TAL SEA

Client Sample ID: LPW17-SL-OBP-02(2)

Lab Sample ID: 580-68287-16

Date Collected: 05/07/17 16:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 61.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 18:18	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 22:00	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA

Client Sample ID: LPW17-SL-OBP-02(2)

Lab Sample ID: 580-68287-16
Date Collected: 05/07/17 16:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 61.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK102 & 103		1	246482	05/22/17 19:57	CJ	TAL SEA

Client Sample ID: LPW17-SL-WHP-01(2)

Lab Sample ID: 580-68287-17
Date Collected: 05/07/17 17:50
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247156	05/30/17 12:06	DSO	TAL SEA

Client Sample ID: LPW17-SL-WHP-01(2)

Lab Sample ID: 580-68287-17
Date Collected: 05/07/17 17:50
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 27.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 18:43	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 22:30	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246482	05/22/17 20:19	CJ	TAL SEA

Client Sample ID: LPW17-SL-WHP-01D(2)

Lab Sample ID: 580-68287-18
Date Collected: 05/07/17 17:50
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHP-01D(2)

Lab Sample ID: 580-68287-18
Date Collected: 05/07/17 17:50
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 31.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 19:07	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 23:01	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246482	05/22/17 20:43	CJ	TAL SEA

Client Sample ID: LPW17-SL-WHP-2(1)

Lab Sample ID: 580-68287-19
Date Collected: 05/07/17 18:10
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHP-2(1)

Lab Sample ID: 580-68287-19
Date Collected: 05/07/17 18:10
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 60.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 19:32	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 23:32	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 12:44	KZ1	TAL SEA

Client Sample ID: LPW17-SL-WHP-3(1)

Lab Sample ID: 580-68287-20
Date Collected: 05/07/17 18:15
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHP-3(1)

Lab Sample ID: 580-68287-20
Date Collected: 05/07/17 18:15
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 76.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	246475	05/22/17 19:57	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/17/17 00:02	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 13:07	KZ1	TAL SEA

Client Sample ID: LPW17-SL-WHP-4(1)

Lab Sample ID: 580-68287-21
Date Collected: 05/07/17 18:20
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHP-4(1)

Lab Sample ID: 580-68287-21
Date Collected: 05/07/17 18:20
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246436	05/20/17 11:34	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		5	246475	05/22/17 20:22	D1R	TAL SEA
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/17/17 00:32	J1J	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 13:29	KZ1	TAL SEA

Client Sample ID: LPW17-Bkgd-Weir-01(1.5)

Lab Sample ID: 580-68287-22
Date Collected: 05/07/17 20:00
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060A		1	246730	05/23/17 16:56	Z1T	TAL SEA

Client Sample ID: LPW17-Bkgd-WH-02(1)

Lab Sample ID: 580-68287-23
Date Collected: 05/07/17 20:10
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9060A		1	246730	05/23/17 16:37	Z1T	TAL SEA
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-Bkgd-WH-02(1)

Lab Sample ID: 580-68287-23
Date Collected: 05/07/17 20:10
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 64.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 13:52	KZ1	TAL SEA
Total/NA	Prep	3546			246621	05/23/17 13:39	APR	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246770	05/25/17 01:06	TL1	TAL SEA

Client Sample ID: LPW17-SL-WeirL-01(0.5)

Lab Sample ID: 580-68287-24
Date Collected: 05/08/17 09:05
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247156	05/30/17 12:06	DSO	TAL SEA

Client Sample ID: LPW17-SL-WeirL-01(0.5) — **Lab Sample ID: 580-68287-24**
Date Collected: 05/08/17 09:05 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 13.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:15	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirL-01D(0.5) — **Lab Sample ID: 580-68287-25**
Date Collected: 05/08/17 09:05 — **Matrix: Solid**
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247156	05/30/17 12:06	DSO	TAL SEA

Client Sample ID: LPW17-SL-WeirL-01D(0.5) — **Lab Sample ID: 580-68287-25**
Date Collected: 05/08/17 09:05 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 19.3**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:19	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirL-02(0.5) — **Lab Sample ID: 580-68287-26**
Date Collected: 05/08/17 09:08 — **Matrix: Solid**
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247156	05/30/17 12:06	DSO	TAL SEA

Client Sample ID: LPW17-SL-WeirL-02(0.5) — **Lab Sample ID: 580-68287-26**
Date Collected: 05/08/17 09:08 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 26.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:24	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirL-03(0.5) — **Lab Sample ID: 580-68287-27**
Date Collected: 05/08/17 09:15 — **Matrix: Solid**
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirL-03(0.5)

Lab Sample ID: 580-68287-27
Date Collected: 05/08/17 09:15
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 17.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:28	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirL-04(0.5)

Lab Sample ID: 580-68287-28
Date Collected: 05/08/17 09:18
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirL-04(0.5)

Lab Sample ID: 580-68287-28
Date Collected: 05/08/17 09:18
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 17.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:33	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirT-01(0.5)

Lab Sample ID: 580-68287-29
Date Collected: 05/08/17 09:11
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirT-01(0.5)

Lab Sample ID: 580-68287-29
Date Collected: 05/08/17 09:11
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 6.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:37	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirT-02(0.5)

Lab Sample ID: 580-68287-30
Date Collected: 05/08/17 09:20
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirT-02(0.5)

Lab Sample ID: 580-68287-30
Date Collected: 05/08/17 09:20
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 8.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:42	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirT-03(0.5)

Lab Sample ID: 580-68287-31
Date Collected: 05/08/17 09:22
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirT-03(0.5)

Lab Sample ID: 580-68287-31
Date Collected: 05/08/17 09:22
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 12.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246022	05/16/17 14:16	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246144	05/17/17 12:46	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirT-03D(0.5)

Lab Sample ID: 580-68287-32
Date Collected: 05/08/17 09:22
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirT-03D(0.5)

Lab Sample ID: 580-68287-32
Date Collected: 05/08/17 09:22
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 4.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 12:41	FCW	TAL SEA

Client Sample ID: LPW17-SL-WeirT-04(0.5)

Lab Sample ID: 580-68287-33
Date Collected: 05/08/17 09:26
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WeirT-04(0.5)

Lab Sample ID: 580-68287-33
Date Collected: 05/08/17 09:26
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 15.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:22	FCW	TAL SEA

Client Sample ID: LPW17-SL-PASL-01(0.5)

Lab Sample ID: 580-68287-34
Date Collected: 05/08/17 09:45
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PASL-01(0.5)

Lab Sample ID: 580-68287-34
Date Collected: 05/08/17 09:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 17.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:26	FCW	TAL SEA

Client Sample ID: LPW17-SL-PAST-01(0.5)

Lab Sample ID: 580-68287-35
Date Collected: 05/08/17 09:38
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PAST-01(0.5)

Lab Sample ID: 580-68287-35
Date Collected: 05/08/17 09:38
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 17.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:31	FCW	TAL SEA

Client Sample ID: LPW17-SL-PAST-02(0.5)

Lab Sample ID: 580-68287-36
Date Collected: 05/08/17 09:42
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PAST-02(0.5)

Lab Sample ID: 580-68287-36
Date Collected: 05/08/17 09:42
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 29.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:35	FCW	TAL SEA

Client Sample ID: LPW17-SL-PAST-03(0.5)

Lab Sample ID: 580-68287-37
Date Collected: 05/08/17 10:02
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PAST-03(0.5)

Lab Sample ID: 580-68287-37
Date Collected: 05/08/17 10:02
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 28.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:40	FCW	TAL SEA

Client Sample ID: LPW17-SL-PAST-Bkgd(0.5)

Lab Sample ID: 580-68287-38
Date Collected: 05/08/17 09:56
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PAST-Bkgd(0.5)

Lab Sample ID: 580-68287-38
Date Collected: 05/08/17 09:56
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 17.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:44	FCW	TAL SEA

Client Sample ID: LPW17-SL-FBT-01(0.5)

Lab Sample ID: 580-68287-39
Date Collected: 05/08/17 10:16
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-FBT-01(0.5)

Lab Sample ID: 580-68287-39
Date Collected: 05/08/17 10:16
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 21.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:49	FCW	TAL SEA

Client Sample ID: LPW17-SL-FBT-02(0.5)

Lab Sample ID: 580-68287-40
Date Collected: 05/08/17 10:19
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-FBT-02(0.5)

Lab Sample ID: 580-68287-40
Date Collected: 05/08/17 10:19
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 16.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:53	FCW	TAL SEA

Client Sample ID: LPW17-SL-MBT-01(0.5)

Lab Sample ID: 580-68287-41
Date Collected: 05/08/17 10:28
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-MBT-01(0.5)

Lab Sample ID: 580-68287-41
Date Collected: 05/08/17 10:28
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 60.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 13:58	FCW	TAL SEA

Client Sample ID: LPW17-SL-MBT-02(0.5)

Lab Sample ID: 580-68287-42
Date Collected: 05/08/17 10:31
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-MBT-02(0.5)

Lab Sample ID: 580-68287-42
Date Collected: 05/08/17 10:31
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 18.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 14:20	FCW	TAL SEA

Client Sample ID: LPW17-SL-PACT-01(0.5)

Lab Sample ID: 580-68287-43
Date Collected: 05/08/17 10:39
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PACT-01(0.5)

Lab Sample ID: 580-68287-43
Date Collected: 05/08/17 10:39
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 71.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246145	05/17/17 15:12	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/18/17 14:25	FCW	TAL SEA

Client Sample ID: LPW17-SL-PACT-01D(0.5)

Lab Sample ID: 580-68287-44
Date Collected: 05/08/17 10:39
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-PACT-01D(0.5)

Lab Sample ID: 580-68287-44
Date Collected: 05/08/17 10:39
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 74.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:33	FCW	TAL SEA

Client Sample ID: LPW17-SL-PACT-02(0.5)

Lab Sample ID: 580-68287-45
Date Collected: 05/08/17 10:44
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Lab Chronicle

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-SL-PACT-02(0.5)

Lab Sample ID: 580-68287-45
Date Collected: 05/08/17 10:44
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 24.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:37	FCW	TAL SEA

Client Sample ID: LPW17-SL-CCBT-01(0.5)

Lab Sample ID: 580-68287-46
Date Collected: 05/08/17 10:55
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCBT-01(0.5)

Lab Sample ID: 580-68287-46
Date Collected: 05/08/17 10:55
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 79.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:42	FCW	TAL SEA

Client Sample ID: LPW17-SL-CCBT-02(0.5)

Lab Sample ID: 580-68287-47
Date Collected: 05/08/17 11:00
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCBT-02(0.5)

Lab Sample ID: 580-68287-47
Date Collected: 05/08/17 11:00
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 66.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:46	FCW	TAL SEA

Client Sample ID: LPW17-SL-CCL-01(0.5)

Lab Sample ID: 580-68287-48
Date Collected: 05/08/17 11:08
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCL-01(0.5) — **Lab Sample ID: 580-68287-48**
Date Collected: 05/08/17 11:08 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 15.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:50	FCW	TAL SEA

Client Sample ID: LPW17-SL-CCL-01(0.5) — **Lab Sample ID: 580-68287-49**
Date Collected: 05/08/17 11:10 — **Matrix: Solid**
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCL-01(0.5) — **Lab Sample ID: 580-68287-49**
Date Collected: 05/08/17 11:10 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 14.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:55	FCW	TAL SEA

Client Sample ID: LPW17-SL-CCL-02(0.5) — **Lab Sample ID: 580-68287-50**
Date Collected: 05/08/17 11:40 — **Matrix: Solid**
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCL-02(0.5) — **Lab Sample ID: 580-68287-50**
Date Collected: 05/08/17 11:40 — **Matrix: Solid**
Date Received: 05/10/17 14:00 — **Percent Solids: 63.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 00:59	FCW	TAL SEA

Client Sample ID: LPW17-SL-CCL-03(0.5) — **Lab Sample ID: 580-68287-51**
Date Collected: 05/08/17 11:45 — **Matrix: Solid**
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-CCL-03(0.5)

Lab Sample ID: 580-68287-51
Date Collected: 05/08/17 11:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 12.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:04	FCW	TAL SEA

Client Sample ID: LPW17-SL-GSL-01(0.5)

Lab Sample ID: 580-68287-52
Date Collected: 05/08/17 12:03
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-GSL-01(0.5)

Lab Sample ID: 580-68287-52
Date Collected: 05/08/17 12:03
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 71.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:08	FCW	TAL SEA

Client Sample ID: LPW17-SL-GSL-02(0.5)

Lab Sample ID: 580-68287-53
Date Collected: 05/08/17 12:06
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-GSL-02(0.5)

Lab Sample ID: 580-68287-53
Date Collected: 05/08/17 12:06
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 63.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:31	FCW	TAL SEA

Client Sample ID: LPW17-SL-INT-01(0.5)

Lab Sample ID: 580-68287-54
Date Collected: 05/08/17 12:12
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-INT-01(0.5)

Lab Sample ID: 580-68287-54
Date Collected: 05/08/17 12:12
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 70.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:35	FCW	TAL SEA

Client Sample ID: LPW17-SL-INT-02(0.5)

Lab Sample ID: 580-68287-55
Date Collected: 05/08/17 12:16
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-INT-02(0.5)

Lab Sample ID: 580-68287-55
Date Collected: 05/08/17 12:16
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 55.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:39	FCW	TAL SEA

Client Sample ID: LPW17-SL-WAT-01(0.5)

Lab Sample ID: 580-68287-56
Date Collected: 05/08/17 12:18
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WAT-01(0.5)

Lab Sample ID: 580-68287-56
Date Collected: 05/08/17 12:18
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:44	FCW	TAL SEA

Client Sample ID: LPW17-SL-WAT-02(0.5)

Lab Sample ID: 580-68287-57
Date Collected: 05/08/17 12:20
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WAT-02(0.5)
Lab Sample ID: 580-68287-57
Date Collected: 05/08/17 12:20
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 47.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:48	FCW	TAL SEA

Client Sample ID: LPW17-SL-WSL-01(0.5)
Lab Sample ID: 580-68287-58
Date Collected: 05/08/17 12:32
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WSL-01(0.5)
Lab Sample ID: 580-68287-58
Date Collected: 05/08/17 12:32
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 73.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246236	05/18/17 11:56	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246300	05/19/17 01:53	FCW	TAL SEA

Client Sample ID: LPW17-SL-WSL-02(0.5)
Lab Sample ID: 580-68287-59
Date Collected: 05/08/17 12:42
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WSL-02(0.5)
Lab Sample ID: 580-68287-59
Date Collected: 05/08/17 12:42
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 51.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:27	FCW	TAL SEA

Client Sample ID: LPW17-SL-WSL-03(0.5)
Lab Sample ID: 580-68287-60
Date Collected: 05/08/17 12:45
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WSL-03(0.5)

Lab Sample ID: 580-68287-60
Date Collected: 05/08/17 12:45
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 58.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:31	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHBT-01(0.5)

Lab Sample ID: 580-68287-61
Date Collected: 05/08/17 12:50
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHBT-01(0.5)

Lab Sample ID: 580-68287-61
Date Collected: 05/08/17 12:50
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 15.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:36	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHBT-02(0.5)

Lab Sample ID: 580-68287-62
Date Collected: 05/08/17 12:53
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHBT-02(0.5)

Lab Sample ID: 580-68287-62
Date Collected: 05/08/17 12:53
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 51.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:06	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHDT-01(0.5)

Lab Sample ID: 580-68287-63
Date Collected: 05/08/17 13:00
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHDT-01(0.5)

Lab Sample ID: 580-68287-63
Date Collected: 05/08/17 13:00
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 57.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:10	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHDT-02(0.5)

Lab Sample ID: 580-68287-64
Date Collected: 05/08/17 13:04
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHDT-02(0.5)

Lab Sample ID: 580-68287-64
Date Collected: 05/08/17 13:04
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 30.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:15	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHDT-02D(0.5)

Lab Sample ID: 580-68287-65
Date Collected: 05/08/17 13:04
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHDT-02D(0.5)

Lab Sample ID: 580-68287-65
Date Collected: 05/08/17 13:04
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 26.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:19	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHL-01(0.5)

Lab Sample ID: 580-68287-66
Date Collected: 05/08/17 13:12
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHL-01(0.5)

Lab Sample ID: 580-68287-66
Date Collected: 05/08/17 13:12
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 40.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246480	05/22/17 10:05	ADB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 18:23	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHL-02(0.5)

Lab Sample ID: 580-68287-67
Date Collected: 05/08/17 13:14
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHL-02(0.5)

Lab Sample ID: 580-68287-67
Date Collected: 05/08/17 13:14
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 60.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 21:33	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHL-03(0.5)

Lab Sample ID: 580-68287-68
Date Collected: 05/08/17 13:16
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHL-03(0.5)

Lab Sample ID: 580-68287-68
Date Collected: 05/08/17 13:16
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 56.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 22:11	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHL-03D(0.5)

Lab Sample ID: 580-68287-69
Date Collected: 05/08/17 13:16
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHL-03D(0.5)

Lab Sample ID: 580-68287-69
Date Collected: 05/08/17 13:16
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 60.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 22:15	FCW	TAL SEA

Client Sample ID: LPW17-SL-WHL-04(0.5)

Lab Sample ID: 580-68287-70
Date Collected: 05/08/17 13:18
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	247141	05/30/17 10:01	JCV	TAL SEA

Client Sample ID: LPW17-SL-WHL-04(0.5)

Lab Sample ID: 580-68287-70
Date Collected: 05/08/17 13:18
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 39.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		10	246576	05/22/17 22:19	FCW	TAL SEA

Client Sample ID: LPW17-SL-GSP-W-01

Lab Sample ID: 580-68287-71
Date Collected: 05/08/17 15:40
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246667	05/23/17 15:47	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-W-01

Lab Sample ID: 580-68287-71
Date Collected: 05/08/17 15:40
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 58.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246467	05/22/17 09:33	APR	TAL SEA
Total/NA	Analysis	8270D SIM		1	247152	05/30/17 13:35	ERZ	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 14:15	KZ1	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak01

Lab Sample ID: 580-68287-72
Date Collected: 05/08/17 15:55
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246667	05/23/17 15:47	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak01
Lab Sample ID: 580-68287-72
Date Collected: 05/08/17 15:55
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			246134	05/17/17 14:40	JSM	TAL SEA
Total/NA	Analysis	8260C		1	246158	05/18/17 00:47	JSM	TAL SEA
Total/NA	Prep	3546			246467	05/22/17 09:33	APR	TAL SEA
Total/NA	Analysis	8270D SIM		1	247152	05/30/17 15:04	ERZ	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 15:23	KZ1	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak02
Lab Sample ID: 580-68287-73
Date Collected: 05/08/17 16:05
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246667	05/23/17 15:47	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak02
Lab Sample ID: 580-68287-73
Date Collected: 05/08/17 16:05
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			246134	05/17/17 14:40	JSM	TAL SEA
Total/NA	Analysis	8260C		1	246158	05/18/17 01:13	JSM	TAL SEA
Total/NA	Prep	3546			246467	05/22/17 09:33	APR	TAL SEA
Total/NA	Analysis	8270D SIM		1	247152	05/30/17 14:42	ERZ	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 15:46	KZ1	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak03
Lab Sample ID: 580-68287-74
Date Collected: 05/08/17 16:20
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246667	05/23/17 15:47	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak03
Lab Sample ID: 580-68287-74
Date Collected: 05/08/17 16:20
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			246134	05/17/17 14:40	JSM	TAL SEA
Total/NA	Analysis	8260C		1	246158	05/18/17 01:40	JSM	TAL SEA
Total/NA	Prep	3546			246467	05/22/17 09:33	APR	TAL SEA
Total/NA	Analysis	8270D SIM		1	247152	05/30/17 15:27	ERZ	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak03

Lab Sample ID: 580-68287-74
Date Collected: 05/08/17 16:20
Matrix: Solid
Date Received: 05/10/17 14:00
Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 16:09	KZ1	TAL SEA

Client Sample ID: LPW17-LBP-WH-01

Lab Sample ID: 580-68287-75
Date Collected: 05/09/17 09:30
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		100	246576	05/22/17 22:49	FCW	TAL SEA

Client Sample ID: LPW17-LBP-WH-02

Lab Sample ID: 580-68287-76
Date Collected: 05/09/17 09:35
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		100	246576	05/22/17 22:57	FCW	TAL SEA

Client Sample ID: LPW17-LBP-WH-03

Lab Sample ID: 580-68287-77
Date Collected: 05/09/17 09:40
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		100	246576	05/22/17 22:53	FCW	TAL SEA

Client Sample ID: LPW17-LBP-WH-04

Lab Sample ID: 580-68287-78
Date Collected: 05/09/17 09:45
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		100	246576	05/22/17 23:01	FCW	TAL SEA

Client Sample ID: LPW17-LBP-WH-05

Lab Sample ID: 580-68287-79
Date Collected: 05/09/17 09:50
Matrix: Solid
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		100	246576	05/22/17 22:44	FCW	TAL SEA

Lab Chronicle

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Client Sample ID: LPW17-LBP-Weir04

Lab Sample ID: 580-68287-80
Matrix: Solid
Date Collected: 05/06/17 18:35
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			246491	05/22/17 11:58	PAB	TAL SEA
Total/NA	Analysis	6020A		100	246576	05/22/17 22:40	FCW	TAL SEA

Client Sample ID: Trip Blank

Lab Sample ID: 580-68287-81
Matrix: Solid
Date Collected: 05/08/17 00:00
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			245940	05/16/17 08:55	RSB	TAL SEA
Total/NA	Analysis	AK101		1	245984	05/16/17 15:54	J1J	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak04

Lab Sample ID: 580-68287-82
Matrix: Solid
Date Collected: 05/08/17 16:20
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1	246667	05/23/17 15:47	DSO	TAL SEA

Client Sample ID: LPW17-SL-GSP-Leak04

Lab Sample ID: 580-68287-82
Matrix: Solid
Date Collected: 05/08/17 16:20
Percent Solids: 58.0
Date Received: 05/10/17 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			246467	05/22/17 09:33	APR	TAL SEA
Total/NA	Analysis	8270D SIM		1	247152	05/30/17 15:49	ERZ	TAL SEA
Total/NA	Prep	3546			246440	05/20/17 12:17	KZ1	TAL SEA
Total/NA	Analysis	AK102 & 103		1	246593	05/23/17 16:55	KZ1	TAL SEA

Laboratory References:

SC0056 = Analytical Resources, Inc, 4611 South 134th Place, Suite 100, Tukwila, WA 98168, TEL (206)695-6200

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Laboratory: TestAmerica Seattle

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-18
California	State Program	9	2901	01-31-18
L-A-B	DoD ELAP		L2236	01-19-19
L-A-B	ISO/IEC 17025		L2236	01-19-19
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-05-17
US Fish & Wildlife	Federal		LE058448-0	10-31-17
USDA	Federal		P330-14-00126	02-10-20
Washington	State Program	10	C553	02-17-18

Sample Summary

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-68287-1	LPW17-LBP-Weir-01	Solid	05/06/17 18:20	05/10/17 14:00
580-68287-2	LPW17-LBP-Weir-02	Solid	05/06/17 18:25	05/10/17 14:00
580-68287-3	LPW17-LBP-Weir-03	Solid	05/06/17 18:30	05/10/17 14:00
580-68287-4	LPW17-SL-WeirP-01(2)	Solid	05/07/17 09:30	05/10/17 14:00
580-68287-5	LPW17-SL-WeirP-02(2)	Solid	05/07/17 09:40	05/10/17 14:00
580-68287-6	LPW17-SL-WeirP-02D(2)	Solid	05/07/17 09:40	05/10/17 14:00
580-68287-7	LPW17-SL-WeirP-03(2.5)	Solid	05/07/17 10:00	05/10/17 14:00
580-68287-8	LPW17-SL-CCP-01(2)	Solid	05/07/17 10:50	05/10/17 14:00
580-68287-9	LPW17-SL-CCP-02(2)	Solid	05/07/17 11:00	05/10/17 14:00
580-68287-10	LPW17-SL-GSP-01(2)	Solid	05/07/17 13:05	05/10/17 14:00
580-68287-11	LPW17-SL-GSP-03(1.5)	Solid	05/07/17 15:30	05/10/17 14:00
580-68287-12	LPW17-SL-WSP-01(2)	Solid	05/07/17 15:55	05/10/17 14:00
580-68287-13	LPW17-SL-HMP-01(2)	Solid	05/07/17 15:45	05/10/17 14:00
580-68287-14	LPW17-SL-HMP-02(2.5)	Solid	05/07/17 16:30	05/10/17 14:00
580-68287-15	LPW17-SL-OBP-01(1.5)	Solid	05/07/17 16:35	05/10/17 14:00
580-68287-16	LPW17-SL-OBP-02(2)	Solid	05/07/17 16:45	05/10/17 14:00
580-68287-17	LPW17-SL-WHP-01(2)	Solid	05/07/17 17:50	05/10/17 14:00
580-68287-18	LPW17-SL-WHP-01D(2)	Solid	05/07/17 17:50	05/10/17 14:00
580-68287-19	LPW17-SL-WHP-2(1)	Solid	05/07/17 18:10	05/10/17 14:00
580-68287-20	LPW17-SL-WHP-3(1)	Solid	05/07/17 18:15	05/10/17 14:00
580-68287-21	LPW17-SL-WHP-4(1)	Solid	05/07/17 18:20	05/10/17 14:00
580-68287-22	LPW17-Bkgd-Weir-01(1.5)	Solid	05/07/17 20:00	05/10/17 14:00
580-68287-23	LPW17-Bkgd-WH-02(1)	Solid	05/07/17 20:10	05/10/17 14:00
580-68287-24	LPW17-SL-WeirL-01(0.5)	Solid	05/08/17 09:05	05/10/17 14:00
580-68287-25	LPW17-SL-WeirL-01D(0.5)	Solid	05/08/17 09:05	05/10/17 14:00
580-68287-26	LPW17-SL-WeirL-02(0.5)	Solid	05/08/17 09:08	05/10/17 14:00
580-68287-27	LPW17-SL-WeirL-03(0.5)	Solid	05/08/17 09:15	05/10/17 14:00
580-68287-28	LPW17-SL-WeirL-04(0.5)	Solid	05/08/17 09:18	05/10/17 14:00
580-68287-29	LPW17-SL-WeirT-01(0.5)	Solid	05/08/17 09:11	05/10/17 14:00
580-68287-30	LPW17-SL-WeirT-02(0.5)	Solid	05/08/17 09:20	05/10/17 14:00
580-68287-31	LPW17-SL-WeirT-03(0.5)	Solid	05/08/17 09:22	05/10/17 14:00
580-68287-32	LPW17-SL-WeirT-03D(0.5)	Solid	05/08/17 09:22	05/10/17 14:00
580-68287-33	LPW17-SL-WeirT-04(0.5)	Solid	05/08/17 09:26	05/10/17 14:00
580-68287-34	LPW17-SL-PASL-01(0.5)	Solid	05/08/17 09:45	05/10/17 14:00
580-68287-35	LPW17-SL-PAST-01(0.5)	Solid	05/08/17 09:38	05/10/17 14:00
580-68287-36	LPW17-SL-PAST-02(0.5)	Solid	05/08/17 09:42	05/10/17 14:00
580-68287-37	LPW17-SL-PAST-03(0.5)	Solid	05/08/17 10:02	05/10/17 14:00
580-68287-38	LPW17-SL-PAST-Bkgd(0.5)	Solid	05/08/17 09:56	05/10/17 14:00
580-68287-39	LPW17-SL-FBT-01(0.5)	Solid	05/08/17 10:16	05/10/17 14:00
580-68287-40	LPW17-SL-FBT-02(0.5)	Solid	05/08/17 10:19	05/10/17 14:00
580-68287-41	LPW17-SL-MBT-01(0.5)	Solid	05/08/17 10:28	05/10/17 14:00
580-68287-42	LPW17-SL-MBT-02(0.5)	Solid	05/08/17 10:31	05/10/17 14:00
580-68287-43	LPW17-SL-PACT-01(0.5)	Solid	05/08/17 10:39	05/10/17 14:00
580-68287-44	LPW17-SL-PACT-01D(0.5)	Solid	05/08/17 10:39	05/10/17 14:00
580-68287-45	LPW17-SL-PACT-02(0.5)	Solid	05/08/17 10:44	05/10/17 14:00
580-68287-46	LPW17-SL-CCBT-01(0.5)	Solid	05/08/17 10:55	05/10/17 14:00
580-68287-47	LPW17-SL-CCBT-02(0.5)	Solid	05/08/17 11:00	05/10/17 14:00
580-68287-48	LPW17-SL-CCL-01(0.5)	Solid	05/08/17 11:08	05/10/17 14:00
580-68287-49	LPW17-SL-CCL-01(0.5)	Solid	05/08/17 11:10	05/10/17 14:00
580-68287-50	LPW17-SL-CCL-02(0.5)	Solid	05/08/17 11:40	05/10/17 14:00
580-68287-51	LPW17-SL-CCL-03(0.5)	Solid	05/08/17 11:45	05/10/17 14:00
580-68287-52	LPW17-SL-GSL-01(0.5)	Solid	05/08/17 12:03	05/10/17 14:00
580-68287-53	LPW17-SL-GSL-02(0.5)	Solid	05/08/17 12:06	05/10/17 14:00

Sample Summary

Client: Ahtna Engineering Services LLC
Project/Site: Little Port Walter AK

TestAmerica Job ID: 580-68287-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-68287-54	LPW17-SL-INT-01(0.5)	Solid	05/08/17 12:12	05/10/17 14:00
580-68287-55	LPW17-SL-INT-02(0.5)	Solid	05/08/17 12:16	05/10/17 14:00
580-68287-56	LPW17-SL-WAT-01(0.5)	Solid	05/08/17 12:18	05/10/17 14:00
580-68287-57	LPW17-SL-WAT-02(0.5)	Solid	05/08/17 12:20	05/10/17 14:00
580-68287-58	LPW17-SL-WSL-01(0.5)	Solid	05/08/17 12:32	05/10/17 14:00
580-68287-59	LPW17-SL-WSL-02(0.5)	Solid	05/08/17 12:42	05/10/17 14:00
580-68287-60	LPW17-SL-WSL-03(0.5)	Solid	05/08/17 12:45	05/10/17 14:00
580-68287-61	LPW17-SL-WHBT-01(0.5)	Solid	05/08/17 12:50	05/10/17 14:00
580-68287-62	LPW17-SL-WHBT-02(0.5)	Solid	05/08/17 12:53	05/10/17 14:00
580-68287-63	LPW17-SL-WHDT-01(0.5)	Solid	05/08/17 13:00	05/10/17 14:00
580-68287-64	LPW17-SL-WHDT-02(0.5)	Solid	05/08/17 13:04	05/10/17 14:00
580-68287-65	LPW17-SL-WHDT-02D(0.5)	Solid	05/08/17 13:04	05/10/17 14:00
580-68287-66	LPW17-SL-WHL-01(0.5)	Solid	05/08/17 13:12	05/10/17 14:00
580-68287-67	LPW17-SL-WHL-02(0.5)	Solid	05/08/17 13:14	05/10/17 14:00
580-68287-68	LPW17-SL-WHL-03(0.5)	Solid	05/08/17 13:16	05/10/17 14:00
580-68287-69	LPW17-SL-WHL-03D(0.5)	Solid	05/08/17 13:16	05/10/17 14:00
580-68287-70	LPW17-SL-WHL-04(0.5)	Solid	05/08/17 13:18	05/10/17 14:00
580-68287-71	LPW17-SL-GSP-W-01	Solid	05/08/17 15:40	05/10/17 14:00
580-68287-72	LPW17-SL-GSP-Leak01	Solid	05/08/17 15:55	05/10/17 14:00
580-68287-73	LPW17-SL-GSP-Leak02	Solid	05/08/17 16:05	05/10/17 14:00
580-68287-74	LPW17-SL-GSP-Leak03	Solid	05/08/17 16:20	05/10/17 14:00
580-68287-75	LPW17-LBP-WH-01	Solid	05/09/17 09:30	05/10/17 14:00
580-68287-76	LPW17-LBP-WH-02	Solid	05/09/17 09:35	05/10/17 14:00
580-68287-77	LPW17-LBP-WH-03	Solid	05/09/17 09:40	05/10/17 14:00
580-68287-78	LPW17-LBP-WH-04	Solid	05/09/17 09:45	05/10/17 14:00
580-68287-79	LPW17-LBP-WH-05	Solid	05/09/17 09:50	05/10/17 14:00
580-68287-80	LPW17-LBP-Weir04	Solid	05/06/17 18:35	05/10/17 14:00
580-68287-81	Trip Blank	Solid	05/08/17 00:00	05/10/17 14:00
580-68287-82	LPW17-SL-GSP-Leak04	Solid	05/08/17 16:20	05/10/17 14:00

Analytical Resources, Incorporated
Analytical Chemists and Consultants

07 June 2017

Elaine Walker
Test America-Tacoma
5755 8th Street East
Tacoma, WA 98424

RE: Little Port Walter AK

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

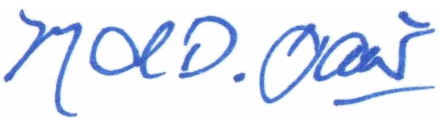
Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
17E0281	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the reqirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.



ITE0281

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-46902.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: elaine.walker@testamericainc.com	State of Origin: Alaska	Page: Page 2 of 2
Company: Analytical Resources, Inc		Accreditations Required (See note):		Job #: 580-68287-1
Address: 4611 South 134th Place, Suite 100, ,	Due Date Requested: 5/26/2017			
City: Tukwila	TAT Requested (days):			
State, Zip: WA, 98168				
Phone: 206-695-6200(Tel)	PO #:			
Email:	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SUB (Volatiles, standard list, low level - ARI)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
LPW17-SL-OBP-02(2)	5/7/17	16:45 Alaskan		Solid			X	2	
LPW17-SL-WHP-01(2)	5/7/17	17:50 Alaskan		Solid			X	2	
LPW17-SL-WHP-01D(2)	5/7/17	17:50 Alaskan		Solid			X	2	
LPW17-SL-WHP-2(1)	5/7/17	18:10 Alaskan		Solid			X	2	
LPW17-SL-WHP-3(1)	5/7/17	18:15 Alaskan		Solid			X	2	
LPW17-SL-WHP-4(1)	5/7/17	18:20 Alaskan		Solid			X	2	

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. I

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5/9/17 0910	TASEA	[signature]	5/9/17 0910	AM
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Test America Seattle — Project Name: Little Port Walter AK

COC No(s): _____ NA — Delivered by: Fed-Ex UPS Courier (Hand Delivered) Other: _____

Assigned ARI Job No: 17E0281 — Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry): 0.9

Time: 9:10

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: D00520C6

Cooler Accepted by: B. H. — Date: 5/19/17 — Time: 9:10

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		(YES)	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice (Gel Packs) Baggies Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		YES	(NO)
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	YES	(NO)
Were all VOC vials free of air bubbles?	NA	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: PM — Date: 5/19/2017 — Time: 11:00

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

CoC lists 14 samples with 2 containers each. 23 samples arrived with cooler shipment. All samples listed on CoC are accounted for ~~but~~ except for MS/MSD sample. There are 10 samples that are not listed on the CoC.

By: PM — Date: 5/19/2017

Small Air Bubbles = 2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
• • •	• • •	• • •

Small → "sm" (< 2 mm)

Peabubbles → "pb" (2 to < 4 mm)

Large → "lg" (4 to < 6 mm)

Headspace → "hs" (> 6 mm)

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LPW17-SL-WeirP-01(2)	17E0281-01	Solid	07-May-2017 09:30	19-May-2017 09:10
LPW17-SL-WeirP-02(2)	17E0281-02	Solid	07-May-2017 09:40	19-May-2017 09:10
LPW17-SL-WeirP-02D(2)	17E0281-03	Solid	07-May-2017 09:40	19-May-2017 09:10
LPW17-SL-WeirP-03(2.5)	17E0281-04	Solid	07-May-2017 10:00	19-May-2017 09:10
LPW17-SL-CCP-01(2)	17E0281-05	Solid	07-May-2017 10:50	19-May-2017 09:10
LPW17-SL-CCP-02(2)	17E0281-06	Solid	07-May-2017 11:00	19-May-2017 09:10
LPW17-SL-GSP-03(1.5)	17E0281-07	Solid	07-May-2017 15:30	19-May-2017 09:10
LPW17-SL-OBP-02(2)	17E0281-08	Solid	07-May-2017 16:45	19-May-2017 09:10
LPW17-SL-WHP-01(2)	17E0281-09	Solid	07-May-2017 17:50	19-May-2017 09:10
LPW17-SL-WHP-01D(2)	17E0281-10	Solid	07-May-2017 17:50	19-May-2017 09:10
LPW17-SL-WHP-2(1)	17E0281-11	Solid	07-May-2017 18:10	19-May-2017 09:10
LPW17-SL-WHP-3(1)	17E0281-12	Solid	07-May-2017 18:15	19-May-2017 09:10
LPW17-SL-WHP-4(1)	17E0281-13	Solid	07-May-2017 18:20	19-May-2017 09:10
LPW17-SL-GSP-01(2)	17E0281-14	Solid	07-May-2017 13:05	19-May-2017 09:10
LPW17-SL-WSP-01(2)	17E0281-15	Solid	07-May-2017 15:55	19-May-2017 09:10
LPW17-SL-HMP-01(2)	17E0281-16	Solid	07-May-2017 15:45	19-May-2017 09:10
LPW17-SS-HMP-02(2.5)	17E0281-17	Solid	07-May-2017 16:30	19-May-2017 09:10
LPW17-SL-OBP-01(1.5)	17E0281-18	Solid	07-May-2017 16:35	19-May-2017 09:10

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Case Narrative

Client: Test America-Tacoma
Project: Little Port Walter AK
Workorder: 17E0281

Sample receipt

The samples listed on the preceding page were received 19-May-2017 09:10 under ARI work order 17E0281. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

These samples were prepared and analyzed within the recommended holding time.

The percent relative standard deviations (%RSDs) for all compounds were within acceptable QC limits for the initial calibration (ICAL).

The percent differences (%Ds) for bromomethane, chloroethane, trichlorofluoromethane and acrolein were high for the 5/19/17 initial calibration verification (ICV) standard that was analyzed in conjunction with these samples. All positive results for these compounds have been flagged with a "Q" qualifier to denote the high %Ds.

The %D for bromomethane was high for the 5/20/17 ICV standard that was analyzed in conjunction with these samples. All positive results for this compound have been flagged with a "Q" qualifier to denote the high %D.

The %Ds for acetone, trans-1,4-dichloro-2-butene and dichlorodifluoromethane were low for the 5/20/17 ICV standard that was analyzed in conjunction with these samples. All positive results for these compounds have been flagged with a "Q" qualifier to denote the low %Ds.

The %Ds for all compounds were within acceptable QC limits for the continuing calibrations (CCALs).

The areas for all internal standards were within acceptable QC limits.

The percent recovery for the surrogate, d4-1,2-dichloroethane, was low following the analysis of sample 'LPW17-SL-GSP-03(1.5)'. Since the percent recovery was low by <10%, and the percent recoveries for all other surrogates were within established QC limits for this sample, no corrective actions were taken. The percent recoveries for all remaining surrogates were within established QC limits.

No target compounds were detected in the method blanks above the LOQs.

The percent recoveries for bromomethane were high following the 5/19/17 analyses of the LCS/LCSD associated with these samples. Since this compound was not detected in any sample associated with this LCS/LCSD, the high bias does not compromise any LOQ. No corrective actions were taken.

The percent recoveries and RPDs for all other compounds were within established QC limits for the LCSs/LCSDs.

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-01(2)

17E0281-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:30

Instrument: NT5 — Analyzed: 19-May-2017 12:06

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 2.247 g (wet) — Dry Weight:0.80 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 35.60

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	6.25	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	6.25	ND	ug/kg	U
Bromomethane	74-83-9	1	6.25	ND	ug/kg	U
Chloroethane	75-00-3	1	6.25	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	6.25	ND	ug/kg	U
Acrolein	107-02-8	1	31.3	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	12.5	ND	ug/kg	U
Acetone	67-64-1	1	31.3	**1050**	ug/kg	
1,1-Dichloroethene	75-35-4	1	6.25	ND	ug/kg	U
Bromoethane	74-96-4	1	12.5	ND	ug/kg	U
Iodomethane	74-88-4	1	6.25	ND	ug/kg	U
Methylene Chloride	75-09-2	1	12.5	ND	ug/kg	U
Acrylonitrile	107-13-1	1	31.3	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	6.25	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	6.25	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	31.3	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	6.25	ND	ug/kg	U
2-Butanone	78-93-3	1	31.3	**220**	ug/kg	
2,2-Dichloropropane	594-20-7	1	6.25	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	6.25	ND	ug/kg	U
Chloroform	67-66-3	1	6.25	ND	ug/kg	U
Bromochloromethane	74-97-5	1	6.25	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	6.25	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	6.25	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	6.25	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	6.25	ND	ug/kg	U
Benzene	71-43-2	1	6.25	ND	ug/kg	U
Trichloroethene	79-01-6	1	6.25	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	6.25	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	6.25	ND	ug/kg	U
Dibromomethane	74-95-3	1	6.25	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	31.3	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	31.3	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	6.25	ND	ug/kg	U
Toluene	108-88-3	1	6.25	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	6.25	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-01(2)

17E0281-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:30

Instrument: NT5 — Analyzed: 19-May-2017 12:06

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	31.3	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	6.25	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	6.25	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	6.25	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	6.25	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	6.25	ND	ug/kg	U
Chlorobenzene	108-90-7	1	6.25	ND	ug/kg	U
Ethylbenzene	100-41-4	1	6.25	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	6.25	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	6.25	ND	ug/kg	U
o-Xylene	95-47-6	1	6.25	ND	ug/kg	U
Xylenes, total	1330-20-7	1	12.5	ND	ug/kg	U
Styrene	100-42-5	1	6.25	ND	ug/kg	U
Bromoform	75-25-2	1	6.25	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	6.25	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	12.5	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	31.3	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	6.25	ND	ug/kg	U
Bromobenzene	108-86-1	1	6.25	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	6.25	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	6.25	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	6.25	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	6.25	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	6.25	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	6.25	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	6.25	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	6.25	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	6.25	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	6.25	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	6.25	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	6.25	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	31.3	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	31.3	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	31.3	ND	ug/kg	U
Naphthalene	91-20-3	1	31.3	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	31.3	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	6.25	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	6.25	ND	ug/kg	U

Surrogate: 1,2-Dichloroethane-d4	*80-149 %*	*106*	*%*

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-01(2)

17E0281-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:30

Instrument: NT5 — Analyzed: 19-May-2017 12:06

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*91.3*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*92.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*111*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-02(2)

17E0281-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:40

Instrument: NT5 — Analyzed: 19-May-2017 12:29

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 3.948 g (wet) — Dry Weight:2.75 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 69.60

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	1.82	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	1.82	ND	ug/kg	U
Bromomethane	74-83-9	1	1.82	ND	ug/kg	U
Chloroethane	75-00-3	1	1.82	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	1.82	ND	ug/kg	U
Acrolein	107-02-8	1	9.10	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	3.64	ND	ug/kg	U
Acetone	67-64-1	1	9.10	**148**	ug/kg	
1,1-Dichloroethene	75-35-4	1	1.82	ND	ug/kg	U
Bromoethane	74-96-4	1	3.64	ND	ug/kg	U
Iodomethane	74-88-4	1	1.82	ND	ug/kg	U
Methylene Chloride	75-09-2	1	3.64	ND	ug/kg	U
Acrylonitrile	107-13-1	1	9.10	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	1.82	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	1.82	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	9.10	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	1.82	ND	ug/kg	U
2-Butanone	78-93-3	1	9.10	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	1.82	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	1.82	ND	ug/kg	U
Chloroform	67-66-3	1	1.82	ND	ug/kg	U
Bromochloromethane	74-97-5	1	1.82	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	1.82	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	1.82	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	1.82	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	1.82	ND	ug/kg	U
Benzene	71-43-2	1	1.82	ND	ug/kg	U
Trichloroethene	79-01-6	1	1.82	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	1.82	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	1.82	ND	ug/kg	U
Dibromomethane	74-95-3	1	1.82	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	9.10	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	9.10	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	1.82	ND	ug/kg	U
Toluene	108-88-3	1	1.82	**3.16**	ug/kg	
trans-1,3-Dichloropropene	10061-02-6	1	1.82	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-02(2)

17E0281-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:40

Instrument: NT5 — Analyzed: 19-May-2017 12:29

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	9.10	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	1.82	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	1.82	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	1.82	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	1.82	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	1.82	ND	ug/kg	U
Chlorobenzene	108-90-7	1	1.82	ND	ug/kg	U
Ethylbenzene	100-41-4	1	1.82	**36.7**	ug/kg	
1,1,1,2-Tetrachloroethane	630-20-6	1	1.82	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	1.82	**49.4**	ug/kg	
o-Xylene	95-47-6	1	1.82	**37.6**	ug/kg	
Xylenes, total	1330-20-7	1	3.64	**87.0**	ug/kg	
Styrene	100-42-5	1	1.82	ND	ug/kg	U
Bromoform	75-25-2	1	1.82	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	1.82	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	3.64	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	9.10	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	1.82	ND	ug/kg	U
Bromobenzene	108-86-1	1	1.82	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	1.82	**26.7**	ug/kg	
2-Chlorotoluene	95-49-8	1	1.82	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	1.82	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	1.82	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	1.82	**171**	ug/kg	
1,2,4-Trimethylbenzene	95-63-6	1	1.82	**208**	ug/kg	
s-Butylbenzene	135-98-8	1	1.82	**87.9**	ug/kg	
4-Isopropyl Toluene	99-87-6	1	1.82	**153**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	1.82	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	1.82	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	1.82	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	1.82	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	9.10	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	9.10	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	9.10	ND	ug/kg	U
Naphthalene	91-20-3	1	9.10	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	9.10	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	1.82	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	1.82	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*102*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-02(2)

17E0281-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:40

Instrument: NT5 — Analyzed: 19-May-2017 12:29

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*92.5*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*88.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*114*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-02D(2)

17E0281-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:40

Instrument: NT5 — Analyzed: 19-May-2017 12:51

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 6.594 g (wet) — Dry Weight:4.03 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 61.10

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	1.24	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	1.24	ND	ug/kg	U
Bromomethane	74-83-9	1	1.24	ND	ug/kg	U
Chloroethane	75-00-3	1	1.24	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	1.24	ND	ug/kg	U
Acrolein	107-02-8	1	6.21	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	2.48	ND	ug/kg	U
Acetone	67-64-1	1	6.21	**174**	ug/kg	
1,1-Dichloroethene	75-35-4	1	1.24	ND	ug/kg	U
Bromoethane	74-96-4	1	2.48	ND	ug/kg	U
Iodomethane	74-88-4	1	1.24	ND	ug/kg	U
Methylene Chloride	75-09-2	1	2.48	ND	ug/kg	U
Acrylonitrile	107-13-1	1	6.21	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	1.24	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	1.24	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	6.21	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	1.24	ND	ug/kg	U
2-Butanone	78-93-3	1	6.21	**26.4**	ug/kg	
2,2-Dichloropropane	594-20-7	1	1.24	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	1.24	ND	ug/kg	U
Chloroform	67-66-3	1	1.24	ND	ug/kg	U
Bromochloromethane	74-97-5	1	1.24	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	1.24	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	1.24	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	1.24	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	1.24	ND	ug/kg	U
Benzene	71-43-2	1	1.24	ND	ug/kg	U
Trichloroethene	79-01-6	1	1.24	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	1.24	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	1.24	ND	ug/kg	U
Dibromomethane	74-95-3	1	1.24	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	6.21	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	6.21	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	1.24	ND	ug/kg	U
Toluene	108-88-3	1	1.24	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	1.24	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-02D(2)

17E0281-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:40

Instrument: NT5 — Analyzed: 19-May-2017 12:51

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	6.21	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	1.24	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	1.24	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	1.24	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	1.24	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	1.24	ND	ug/kg	U
Chlorobenzene	108-90-7	1	1.24	ND	ug/kg	U
Ethylbenzene	100-41-4	1	1.24	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	1.24	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	1.24	**1.34**	ug/kg	
o-Xylene	95-47-6	1	1.24	**1.70**	ug/kg	
Xylenes, total	1330-20-7	1	2.48	**3.04**	ug/kg	
Styrene	100-42-5	1	1.24	ND	ug/kg	U
Bromoform	75-25-2	1	1.24	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	1.24	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	2.48	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	6.21	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	1.24	ND	ug/kg	U
Bromobenzene	108-86-1	1	1.24	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	1.24	**3.70**	ug/kg	
2-Chlorotoluene	95-49-8	1	1.24	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	1.24	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	1.24	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	1.24	**23.5**	ug/kg	
1,2,4-Trimethylbenzene	95-63-6	1	1.24	**46.8**	ug/kg	
s-Butylbenzene	135-98-8	1	1.24	**18.9**	ug/kg	
4-Isopropyl Toluene	99-87-6	1	1.24	**30.2**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	1.24	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	1.24	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	1.24	**46.3**	ug/kg	
1,2-Dichlorobenzene	95-50-1	1	1.24	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	6.21	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	6.21	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	6.21	ND	ug/kg	U
Naphthalene	91-20-3	1	6.21	**13.2**	ug/kg	
1,2,3-Trichlorobenzene	87-61-6	1	6.21	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	1.24	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	1.24	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*101*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-02D(2)

17E0281-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 09:40

Instrument: NT5 — Analyzed: 19-May-2017 12:51

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*83.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*119*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-03(2.5)

17E0281-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 10:00

Instrument: NT5 — Analyzed: 19-May-2017 13:14

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 6.297 g (wet) — Dry Weight:3.79 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 60.20

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	1.32	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	1.32	ND	ug/kg	U
Bromomethane	74-83-9	1	1.32	ND	ug/kg	U
Chloroethane	75-00-3	1	1.32	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	1.32	ND	ug/kg	U
Acrolein	107-02-8	1	6.59	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	2.64	ND	ug/kg	U
Acetone	67-64-1	1	6.59	**19.6**	ug/kg	
1,1-Dichloroethene	75-35-4	1	1.32	ND	ug/kg	U
Bromoethane	74-96-4	1	2.64	ND	ug/kg	U
Iodomethane	74-88-4	1	1.32	ND	ug/kg	U
Methylene Chloride	75-09-2	1	2.64	ND	ug/kg	U
Acrylonitrile	107-13-1	1	6.59	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	1.32	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	1.32	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	6.59	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	1.32	ND	ug/kg	U
2-Butanone	78-93-3	1	6.59	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	1.32	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	1.32	ND	ug/kg	U
Chloroform	67-66-3	1	1.32	ND	ug/kg	U
Bromochloromethane	74-97-5	1	1.32	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	1.32	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	1.32	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	1.32	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	1.32	ND	ug/kg	U
Benzene	71-43-2	1	1.32	ND	ug/kg	U
Trichloroethene	79-01-6	1	1.32	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	1.32	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	1.32	ND	ug/kg	U
Dibromomethane	74-95-3	1	1.32	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	6.59	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	6.59	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	1.32	ND	ug/kg	U
Toluene	108-88-3	1	1.32	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	1.32	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-03(2.5)

17E0281-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 10:00

Instrument: NT5 — Analyzed: 19-May-2017 13:14

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	6.59	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	1.32	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	1.32	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	1.32	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	1.32	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	1.32	ND	ug/kg	U
Chlorobenzene	108-90-7	1	1.32	ND	ug/kg	U
Ethylbenzene	100-41-4	1	1.32	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	1.32	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	1.32	ND	ug/kg	U
o-Xylene	95-47-6	1	1.32	ND	ug/kg	U
Xylenes, total	1330-20-7	1	2.64	ND	ug/kg	U
Styrene	100-42-5	1	1.32	ND	ug/kg	U
Bromoform	75-25-2	1	1.32	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	1.32	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	2.64	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	6.59	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	1.32	ND	ug/kg	U
Bromobenzene	108-86-1	1	1.32	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	1.32	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	1.32	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	1.32	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	1.32	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	1.32	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	1.32	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	1.32	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	1.32	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	1.32	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	1.32	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	1.32	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	1.32	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	6.59	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	6.59	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	6.59	ND	ug/kg	U
Naphthalene	91-20-3	1	6.59	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	6.59	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	1.32	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	1.32	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*99.8*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WeirP-03(2.5)

17E0281-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 10:00

Instrument: NT5 — Analyzed: 19-May-2017 13:14

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*98.4*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*86.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*96.9*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-CCP-01(2)

17E0281-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 10:50

Instrument: NT5 — Analyzed: 20-May-2017 19:31

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFF0131 — Sample Size: 4.179 g (wet) — Dry Weight:2.52 g

Prepared: 20-May-2017 — Final Volume: 5 g — % Solids: 60.40

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	1.98	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	1.98	ND	ug/kg	U
Bromomethane	74-83-9	1	1.98	ND	ug/kg	U
Chloroethane	75-00-3	1	1.98	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	1.98	ND	ug/kg	U
Acrolein	107-02-8	1	9.90	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	3.96	ND	ug/kg	U
Acetone	67-64-1	1	9.90	**200**	ug/kg	Q
1,1-Dichloroethene	75-35-4	1	1.98	ND	ug/kg	U
Bromoethane	74-96-4	1	3.96	ND	ug/kg	U
Iodomethane	74-88-4	1	1.98	ND	ug/kg	U
Methylene Chloride	75-09-2	1	3.96	ND	ug/kg	U
Acrylonitrile	107-13-1	1	9.90	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	1.98	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	1.98	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	9.90	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	1.98	ND	ug/kg	U
2-Butanone	78-93-3	1	9.90	**48.8**	ug/kg	
2,2-Dichloropropane	594-20-7	1	1.98	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	1.98	ND	ug/kg	U
Chloroform	67-66-3	1	1.98	ND	ug/kg	U
Bromochloromethane	74-97-5	1	1.98	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	1.98	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	1.98	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	1.98	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	1.98	ND	ug/kg	U
Benzene	71-43-2	1	1.98	ND	ug/kg	U
Trichloroethene	79-01-6	1	1.98	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	1.98	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	1.98	ND	ug/kg	U
Dibromomethane	74-95-3	1	1.98	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	9.90	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	9.90	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	1.98	ND	ug/kg	U
Toluene	108-88-3	1	1.98	**528**	ug/kg	E
trans-1,3-Dichloropropene	10061-02-6	1	1.98	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-CCP-01(2)

17E0281-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 10:50

Instrument: NT5 — Analyzed: 20-May-2017 19:31

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	9.90	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	1.98	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	1.98	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	1.98	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	1.98	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	1.98	ND	ug/kg	U
Chlorobenzene	108-90-7	1	1.98	ND	ug/kg	U
Ethylbenzene	100-41-4	1	1.98	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	1.98	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	1.98	ND	ug/kg	U
o-Xylene	95-47-6	1	1.98	ND	ug/kg	U
Xylenes, total	1330-20-7	1	3.96	ND	ug/kg	U
Styrene	100-42-5	1	1.98	ND	ug/kg	U
Bromoform	75-25-2	1	1.98	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	1.98	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	3.96	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	9.90	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	1.98	ND	ug/kg	U
Bromobenzene	108-86-1	1	1.98	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	1.98	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	1.98	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	1.98	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	1.98	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	1.98	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	1.98	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	1.98	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	1.98	**2.78**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	1.98	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	1.98	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	1.98	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	1.98	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	9.90	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	9.90	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	9.90	ND	ug/kg	U
Naphthalene	91-20-3	1	9.90	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	9.90	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	1.98	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	1.98	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*93.9*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-CCP-01(2)

17E0281-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 10:50

Instrument: NT5 — Analyzed: 20-May-2017 19:31

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*97.9*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.2*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*97.0*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-CCP-02(2)

17E0281-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 11:00

Instrument: NT5 — Analyzed: 19-May-2017 14:00

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 4.506 g (wet) — Dry Weight:1.32 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 29.30

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	3.79	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	3.79	ND	ug/kg	U
Bromomethane	74-83-9	1	3.79	ND	ug/kg	U
Chloroethane	75-00-3	1	3.79	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	3.79	ND	ug/kg	U
Acrolein	107-02-8	1	18.9	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	7.57	ND	ug/kg	U
Acetone	67-64-1	1	18.9	**303**	ug/kg	
1,1-Dichloroethene	75-35-4	1	3.79	ND	ug/kg	U
Bromoethane	74-96-4	1	7.57	ND	ug/kg	U
Iodomethane	74-88-4	1	3.79	ND	ug/kg	U
Methylene Chloride	75-09-2	1	7.57	ND	ug/kg	U
Acrylonitrile	107-13-1	1	18.9	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	3.79	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	3.79	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	18.9	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	3.79	ND	ug/kg	U
2-Butanone	78-93-3	1	18.9	**25.0**	ug/kg	
2,2-Dichloropropane	594-20-7	1	3.79	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	3.79	ND	ug/kg	U
Chloroform	67-66-3	1	3.79	ND	ug/kg	U
Bromochloromethane	74-97-5	1	3.79	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	3.79	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	3.79	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	3.79	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	3.79	ND	ug/kg	U
Benzene	71-43-2	1	3.79	ND	ug/kg	U
Trichloroethene	79-01-6	1	3.79	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	3.79	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	3.79	ND	ug/kg	U
Dibromomethane	74-95-3	1	3.79	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	18.9	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	18.9	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	3.79	ND	ug/kg	U
Toluene	108-88-3	1	3.79	**4.42**	ug/kg	
trans-1,3-Dichloropropene	10061-02-6	1	3.79	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-CCP-02(2)

17E0281-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 11:00

Instrument: NT5 — Analyzed: 19-May-2017 14:00

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	18.9	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	3.79	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	3.79	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	3.79	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	3.79	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	3.79	ND	ug/kg	U
Chlorobenzene	108-90-7	1	3.79	ND	ug/kg	U
Ethylbenzene	100-41-4	1	3.79	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	3.79	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	3.79	ND	ug/kg	U
o-Xylene	95-47-6	1	3.79	ND	ug/kg	U
Xylenes, total	1330-20-7	1	7.57	ND	ug/kg	U
Styrene	100-42-5	1	3.79	ND	ug/kg	U
Bromoform	75-25-2	1	3.79	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	3.79	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	7.57	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	18.9	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	3.79	ND	ug/kg	U
Bromobenzene	108-86-1	1	3.79	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	3.79	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	3.79	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	3.79	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	3.79	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	3.79	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	3.79	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	3.79	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	3.79	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	3.79	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	3.79	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	3.79	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	3.79	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	18.9	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	18.9	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	18.9	ND	ug/kg	U
Naphthalene	91-20-3	1	18.9	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	18.9	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	3.79	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	3.79	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*104*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-CCP-02(2)

17E0281-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 11:00

Instrument: NT5 — Analyzed: 19-May-2017 14:00

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*98.8*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*92.7*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*99.0*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-GSP-03(1.5)

17E0281-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:30

Instrument: NT5 — Analyzed: 19-May-2017 14:22

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 8.448 g (wet) — Dry Weight:0.79 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 9.30

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	6.36	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	6.36	ND	ug/kg	U
Bromomethane	74-83-9	1	6.36	ND	ug/kg	U
Chloroethane	75-00-3	1	6.36	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	6.36	ND	ug/kg	U
Acrolein	107-02-8	1	31.8	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	12.7	ND	ug/kg	U
Acetone	67-64-1	1	31.8	**68.1**	ug/kg	
1,1-Dichloroethene	75-35-4	1	6.36	ND	ug/kg	U
Bromoethane	74-96-4	1	12.7	ND	ug/kg	U
Iodomethane	74-88-4	1	6.36	ND	ug/kg	U
Methylene Chloride	75-09-2	1	12.7	ND	ug/kg	U
Acrylonitrile	107-13-1	1	31.8	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	6.36	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	6.36	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	31.8	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	6.36	ND	ug/kg	U
2-Butanone	78-93-3	1	31.8	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	6.36	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	6.36	ND	ug/kg	U
Chloroform	67-66-3	1	6.36	ND	ug/kg	U
Bromochloromethane	74-97-5	1	6.36	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	6.36	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	6.36	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	6.36	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	6.36	ND	ug/kg	U
Benzene	71-43-2	1	6.36	ND	ug/kg	U
Trichloroethene	79-01-6	1	6.36	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	6.36	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	6.36	ND	ug/kg	U
Dibromomethane	74-95-3	1	6.36	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	31.8	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	31.8	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	6.36	ND	ug/kg	U
Toluene	108-88-3	1	6.36	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	6.36	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-GSP-03(1.5)

17E0281-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:30

Instrument: NT5 — Analyzed: 19-May-2017 14:22

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	31.8	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	6.36	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	6.36	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	6.36	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	6.36	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	6.36	ND	ug/kg	U
Chlorobenzene	108-90-7	1	6.36	ND	ug/kg	U
Ethylbenzene	100-41-4	1	6.36	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	6.36	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	6.36	ND	ug/kg	U
o-Xylene	95-47-6	1	6.36	ND	ug/kg	U
Xylenes, total	1330-20-7	1	12.7	ND	ug/kg	U
Styrene	100-42-5	1	6.36	ND	ug/kg	U
Bromoform	75-25-2	1	6.36	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	6.36	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	12.7	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	31.8	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	6.36	ND	ug/kg	U
Bromobenzene	108-86-1	1	6.36	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	6.36	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	6.36	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	6.36	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	6.36	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	6.36	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	6.36	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	6.36	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	6.36	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	6.36	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	6.36	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	6.36	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	6.36	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	31.8	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	31.8	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	31.8	ND	ug/kg	U
Naphthalene	91-20-3	1	31.8	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	31.8	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	6.36	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	6.36	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*70.6*	*%*	*

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-GSP-03(1.5)

17E0281-07 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:30

Instrument: NT5 — Analyzed: 19-May-2017 14:22

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*97.3*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.2*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*94.2*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-OBP-02(2)

17E0281-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:45

Instrument: NT5 — Analyzed: 19-May-2017 14:45

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 6.061 g (wet) — Dry Weight:2.31 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 38.10

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	2.17	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	2.17	ND	ug/kg	U
Bromomethane	74-83-9	1	2.17	ND	ug/kg	U
Chloroethane	75-00-3	1	2.17	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	2.17	ND	ug/kg	U
Acrolein	107-02-8	1	10.8	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	4.33	ND	ug/kg	U
Acetone	67-64-1	1	10.8	**1510**	ug/kg	
1,1-Dichloroethene	75-35-4	1	2.17	ND	ug/kg	U
Bromoethane	74-96-4	1	4.33	ND	ug/kg	U
Iodomethane	74-88-4	1	2.17	ND	ug/kg	U
Methylene Chloride	75-09-2	1	4.33	ND	ug/kg	U
Acrylonitrile	107-13-1	1	10.8	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	2.17	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	2.17	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	10.8	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	2.17	ND	ug/kg	U
2-Butanone	78-93-3	1	10.8	**63.1**	ug/kg	
2,2-Dichloropropane	594-20-7	1	2.17	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	2.17	ND	ug/kg	U
Chloroform	67-66-3	1	2.17	ND	ug/kg	U
Bromochloromethane	74-97-5	1	2.17	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	2.17	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	2.17	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	2.17	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	2.17	ND	ug/kg	U
Benzene	71-43-2	1	2.17	ND	ug/kg	U
Trichloroethene	79-01-6	1	2.17	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	2.17	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	2.17	ND	ug/kg	U
Dibromomethane	74-95-3	1	2.17	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	10.8	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	10.8	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	2.17	ND	ug/kg	U
Toluene	108-88-3	1	2.17	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	2.17	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-OBP-02(2)

17E0281-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:45

Instrument: NT5 — Analyzed: 19-May-2017 14:45

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	10.8	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	2.17	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	2.17	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	2.17	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	2.17	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	2.17	ND	ug/kg	U
Chlorobenzene	108-90-7	1	2.17	ND	ug/kg	U
Ethylbenzene	100-41-4	1	2.17	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	2.17	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	2.17	ND	ug/kg	U
o-Xylene	95-47-6	1	2.17	ND	ug/kg	U
Xylenes, total	1330-20-7	1	4.33	ND	ug/kg	U
Styrene	100-42-5	1	2.17	ND	ug/kg	U
Bromoform	75-25-2	1	2.17	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	2.17	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	4.33	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	10.8	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	2.17	ND	ug/kg	U
Bromobenzene	108-86-1	1	2.17	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	2.17	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	2.17	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	2.17	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	2.17	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	2.17	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	2.17	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	2.17	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	2.17	**5.47**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	2.17	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	2.17	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	2.17	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	2.17	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	10.8	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	10.8	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	10.8	ND	ug/kg	U
Naphthalene	91-20-3	1	10.8	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	10.8	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	2.17	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	2.17	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*104*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-OBP-02(2)

17E0281-08 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:45

Instrument: NT5 — Analyzed: 19-May-2017 14:45

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*98.4*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*93.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*97.3*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-01(2)

17E0281-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 17:50

Instrument: NT5 — Analyzed: 19-May-2017 15:08

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 9.902 g (wet) — Dry Weight:7.23 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 73.00

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.69	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.69	ND	ug/kg	U
Bromomethane	74-83-9	1	0.69	ND	ug/kg	U
Chloroethane	75-00-3	1	0.69	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.69	ND	ug/kg	U
Acrolein	107-02-8	1	3.46	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	1.38	ND	ug/kg	U
Acetone	67-64-1	1	3.46	**409**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.69	ND	ug/kg	U
Bromoethane	74-96-4	1	1.38	ND	ug/kg	U
Iodomethane	74-88-4	1	0.69	ND	ug/kg	U
Methylene Chloride	75-09-2	1	1.38	ND	ug/kg	U
Acrylonitrile	107-13-1	1	3.46	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.69	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.69	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	3.46	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.69	ND	ug/kg	U
2-Butanone	78-93-3	1	3.46	**31.9**	ug/kg	
2,2-Dichloropropane	594-20-7	1	0.69	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.69	ND	ug/kg	U
Chloroform	67-66-3	1	0.69	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.69	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.69	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.69	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.69	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.69	ND	ug/kg	U
Benzene	71-43-2	1	0.69	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.69	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.69	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.69	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.69	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	3.46	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	3.46	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.69	ND	ug/kg	U
Toluene	108-88-3	1	0.69	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.69	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-01(2)

17E0281-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 17:50

Instrument: NT5 — Analyzed: 19-May-2017 15:08

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	3.46	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.69	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.69	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.69	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.69	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.69	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.69	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.69	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.69	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.69	ND	ug/kg	U
o-Xylene	95-47-6	1	0.69	ND	ug/kg	U
Xylenes, total	1330-20-7	1	1.38	ND	ug/kg	U
Styrene	100-42-5	1	0.69	ND	ug/kg	U
Bromoform	75-25-2	1	0.69	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.69	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	1.38	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	3.46	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.69	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.69	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.69	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.69	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.69	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.69	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.69	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.69	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.69	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.69	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.69	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.69	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.69	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.69	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	3.46	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	3.46	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	3.46	ND	ug/kg	U
Naphthalene	91-20-3	1	3.46	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	3.46	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.69	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.69	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*105*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-01(2)

17E0281-09 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 17:50

Instrument: NT5 — Analyzed: 19-May-2017 15:08

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*99.2*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*98.0*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*96.2*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-01D(2)

17E0281-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 17:50

Instrument: NT5 — Analyzed: 20-May-2017 18:00

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFF0131 — Sample Size: 6.084 g (wet) — Dry Weight:4.17 g

Prepared: 20-May-2017 — Final Volume: 5 g — % Solids: 68.60

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	1.20	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	1.20	ND	ug/kg	U
Bromomethane	74-83-9	1	1.20	ND	ug/kg	U
Chloroethane	75-00-3	1	1.20	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	1.20	ND	ug/kg	U
Acrolein	107-02-8	1	5.99	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	2.40	ND	ug/kg	U
Acetone	67-64-1	1	5.99	**2330**	ug/kg	Q, E
1,1-Dichloroethene	75-35-4	1	1.20	ND	ug/kg	U
Bromoethane	74-96-4	1	2.40	ND	ug/kg	U
Iodomethane	74-88-4	1	1.20	ND	ug/kg	U
Methylene Chloride	75-09-2	1	2.40	ND	ug/kg	U
Acrylonitrile	107-13-1	1	5.99	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	1.20	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	1.20	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	5.99	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	1.20	ND	ug/kg	U
2-Butanone	78-93-3	1	5.99	**137**	ug/kg	
2,2-Dichloropropane	594-20-7	1	1.20	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	1.20	ND	ug/kg	U
Chloroform	67-66-3	1	1.20	ND	ug/kg	U
Bromochloromethane	74-97-5	1	1.20	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	1.20	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	1.20	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	1.20	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	1.20	ND	ug/kg	U
Benzene	71-43-2	1	1.20	ND	ug/kg	U
Trichloroethene	79-01-6	1	1.20	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	1.20	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	1.20	ND	ug/kg	U
Dibromomethane	74-95-3	1	1.20	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	5.99	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	5.99	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	1.20	ND	ug/kg	U
Toluene	108-88-3	1	1.20	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	1.20	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-01D(2)

17E0281-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 17:50

Instrument: NT5 — Analyzed: 20-May-2017 18:00

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	5.99	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	1.20	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	1.20	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	1.20	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	1.20	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	1.20	ND	ug/kg	U
Chlorobenzene	108-90-7	1	1.20	ND	ug/kg	U
Ethylbenzene	100-41-4	1	1.20	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	1.20	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	1.20	ND	ug/kg	U
o-Xylene	95-47-6	1	1.20	ND	ug/kg	U
Xylenes, total	1330-20-7	1	2.40	ND	ug/kg	U
Styrene	100-42-5	1	1.20	ND	ug/kg	U
Bromoform	75-25-2	1	1.20	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	1.20	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	2.40	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	5.99	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	1.20	ND	ug/kg	U
Bromobenzene	108-86-1	1	1.20	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	1.20	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	1.20	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	1.20	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	1.20	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	1.20	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	1.20	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	1.20	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	1.20	**12.2**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	1.20	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	1.20	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	1.20	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	1.20	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	5.99	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	5.99	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	5.99	ND	ug/kg	U
Naphthalene	91-20-3	1	5.99	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	5.99	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	1.20	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	1.20	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*94.5*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-01D(2)

17E0281-10 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 17:50

Instrument: NT5 — Analyzed: 20-May-2017 18:00

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*95.1*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*84.4*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*81.4*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-2(1)

17E0281-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:10

Instrument: NT5 — Analyzed: 19-May-2017 15:53

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 4.366 g (wet) — Dry Weight:1.74 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 39.80

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	2.88	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	2.88	ND	ug/kg	U
Bromomethane	74-83-9	1	2.88	ND	ug/kg	U
Chloroethane	75-00-3	1	2.88	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	2.88	ND	ug/kg	U
Acrolein	107-02-8	1	14.4	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	5.75	ND	ug/kg	U
Acetone	67-64-1	1	14.4	**4910**	ug/kg	E
1,1-Dichloroethene	75-35-4	1	2.88	ND	ug/kg	U
Bromoethane	74-96-4	1	5.75	ND	ug/kg	U
Iodomethane	74-88-4	1	2.88	ND	ug/kg	U
Methylene Chloride	75-09-2	1	5.75	ND	ug/kg	U
Acrylonitrile	107-13-1	1	14.4	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	2.88	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	2.88	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	14.4	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	2.88	ND	ug/kg	U
2-Butanone	78-93-3	1	14.4	**161**	ug/kg	
2,2-Dichloropropane	594-20-7	1	2.88	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	2.88	ND	ug/kg	U
Chloroform	67-66-3	1	2.88	**5.11**	ug/kg	
Bromochloromethane	74-97-5	1	2.88	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	2.88	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	2.88	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	2.88	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	2.88	ND	ug/kg	U
Benzene	71-43-2	1	2.88	ND	ug/kg	U
Trichloroethene	79-01-6	1	2.88	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	2.88	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	2.88	ND	ug/kg	U
Dibromomethane	74-95-3	1	2.88	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	14.4	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	14.4	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	2.88	ND	ug/kg	U
Toluene	108-88-3	1	2.88	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	2.88	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-2(1)

17E0281-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:10

Instrument: NT5 — Analyzed: 19-May-2017 15:53

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	14.4	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	2.88	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	2.88	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	2.88	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	2.88	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	2.88	ND	ug/kg	U
Chlorobenzene	108-90-7	1	2.88	ND	ug/kg	U
Ethylbenzene	100-41-4	1	2.88	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	2.88	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	2.88	ND	ug/kg	U
o-Xylene	95-47-6	1	2.88	ND	ug/kg	U
Xylenes, total	1330-20-7	1	5.75	ND	ug/kg	U
Styrene	100-42-5	1	2.88	ND	ug/kg	U
Bromoform	75-25-2	1	2.88	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	2.88	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	5.75	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	14.4	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	2.88	ND	ug/kg	U
Bromobenzene	108-86-1	1	2.88	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	2.88	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	2.88	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	2.88	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	2.88	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	2.88	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	2.88	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	2.88	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	2.88	**17.3**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	2.88	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	2.88	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	2.88	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	2.88	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	14.4	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	14.4	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	14.4	ND	ug/kg	U
Naphthalene	91-20-3	1	14.4	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	14.4	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	2.88	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	2.88	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*99.2*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-2(1)

17E0281-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:10

Instrument: NT5 — Analyzed: 19-May-2017 15:53

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*98.6*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*94.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*98.8*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-3(1)

17E0281-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:15

Instrument: NT5 — Analyzed: 19-May-2017 16:15

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 5.195 g (wet) — Dry Weight:1.25 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 24.00

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	4.01	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	4.01	ND	ug/kg	U
Bromomethane	74-83-9	1	4.01	ND	ug/kg	U
Chloroethane	75-00-3	1	4.01	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	4.01	ND	ug/kg	U
Acrolein	107-02-8	1	20.1	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	8.02	ND	ug/kg	U
Acetone	67-64-1	1	20.1	**1080**	ug/kg	
1,1-Dichloroethene	75-35-4	1	4.01	ND	ug/kg	U
Bromoethane	74-96-4	1	8.02	ND	ug/kg	U
Iodomethane	74-88-4	1	4.01	ND	ug/kg	U
Methylene Chloride	75-09-2	1	8.02	ND	ug/kg	U
Acrylonitrile	107-13-1	1	20.1	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	4.01	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	4.01	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	20.1	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	4.01	ND	ug/kg	U
2-Butanone	78-93-3	1	20.1	**93.3**	ug/kg	
2,2-Dichloropropane	594-20-7	1	4.01	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	4.01	ND	ug/kg	U
Chloroform	67-66-3	1	4.01	ND	ug/kg	U
Bromochloromethane	74-97-5	1	4.01	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	4.01	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	4.01	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	4.01	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	4.01	ND	ug/kg	U
Benzene	71-43-2	1	4.01	ND	ug/kg	U
Trichloroethene	79-01-6	1	4.01	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	4.01	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	4.01	ND	ug/kg	U
Dibromomethane	74-95-3	1	4.01	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	20.1	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	20.1	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	4.01	ND	ug/kg	U
Toluene	108-88-3	1	4.01	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	4.01	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-3(1)

17E0281-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:15

Instrument: NT5 — Analyzed: 19-May-2017 16:15

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	20.1	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	4.01	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	4.01	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	4.01	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	4.01	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	4.01	ND	ug/kg	U
Chlorobenzene	108-90-7	1	4.01	ND	ug/kg	U
Ethylbenzene	100-41-4	1	4.01	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	4.01	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	4.01	ND	ug/kg	U
o-Xylene	95-47-6	1	4.01	ND	ug/kg	U
Xylenes, total	1330-20-7	1	8.02	ND	ug/kg	U
Styrene	100-42-5	1	4.01	ND	ug/kg	U
Bromoform	75-25-2	1	4.01	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	4.01	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	8.02	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	20.1	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	4.01	ND	ug/kg	U
Bromobenzene	108-86-1	1	4.01	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	4.01	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	4.01	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	4.01	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	4.01	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	4.01	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	4.01	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	4.01	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	4.01	**13.3**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	4.01	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	4.01	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	4.01	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	4.01	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	20.1	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	20.1	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	20.1	ND	ug/kg	U
Naphthalene	91-20-3	1	20.1	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	20.1	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	4.01	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	4.01	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*98.6*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-3(1)

17E0281-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:15

Instrument: NT5 — Analyzed: 19-May-2017 16:15

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*99.4*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*92.6*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*97.0*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-4(1)

17E0281-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:20

Instrument: NT5 — Analyzed: 20-May-2017 18:45

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFF0131 — Sample Size: 7.329 g (wet) — Dry Weight:1.39 g

Prepared: 20-May-2017 — Final Volume: 5 g — % Solids: 19.00

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	3.59	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	3.59	ND	ug/kg	U
Bromomethane	74-83-9	1	3.59	ND	ug/kg	U
Chloroethane	75-00-3	1	3.59	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	3.59	ND	ug/kg	U
Acrolein	107-02-8	1	18.0	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	7.18	ND	ug/kg	U
Acetone	67-64-1	1	18.0	**213**	ug/kg	Q
1,1-Dichloroethene	75-35-4	1	3.59	ND	ug/kg	U
Bromoethane	74-96-4	1	7.18	ND	ug/kg	U
Iodomethane	74-88-4	1	3.59	ND	ug/kg	U
Methylene Chloride	75-09-2	1	7.18	ND	ug/kg	U
Acrylonitrile	107-13-1	1	18.0	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	3.59	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	3.59	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	18.0	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	3.59	ND	ug/kg	U
2-Butanone	78-93-3	1	18.0	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	3.59	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	3.59	ND	ug/kg	U
Chloroform	67-66-3	1	3.59	ND	ug/kg	U
Bromochloromethane	74-97-5	1	3.59	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	3.59	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	3.59	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	3.59	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	3.59	ND	ug/kg	U
Benzene	71-43-2	1	3.59	ND	ug/kg	U
Trichloroethene	79-01-6	1	3.59	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	3.59	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	3.59	ND	ug/kg	U
Dibromomethane	74-95-3	1	3.59	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	18.0	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	18.0	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	3.59	ND	ug/kg	U
Toluene	108-88-3	1	3.59	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	3.59	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-4(1)

17E0281-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:20

Instrument: NT5 — Analyzed: 20-May-2017 18:45

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	18.0	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	3.59	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	3.59	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	3.59	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	3.59	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	3.59	ND	ug/kg	U
Chlorobenzene	108-90-7	1	3.59	ND	ug/kg	U
Ethylbenzene	100-41-4	1	3.59	**86.2**	ug/kg	
1,1,1,2-Tetrachloroethane	630-20-6	1	3.59	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	3.59	**125**	ug/kg	
o-Xylene	95-47-6	1	3.59	**85.0**	ug/kg	
Xylenes, total	1330-20-7	1	7.18	**210**	ug/kg	
Styrene	100-42-5	1	3.59	ND	ug/kg	U
Bromoform	75-25-2	1	3.59	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	3.59	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	7.18	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	18.0	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	3.59	**412**	ug/kg	
Bromobenzene	108-86-1	1	3.59	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	3.59	**181**	ug/kg	
2-Chlorotoluene	95-49-8	1	3.59	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	3.59	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	3.59	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	3.59	**1250**	ug/kg	E
1,2,4-Trimethylbenzene	95-63-6	1	3.59	**1980**	ug/kg	E
s-Butylbenzene	135-98-8	1	3.59	**612**	ug/kg	
4-Isopropyl Toluene	99-87-6	1	3.59	**755**	ug/kg	E
1,3-Dichlorobenzene	541-73-1	1	3.59	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	3.59	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	3.59	**1110**	ug/kg	E
1,2-Dichlorobenzene	95-50-1	1	3.59	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	18.0	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	18.0	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	18.0	ND	ug/kg	U
Naphthalene	91-20-3	1	18.0	**122**	ug/kg	
1,2,3-Trichlorobenzene	87-61-6	1	18.0	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	3.59	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	3.59	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*102*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WHP-4(1)

17E0281-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 18:20

Instrument: NT5 — Analyzed: 20-May-2017 18:45

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*93.0*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*110*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*118*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-GSP-01(2)

17E0281-14 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 13:05

Instrument: NT5 — Analyzed: 19-May-2017 17:01

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 5.298 g (wet) — Dry Weight:2.47 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 46.60

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	2.03	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	2.03	ND	ug/kg	U
Bromomethane	74-83-9	1	2.03	ND	ug/kg	U
Chloroethane	75-00-3	1	2.03	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	2.03	ND	ug/kg	U
Acrolein	107-02-8	1	10.1	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	4.05	ND	ug/kg	U
Acetone	67-64-1	1	10.1	**987**	ug/kg	
1,1-Dichloroethene	75-35-4	1	2.03	ND	ug/kg	U
Bromoethane	74-96-4	1	4.05	ND	ug/kg	U
Iodomethane	74-88-4	1	2.03	ND	ug/kg	U
Methylene Chloride	75-09-2	1	4.05	ND	ug/kg	U
Acrylonitrile	107-13-1	1	10.1	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	2.03	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	2.03	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	10.1	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	2.03	ND	ug/kg	U
2-Butanone	78-93-3	1	10.1	**32.3**	ug/kg	
2,2-Dichloropropane	594-20-7	1	2.03	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	2.03	ND	ug/kg	U
Chloroform	67-66-3	1	2.03	ND	ug/kg	U
Bromochloromethane	74-97-5	1	2.03	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	2.03	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	2.03	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	2.03	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	2.03	ND	ug/kg	U
Benzene	71-43-2	1	2.03	ND	ug/kg	U
Trichloroethene	79-01-6	1	2.03	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	2.03	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	2.03	ND	ug/kg	U
Dibromomethane	74-95-3	1	2.03	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	10.1	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	10.1	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	2.03	ND	ug/kg	U
Toluene	108-88-3	1	2.03	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	2.03	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-GSP-01(2)

17E0281-14 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 13:05

Instrument: NT5 — Analyzed: 19-May-2017 17:01

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	10.1	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	2.03	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	2.03	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	2.03	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	2.03	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	2.03	ND	ug/kg	U
Chlorobenzene	108-90-7	1	2.03	ND	ug/kg	U
Ethylbenzene	100-41-4	1	2.03	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	2.03	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	2.03	ND	ug/kg	U
o-Xylene	95-47-6	1	2.03	ND	ug/kg	U
Xylenes, total	1330-20-7	1	4.05	ND	ug/kg	U
Styrene	100-42-5	1	2.03	ND	ug/kg	U
Bromoform	75-25-2	1	2.03	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	2.03	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	4.05	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	10.1	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	2.03	ND	ug/kg	U
Bromobenzene	108-86-1	1	2.03	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	2.03	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	2.03	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	2.03	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	2.03	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	2.03	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	2.03	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	2.03	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	2.03	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	2.03	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	2.03	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	2.03	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	2.03	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	10.1	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	10.1	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	10.1	ND	ug/kg	U
Naphthalene	91-20-3	1	10.1	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	10.1	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	2.03	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	2.03	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*98.7*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-GSP-01(2)

17E0281-14 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 13:05

Instrument: NT5 — Analyzed: 19-May-2017 17:01

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*97.6*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*92.2*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*97.1*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WSP-01(2)

17E0281-15 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:55

Instrument: NT5 — Analyzed: 19-May-2017 17:23

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 8.06 g (wet) — Dry Weight:0.85 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 10.50

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	5.91	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	5.91	ND	ug/kg	U
Bromomethane	74-83-9	1	5.91	ND	ug/kg	U
Chloroethane	75-00-3	1	5.91	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	5.91	ND	ug/kg	U
Acrolein	107-02-8	1	29.5	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	11.8	ND	ug/kg	U
Acetone	67-64-1	1	29.5	ND	ug/kg	U
1,1-Dichloroethene	75-35-4	1	5.91	ND	ug/kg	U
Bromoethane	74-96-4	1	11.8	ND	ug/kg	U
Iodomethane	74-88-4	1	5.91	ND	ug/kg	U
Methylene Chloride	75-09-2	1	11.8	ND	ug/kg	U
Acrylonitrile	107-13-1	1	29.5	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	5.91	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	5.91	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	29.5	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	5.91	ND	ug/kg	U
2-Butanone	78-93-3	1	29.5	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	5.91	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	5.91	ND	ug/kg	U
Chloroform	67-66-3	1	5.91	ND	ug/kg	U
Bromochloromethane	74-97-5	1	5.91	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	5.91	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	5.91	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	5.91	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	5.91	ND	ug/kg	U
Benzene	71-43-2	1	5.91	ND	ug/kg	U
Trichloroethene	79-01-6	1	5.91	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	5.91	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	5.91	ND	ug/kg	U
Dibromomethane	74-95-3	1	5.91	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	29.5	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	29.5	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	5.91	ND	ug/kg	U
Toluene	108-88-3	1	5.91	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	5.91	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WSP-01(2)

17E0281-15 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:55

Instrument: NT5 — Analyzed: 19-May-2017 17:23

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	29.5	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	5.91	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	5.91	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	5.91	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	5.91	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	5.91	ND	ug/kg	U
Chlorobenzene	108-90-7	1	5.91	ND	ug/kg	U
Ethylbenzene	100-41-4	1	5.91	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	5.91	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	5.91	ND	ug/kg	U
o-Xylene	95-47-6	1	5.91	ND	ug/kg	U
Xylenes, total	1330-20-7	1	11.8	ND	ug/kg	U
Styrene	100-42-5	1	5.91	ND	ug/kg	U
Bromoform	75-25-2	1	5.91	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	5.91	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	11.8	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	29.5	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	5.91	ND	ug/kg	U
Bromobenzene	108-86-1	1	5.91	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	5.91	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	5.91	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	5.91	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	5.91	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	5.91	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	5.91	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	5.91	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	5.91	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	5.91	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	5.91	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	5.91	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	5.91	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	29.5	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	29.5	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	29.5	ND	ug/kg	U
Naphthalene	91-20-3	1	29.5	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	29.5	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	5.91	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	5.91	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*98.4*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-WSP-01(2)

17E0281-15 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:55

Instrument: NT5 — Analyzed: 19-May-2017 17:23

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*104*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*100*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-HMP-01(2)

17E0281-16 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:45

Instrument: NT5 — Analyzed: 19-May-2017 17:46

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 6.133 g (wet) — Dry Weight:0.77 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 12.60

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	6.47	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	6.47	ND	ug/kg	U
Bromomethane	74-83-9	1	6.47	ND	ug/kg	U
Chloroethane	75-00-3	1	6.47	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	6.47	ND	ug/kg	U
Acrolein	107-02-8	1	32.4	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	12.9	ND	ug/kg	U
Acetone	67-64-1	1	32.4	**171**	ug/kg	
1,1-Dichloroethene	75-35-4	1	6.47	ND	ug/kg	U
Bromoethane	74-96-4	1	12.9	ND	ug/kg	U
Iodomethane	74-88-4	1	6.47	ND	ug/kg	U
Methylene Chloride	75-09-2	1	12.9	ND	ug/kg	U
Acrylonitrile	107-13-1	1	32.4	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	6.47	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	6.47	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	32.4	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	6.47	ND	ug/kg	U
2-Butanone	78-93-3	1	32.4	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	6.47	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	6.47	ND	ug/kg	U
Chloroform	67-66-3	1	6.47	ND	ug/kg	U
Bromochloromethane	74-97-5	1	6.47	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	6.47	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	6.47	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	6.47	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	6.47	ND	ug/kg	U
Benzene	71-43-2	1	6.47	ND	ug/kg	U
Trichloroethene	79-01-6	1	6.47	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	6.47	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	6.47	ND	ug/kg	U
Dibromomethane	74-95-3	1	6.47	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	32.4	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	32.4	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	6.47	ND	ug/kg	U
Toluene	108-88-3	1	6.47	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	6.47	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-HMP-01(2)

17E0281-16 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:45

Instrument: NT5 — Analyzed: 19-May-2017 17:46

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	32.4	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	6.47	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	6.47	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	6.47	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	6.47	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	6.47	ND	ug/kg	U
Chlorobenzene	108-90-7	1	6.47	ND	ug/kg	U
Ethylbenzene	100-41-4	1	6.47	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	6.47	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	6.47	ND	ug/kg	U
o-Xylene	95-47-6	1	6.47	ND	ug/kg	U
Xylenes, total	1330-20-7	1	12.9	ND	ug/kg	U
Styrene	100-42-5	1	6.47	ND	ug/kg	U
Bromoform	75-25-2	1	6.47	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	6.47	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	12.9	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	32.4	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	6.47	ND	ug/kg	U
Bromobenzene	108-86-1	1	6.47	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	6.47	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	6.47	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	6.47	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	6.47	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	6.47	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	6.47	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	6.47	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	6.47	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	6.47	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	6.47	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	6.47	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	6.47	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	32.4	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	32.4	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	32.4	ND	ug/kg	U
Naphthalene	91-20-3	1	32.4	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	32.4	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	6.47	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	6.47	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*103*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-HMP-01(2)

17E0281-16 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 15:45

Instrument: NT5 — Analyzed: 19-May-2017 17:46

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*99.2*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*104*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*101*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SS-HMP-02(2.5)

17E0281-17 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:30

Instrument: NT5 — Analyzed: 19-May-2017 18:09

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 7.826 g (wet) — Dry Weight:1.88 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 24.00

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	2.66	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	2.66	ND	ug/kg	U
Bromomethane	74-83-9	1	2.66	ND	ug/kg	U
Chloroethane	75-00-3	1	2.66	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	2.66	ND	ug/kg	U
Acrolein	107-02-8	1	13.3	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	5.32	ND	ug/kg	U
Acetone	67-64-1	1	13.3	**41.5**	ug/kg	
1,1-Dichloroethene	75-35-4	1	2.66	ND	ug/kg	U
Bromoethane	74-96-4	1	5.32	ND	ug/kg	U
Iodomethane	74-88-4	1	2.66	ND	ug/kg	U
Methylene Chloride	75-09-2	1	5.32	ND	ug/kg	U
Acrylonitrile	107-13-1	1	13.3	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	2.66	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	2.66	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	13.3	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	2.66	ND	ug/kg	U
2-Butanone	78-93-3	1	13.3	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	2.66	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	2.66	ND	ug/kg	U
Chloroform	67-66-3	1	2.66	ND	ug/kg	U
Bromochloromethane	74-97-5	1	2.66	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	2.66	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	2.66	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	2.66	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	2.66	ND	ug/kg	U
Benzene	71-43-2	1	2.66	ND	ug/kg	U
Trichloroethene	79-01-6	1	2.66	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	2.66	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	2.66	ND	ug/kg	U
Dibromomethane	74-95-3	1	2.66	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	13.3	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	13.3	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	2.66	ND	ug/kg	U
Toluene	108-88-3	1	2.66	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	2.66	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SS-HMP-02(2.5)

17E0281-17 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:30

Instrument: NT5 — Analyzed: 19-May-2017 18:09

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	13.3	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	2.66	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	2.66	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	2.66	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	2.66	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	2.66	ND	ug/kg	U
Chlorobenzene	108-90-7	1	2.66	ND	ug/kg	U
Ethylbenzene	100-41-4	1	2.66	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	2.66	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	2.66	ND	ug/kg	U
o-Xylene	95-47-6	1	2.66	ND	ug/kg	U
Xylenes, total	1330-20-7	1	5.32	ND	ug/kg	U
Styrene	100-42-5	1	2.66	ND	ug/kg	U
Bromoform	75-25-2	1	2.66	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	2.66	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	5.32	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	13.3	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	2.66	ND	ug/kg	U
Bromobenzene	108-86-1	1	2.66	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	2.66	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	2.66	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	2.66	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	2.66	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	2.66	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	2.66	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	2.66	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	2.66	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	2.66	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	2.66	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	2.66	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	2.66	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	13.3	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	13.3	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	13.3	ND	ug/kg	U
Naphthalene	91-20-3	1	13.3	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	13.3	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	2.66	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	2.66	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*99.7*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SS-HMP-02(2.5)

17E0281-17 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:30

Instrument: NT5 — Analyzed: 19-May-2017 18:09

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*95.9*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*91.8*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*97.0*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-OBP-01(1.5)

17E0281-18 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:35

Instrument: NT5 — Analyzed: 19-May-2017 18:31

Sample Preparation: Preparation Method: No Prep - Volatiles

Preparation Batch: BFE0507 — Sample Size: 6.598 g (wet) — Dry Weight:2.07 g

Prepared: 19-May-2017 — Final Volume: 5 g — % Solids: 31.30

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	2.42	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	2.42	ND	ug/kg	U
Bromomethane	74-83-9	1	2.42	ND	ug/kg	U
Chloroethane	75-00-3	1	2.42	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	2.42	ND	ug/kg	U
Acrolein	107-02-8	1	12.1	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	4.84	ND	ug/kg	U
Acetone	67-64-1	1	12.1	**1070**	ug/kg	
1,1-Dichloroethene	75-35-4	1	2.42	ND	ug/kg	U
Bromoethane	74-96-4	1	4.84	ND	ug/kg	U
Iodomethane	74-88-4	1	2.42	ND	ug/kg	U
Methylene Chloride	75-09-2	1	4.84	ND	ug/kg	U
Acrylonitrile	107-13-1	1	12.1	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	2.42	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	2.42	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	12.1	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	2.42	ND	ug/kg	U
2-Butanone	78-93-3	1	12.1	**22.8**	ug/kg	
2,2-Dichloropropane	594-20-7	1	2.42	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	2.42	ND	ug/kg	U
Chloroform	67-66-3	1	2.42	ND	ug/kg	U
Bromochloromethane	74-97-5	1	2.42	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	2.42	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	2.42	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	2.42	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	2.42	ND	ug/kg	U
Benzene	71-43-2	1	2.42	ND	ug/kg	U
Trichloroethene	79-01-6	1	2.42	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	2.42	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	2.42	ND	ug/kg	U
Dibromomethane	74-95-3	1	2.42	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	12.1	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	12.1	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	2.42	ND	ug/kg	U
Toluene	108-88-3	1	2.42	**15.1**	ug/kg	
trans-1,3-Dichloropropene	10061-02-6	1	2.42	ND	ug/kg	U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-OBP-01(1.5)

17E0281-18 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:35

Instrument: NT5 — Analyzed: 19-May-2017 18:31

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	12.1	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	2.42	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	2.42	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	2.42	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	2.42	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	2.42	ND	ug/kg	U
Chlorobenzene	108-90-7	1	2.42	ND	ug/kg	U
Ethylbenzene	100-41-4	1	2.42	**3.44**	ug/kg	
1,1,1,2-Tetrachloroethane	630-20-6	1	2.42	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	2.42	**16.2**	ug/kg	
o-Xylene	95-47-6	1	2.42	**6.50**	ug/kg	
Xylenes, total	1330-20-7	1	4.84	**22.7**	ug/kg	
Styrene	100-42-5	1	2.42	ND	ug/kg	U
Bromoform	75-25-2	1	2.42	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	2.42	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	4.84	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	12.1	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	2.42	ND	ug/kg	U
Bromobenzene	108-86-1	1	2.42	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	2.42	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	2.42	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	2.42	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	2.42	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	2.42	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	2.42	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	2.42	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	2.42	**44.6**	ug/kg	
1,3-Dichlorobenzene	541-73-1	1	2.42	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	2.42	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	2.42	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	2.42	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	12.1	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	12.1	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	12.1	ND	ug/kg	U
Naphthalene	91-20-3	1	12.1	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	12.1	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	2.42	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	2.42	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4			*80-149 %*	*101*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

LPW17-SL-OBP-01(1.5)

17E0281-18 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 05/07/2017 16:35

Instrument: NT5 — Analyzed: 19-May-2017 18:31

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*77-120 %*	*99.3*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*97.0*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*96.5*	*%*	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0507-BLK1)			Prepared: 19-May-2017 Analyzed: 19-May-2017 10:39							
Chloromethane	ND	1.00	ug/kg							U
Vinyl Chloride	ND	1.00	ug/kg							U
Bromomethane	ND	1.00	ug/kg							U
Chloroethane	ND	1.00	ug/kg							U
Trichlorofluoromethane	ND	1.00	ug/kg							U
Acrolein	ND	5.00	ug/kg							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	2.00	ug/kg							U
Acetone	ND	5.00	ug/kg							U
1,1-Dichloroethene	ND	1.00	ug/kg							U
Bromoethane	ND	2.00	ug/kg							U
Iodomethane	ND	1.00	ug/kg							U
Methylene Chloride	ND	2.00	ug/kg							U
Acrylonitrile	ND	5.00	ug/kg							U
Carbon Disulfide	ND	1.00	ug/kg							U
trans-1,2-Dichloroethene	ND	1.00	ug/kg							U
Vinyl Acetate	ND	5.00	ug/kg							U
1,1-Dichloroethane	ND	1.00	ug/kg							U
2-Butanone	ND	5.00	ug/kg							U
2,2-Dichloropropane	ND	1.00	ug/kg							U
cis-1,2-Dichloroethene	ND	1.00	ug/kg							U
Chloroform	ND	1.00	ug/kg							U
Bromochloromethane	ND	1.00	ug/kg							U
1,1,1-Trichloroethane	ND	1.00	ug/kg							U
1,1-Dichloropropene	ND	1.00	ug/kg							U
Carbon tetrachloride	ND	1.00	ug/kg							U
1,2-Dichloroethane	ND	1.00	ug/kg							U
Benzene	ND	1.00	ug/kg							U
Trichloroethene	ND	1.00	ug/kg							U
1,2-Dichloropropane	ND	1.00	ug/kg							U
Bromodichloromethane	ND	1.00	ug/kg							U
Dibromomethane	ND	1.00	ug/kg							U
2-Chloroethyl vinyl ether	ND	5.00	ug/kg							U
4-Methyl-2-Pentanone	ND	5.00	ug/kg							U
cis-1,3-Dichloropropene	ND	1.00	ug/kg							U
Toluene	ND	1.00	ug/kg							U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0507-BLK1)			Prepared: 19-May-2017 Analyzed: 19-May-2017 10:39							
trans-1,3-Dichloropropene	ND	1.00	ug/kg							U
2-Hexanone	ND	5.00	ug/kg							U
1,1,2-Trichloroethane	ND	1.00	ug/kg							U
1,3-Dichloropropane	ND	1.00	ug/kg							U
Tetrachloroethene	ND	1.00	ug/kg							U
Dibromochloromethane	ND	1.00	ug/kg							U
1,2-Dibromoethane	ND	1.00	ug/kg							U
Chlorobenzene	ND	1.00	ug/kg							U
Ethylbenzene	ND	1.00	ug/kg							U
1,1,1,2-Tetrachloroethane	ND	1.00	ug/kg							U
m,p-Xylene	ND	1.00	ug/kg							U
o-Xylene	ND	1.00	ug/kg							U
Xylenes, total	ND	2.00	ug/kg							U
Styrene	ND	1.00	ug/kg							U
Bromoform	ND	1.00	ug/kg							U
1,1,2,2-Tetrachloroethane	ND	1.00	ug/kg							U
1,2,3-Trichloropropane	ND	2.00	ug/kg							U
trans-1,4-Dichloro 2-Butene	ND	5.00	ug/kg							U
n-Propylbenzene	ND	1.00	ug/kg							U
Bromobenzene	ND	1.00	ug/kg							U
Isopropyl Benzene	ND	1.00	ug/kg							U
2-Chlorotoluene	ND	1.00	ug/kg							U
4-Chlorotoluene	ND	1.00	ug/kg							U
t-Butylbenzene	ND	1.00	ug/kg							U
1,3,5-Trimethylbenzene	ND	1.00	ug/kg							U
1,2,4-Trimethylbenzene	ND	1.00	ug/kg							U
s-Butylbenzene	ND	1.00	ug/kg							U
4-Isopropyl Toluene	ND	1.00	ug/kg							U
1,3-Dichlorobenzene	ND	1.00	ug/kg							U
1,4-Dichlorobenzene	ND	1.00	ug/kg							U
n-Butylbenzene	ND	1.00	ug/kg							U
1,2-Dichlorobenzene	ND	1.00	ug/kg							U
1,2-Dibromo-3-chloropropane	ND	5.00	ug/kg							U
1,2,4-Trichlorobenzene	ND	5.00	ug/kg							U
Hexachloro-1,3-Butadiene	ND	5.00	ug/kg							U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFE0507-BLK1)				Prepared: 19-May-2017 Analyzed: 19-May-2017 10:39						
Naphthalene	ND	5.00	ug/kg							U
1,2,3-Trichlorobenzene	ND	5.00	ug/kg							U
Dichlorodifluoromethane	ND	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	1.00	ug/kg							U
Surrogate: 1,2-Dichloroethane-d4	50.0		ug/kg	*50.0*		*100*	*80-149*			
Surrogate: Toluene-d8	49.9		ug/kg	*50.0*		*99.8*	*77-120*			
Surrogate: 4-Bromofluorobenzene	49.7		ug/kg	*50.0*		*99.4*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	51.3		ug/kg	*50.0*		*103*	*80-120*			
LCS (BFE0507-BS1)				Prepared: 19-May-2017 Analyzed: 19-May-2017 09:54						
Chloromethane	57.0		ug/kg	50.0		114	64-132			
Vinyl Chloride	54.2		ug/kg	50.0		108	74-135			
Bromomethane	79.9		ug/kg	50.0		160	53-144			*, Q
Chloroethane	62.3		ug/kg	50.0		125	55-149			Q
Trichlorofluoromethane	71.7		ug/kg	50.0		143	61-164			Q
Acrolein	301		ug/kg	250		121	59-140			Q
1,1,2-Trichloro-1,2,2-Trifluoroethane	51.6		ug/kg	50.0		103	74-143			
Acetone	246		ug/kg	250		98.4	48-137			
1,1-Dichloroethene	50.6		ug/kg	50.0		101	77-134			
Bromoethane	59.2		ug/kg	50.0		118	65-145			
Iodomethane	53.1		ug/kg	50.0		106	31-162			
Methylene Chloride	55.2		ug/kg	50.0		110	69-129			
Acrylonitrile	56.0		ug/kg	50.0		112	69-134			
Carbon Disulfide	46.8		ug/kg	50.0		93.7	71-137			
trans-1,2-Dichloroethene	60.0		ug/kg	50.0		120	79-130			
Vinyl Acetate	49.8		ug/kg	50.0		99.7	66-141			
1,1-Dichloroethane	55.2		ug/kg	50.0		110	80-126			
2-Butanone	285		ug/kg	250		114	70-132			
2,2-Dichloropropane	56.5		ug/kg	50.0		113	77-138			
cis-1,2-Dichloroethene	57.0		ug/kg	50.0		114	80-125			
Chloroform	56.9		ug/kg	50.0		114	80-126			
Bromochloromethane	54.0		ug/kg	50.0		108	80-129			
1,1,1-Trichloroethane	58.3		ug/kg	50.0		117	78-133			
1,1-Dichloropropene	56.8		ug/kg	50.0		114	79-120			
Carbon tetrachloride	59.1		ug/kg	50.0		118	71-129			

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0507-BS1)				Prepared: 19-May-2017 Analyzed: 19-May-2017 09:54						
1,2-Dichloroethane	51.4		ug/kg	50.0		103	76-120			
Benzene	55.0		ug/kg	50.0		110	80-120			
Trichloroethene	56.6		ug/kg	50.0		113	80-120			
1,2-Dichloropropane	54.0		ug/kg	50.0		108	79-120			
Bromodichloromethane	54.6		ug/kg	50.0		109	80-122			
Dibromomethane	55.0		ug/kg	50.0		110	80-120			
2-Chloroethyl vinyl ether	51.0		ug/kg	50.0		102	51-129			
4-Methyl-2-Pentanone	270		ug/kg	250		108	73-121			
cis-1,3-Dichloropropene	54.1		ug/kg	50.0		108	80-120			
Toluene	54.9		ug/kg	50.0		110	75-120			
trans-1,3-Dichloropropene	53.2		ug/kg	50.0		106	80-124			
2-Hexanone	261		ug/kg	250		104	68-122			
1,1,2-Trichloroethane	54.2		ug/kg	50.0		108	79-120			
1,3-Dichloropropane	54.2		ug/kg	50.0		108	78-120			
Tetrachloroethene	57.6		ug/kg	50.0		115	74-124			
Dibromochloromethane	55.3		ug/kg	50.0		111	74-125			
1,2-Dibromoethane	54.4		ug/kg	50.0		109	80-120			
Chlorobenzene	56.0		ug/kg	50.0		112	78-120			
Ethylbenzene	56.1		ug/kg	50.0		112	80-125			
1,1,1,2-Tetrachloroethane	55.5		ug/kg	50.0		111	80-120			
m,p-Xylene	113		ug/kg	100		113	76-121			
o-Xylene	55.5		ug/kg	50.0		111	67-132			
Xylenes, total	168		ug/kg	150		112	67-132			
Styrene	56.0		ug/kg	50.0		112	80-120			
Bromoform	55.9		ug/kg	50.0		112	64-128			
1,1,2,2-Tetrachloroethane	53.8		ug/kg	50.0		108	74-120			
1,2,3-Trichloropropane	55.5		ug/kg	50.0		111	73-120			
trans-1,4-Dichloro 2-Butene	51.9		ug/kg	50.0		104	65-125			
n-Propylbenzene	56.7		ug/kg	50.0		113	72-124			
Bromobenzene	55.3		ug/kg	50.0		111	76-120			
Isopropyl Benzene	56.1		ug/kg	50.0		112	74-121			
2-Chlorotoluene	55.4		ug/kg	50.0		111	75-120			
4-Chlorotoluene	55.1		ug/kg	50.0		110	69-124			
t-Butylbenzene	55.6		ug/kg	50.0		111	72-122			
1,3,5-Trimethylbenzene	55.7		ug/kg	50.0		111	74-122			

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFE0507-BS1)				Prepared: 19-May-2017 Analyzed: 19-May-2017 09:54						
1,2,4-Trimethylbenzene	55.9		ug/kg	50.0		112	75-121			
s-Butylbenzene	56.7		ug/kg	50.0		113	70-128			
4-Isopropyl Toluene	57.6		ug/kg	50.0		115	75-125			
1,3-Dichlorobenzene	56.2		ug/kg	50.0		112	75-120			
1,4-Dichlorobenzene	56.2		ug/kg	50.0		112	73-120			
n-Butylbenzene	57.0		ug/kg	50.0		114	73-130			
1,2-Dichlorobenzene	55.0		ug/kg	50.0		110	76-120			
1,2-Dibromo-3-chloropropane	53.2		ug/kg	50.0		106	65-126			
1,2,4-Trichlorobenzene	55.5		ug/kg	50.0		111	66-140			
Hexachloro-1,3-Butadiene	57.6		ug/kg	50.0		115	67-133			
Naphthalene	54.6		ug/kg	50.0		109	69-125			
1,2,3-Trichlorobenzene	54.3		ug/kg	50.0		109	68-132			
Dichlorodifluoromethane	51.6		ug/kg	50.0		103	67-142			
Methyl tert-butyl Ether	54.2		ug/kg	50.0		108	79-127			
Surrogate: 1,2-Dichloroethane-d4		48.4	ug/kg	*50.0*		*96.8*	*80-149*			
Surrogate: Toluene-d8		50.0	ug/kg	*50.0*		*100*	*77-120*			
Surrogate: 4-Bromofluorobenzene		50.1	ug/kg	*50.0*		*100*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4		49.4	ug/kg	*50.0*		*98.8*	*80-120*			
LCS Dup (BFE0507-BSD1)				Prepared: 19-May-2017 Analyzed: 19-May-2017 10:17						
Chloromethane	57.9		ug/kg	50.0		116	64-132	1.52	30	
Vinyl Chloride	61.0		ug/kg	50.0		122	74-135	11.70	30	
Bromomethane	82.0		ug/kg	50.0		164	53-144	2.60	30	*, Q
Chloroethane	65.2		ug/kg	50.0		130	55-149	4.64	30	Q
Trichlorofluoromethane	72.5		ug/kg	50.0		145	61-164	1.10	30	Q
Acrolein	279		ug/kg	250		112	59-140	7.76	30	Q
1,1,2-Trichloro-1,2,2-Trifluoroethane	52.9		ug/kg	50.0		106	74-143	2.48	30	
Acetone	222		ug/kg	250		88.7	48-137	10.30	30	
1,1-Dichloroethene	51.7		ug/kg	50.0		103	77-134	2.20	30	
Bromoethane	62.3		ug/kg	50.0		125	65-145	5.20	30	
Iodomethane	59.2		ug/kg	50.0		118	31-162	10.70	30	
Methylene Chloride	61.9		ug/kg	50.0		124	69-129	11.40	30	
Acrylonitrile	50.9		ug/kg	50.0		102	69-134	9.59	30	
Carbon Disulfide	49.2		ug/kg	50.0		98.4	71-137	4.86	30	
trans-1,2-Dichloroethene	61.6		ug/kg	50.0		123	79-130	2.63	30	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFE0507-BSD1)				Prepared: 19-May-2017 Analyzed: 19-May-2017 10:17						
Vinyl Acetate	52.4		ug/kg	50.0		105	66-141	5.02	30	
1,1-Dichloroethane	58.2		ug/kg	50.0		116	80-126	5.23	30	
2-Butanone	265		ug/kg	250		106	70-132	7.38	30	
2,2-Dichloropropane	58.5		ug/kg	50.0		117	77-138	3.43	30	
cis-1,2-Dichloroethene	59.7		ug/kg	50.0		119	80-125	4.73	30	
Chloroform	54.1		ug/kg	50.0		108	80-126	4.95	30	
Bromochloromethane	58.8		ug/kg	50.0		118	80-129	8.49	30	
1,1,1-Trichloroethane	61.8		ug/kg	50.0		124	78-133	5.85	30	
1,1-Dichloropropene	56.5		ug/kg	50.0		113	79-120	0.51	30	
Carbon tetrachloride	58.5		ug/kg	50.0		117	71-129	0.95	30	
1,2-Dichloroethane	53.3		ug/kg	50.0		107	76-120	3.63	30	
Benzene	56.7		ug/kg	50.0		113	80-120	3.04	30	
Trichloroethene	56.1		ug/kg	50.0		112	80-120	1.01	30	
1,2-Dichloropropane	56.1		ug/kg	50.0		112	79-120	3.68	30	
Bromodichloromethane	57.1		ug/kg	50.0		114	80-122	4.46	30	
Dibromomethane	55.5		ug/kg	50.0		111	80-120	0.86	30	
2-Chloroethyl vinyl ether	52.3		ug/kg	50.0		105	51-129	2.40	30	
4-Methyl-2-Pentanone	262		ug/kg	250		105	73-121	2.88	30	
cis-1,3-Dichloropropene	56.5		ug/kg	50.0		113	80-120	4.26	30	
Toluene	56.3		ug/kg	50.0		113	75-120	2.49	30	
trans-1,3-Dichloropropene	56.1		ug/kg	50.0		112	80-124	5.40	30	
2-Hexanone	236		ug/kg	250		94.5	68-122	9.82	30	
1,1,2-Trichloroethane	57.9		ug/kg	50.0		116	79-120	6.57	30	
1,3-Dichloropropane	54.8		ug/kg	50.0		110	78-120	1.11	30	
Tetrachloroethene	55.9		ug/kg	50.0		112	74-124	3.05	30	
Dibromochloromethane	56.0		ug/kg	50.0		112	74-125	1.32	30	
1,2-Dibromoethane	56.2		ug/kg	50.0		112	80-120	3.23	30	
Chlorobenzene	55.4		ug/kg	50.0		111	78-120	1.06	30	
Ethylbenzene	55.1		ug/kg	50.0		110	80-125	1.79	30	
1,1,1,2-Tetrachloroethane	56.0		ug/kg	50.0		112	80-120	0.85	30	
m,p-Xylene	112		ug/kg	100		112	76-121	1.11	30	
o-Xylene	55.5		ug/kg	50.0		111	67-132	0.17	30	
Xylenes, total	167		ug/kg	150		111	67-132	0.80	30	
Styrene	56.1		ug/kg	50.0		112	80-120	0.18	30	
Bromoform	54.3		ug/kg	50.0		109	64-128	3.04	30	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFE0507 - No Prep - Volatiles

Instrument: NT5 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFE0507-BSD1)			Prepared: 19-May-2017 Analyzed: 19-May-2017 10:17							
1,1,2,2-Tetrachloroethane	52.3		ug/kg	50.0		105	74-120	2.90	30	
1,2,3-Trichloropropane	51.9		ug/kg	50.0		104	73-120	6.69	30	
trans-1,4-Dichloro 2-Butene	46.7		ug/kg	50.0		93.3	65-125	10.70	30	
n-Propylbenzene	54.1		ug/kg	50.0		108	72-124	4.75	30	
Bromobenzene	55.5		ug/kg	50.0		111	76-120	0.46	30	
Isopropyl Benzene	54.2		ug/kg	50.0		108	74-121	3.37	30	
2-Chlorotoluene	53.4		ug/kg	50.0		107	75-120	3.55	30	
4-Chlorotoluene	53.4		ug/kg	50.0		107	69-124	3.18	30	
t-Butylbenzene	54.4		ug/kg	50.0		109	72-122	2.30	30	
1,3,5-Trimethylbenzene	54.2		ug/kg	50.0		108	74-122	2.78	30	
1,2,4-Trimethylbenzene	54.8		ug/kg	50.0		110	75-121	2.01	30	
s-Butylbenzene	54.6		ug/kg	50.0		109	70-128	3.83	30	
4-Isopropyl Toluene	54.9		ug/kg	50.0		110	75-125	4.85	30	
1,3-Dichlorobenzene	54.4		ug/kg	50.0		109	75-120	3.21	30	
1,4-Dichlorobenzene	55.2		ug/kg	50.0		110	73-120	1.80	30	
n-Butylbenzene	54.2		ug/kg	50.0		108	73-130	5.07	30	
1,2-Dichlorobenzene	54.4		ug/kg	50.0		109	76-120	1.09	30	
1,2-Dibromo-3-chloropropane	49.1		ug/kg	50.0		98.2	65-126	8.07	30	
1,2,4-Trichlorobenzene	54.8		ug/kg	50.0		110	66-140	1.17	30	
Hexachloro-1,3-Butadiene	55.0		ug/kg	50.0		110	67-133	4.71	30	
Naphthalene	53.6		ug/kg	50.0		107	69-125	1.92	30	
1,2,3-Trichlorobenzene	54.5		ug/kg	50.0		109	68-132	0.49	30	
Dichlorodifluoromethane	58.6		ug/kg	50.0		117	67-142	12.70	30	
Methyl tert-butyl Ether	59.6		ug/kg	50.0		119	79-127	9.51	30	
Surrogate: 1,2-Dichloroethane-d4		51.0	ug/kg	*50.0*		*102*	*80-149*			
Surrogate: Toluene-d8		50.4	ug/kg	*50.0*		*101*	*77-120*			
Surrogate: 4-Bromofluorobenzene		51.3	ug/kg	*50.0*		*103*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4		50.5	ug/kg	*50.0*		*101*	*80-120*			

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFF0131-BLK1)			Prepared: 20-May-2017 Analyzed: 20-May-2017 17:37							
Chloromethane	ND	1.00	ug/kg							U
Vinyl Chloride	ND	1.00	ug/kg							U
Bromomethane	ND	1.00	ug/kg							U
Chloroethane	ND	1.00	ug/kg							U
Trichlorofluoromethane	ND	1.00	ug/kg							U
Acrolein	ND	5.00	ug/kg							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	2.00	ug/kg							U
Acetone	ND	5.00	ug/kg							U
1,1-Dichloroethene	ND	1.00	ug/kg							U
Bromoethane	ND	2.00	ug/kg							U
Iodomethane	ND	1.00	ug/kg							U
Methylene Chloride	ND	2.00	ug/kg							U
Acrylonitrile	ND	5.00	ug/kg							U
Carbon Disulfide	ND	1.00	ug/kg							U
trans-1,2-Dichloroethene	ND	1.00	ug/kg							U
Vinyl Acetate	ND	5.00	ug/kg							U
1,1-Dichloroethane	ND	1.00	ug/kg							U
2-Butanone	ND	5.00	ug/kg							U
2,2-Dichloropropane	ND	1.00	ug/kg							U
cis-1,2-Dichloroethene	ND	1.00	ug/kg							U
Chloroform	ND	1.00	ug/kg							U
Bromochloromethane	ND	1.00	ug/kg							U
1,1,1-Trichloroethane	ND	1.00	ug/kg							U
1,1-Dichloropropene	ND	1.00	ug/kg							U
Carbon tetrachloride	ND	1.00	ug/kg							U
1,2-Dichloroethane	ND	1.00	ug/kg							U
Benzene	ND	1.00	ug/kg							U
Trichloroethene	ND	1.00	ug/kg							U
1,2-Dichloropropane	ND	1.00	ug/kg							U
Bromodichloromethane	ND	1.00	ug/kg							U
Dibromomethane	ND	1.00	ug/kg							U
2-Chloroethyl vinyl ether	ND	5.00	ug/kg							U
4-Methyl-2-Pentanone	ND	5.00	ug/kg							U
cis-1,3-Dichloropropene	ND	1.00	ug/kg							U
Toluene	ND	1.00	ug/kg							U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFF0131-BLK1)			Prepared: 20-May-2017 Analyzed: 20-May-2017 17:37							
trans-1,3-Dichloropropene	ND	1.00	ug/kg							U
2-Hexanone	ND	5.00	ug/kg							U
1,1,2-Trichloroethane	ND	1.00	ug/kg							U
1,3-Dichloropropane	ND	1.00	ug/kg							U
Tetrachloroethene	ND	1.00	ug/kg							U
Dibromochloromethane	ND	1.00	ug/kg							U
1,2-Dibromoethane	ND	1.00	ug/kg							U
Chlorobenzene	ND	1.00	ug/kg							U
Ethylbenzene	ND	1.00	ug/kg							U
1,1,1,2-Tetrachloroethane	ND	1.00	ug/kg							U
m,p-Xylene	ND	1.00	ug/kg							U
o-Xylene	ND	1.00	ug/kg							U
Xylenes, total	ND	2.00	ug/kg							U
Styrene	ND	1.00	ug/kg							U
Bromoform	ND	1.00	ug/kg							U
1,1,2,2-Tetrachloroethane	ND	1.00	ug/kg							U
1,2,3-Trichloropropane	ND	2.00	ug/kg							U
trans-1,4-Dichloro 2-Butene	ND	5.00	ug/kg							U
n-Propylbenzene	ND	1.00	ug/kg							U
Bromobenzene	ND	1.00	ug/kg							U
Isopropyl Benzene	ND	1.00	ug/kg							U
2-Chlorotoluene	ND	1.00	ug/kg							U
4-Chlorotoluene	ND	1.00	ug/kg							U
t-Butylbenzene	ND	1.00	ug/kg							U
1,3,5-Trimethylbenzene	ND	1.00	ug/kg							U
1,2,4-Trimethylbenzene	ND	1.00	ug/kg							U
s-Butylbenzene	ND	1.00	ug/kg							U
4-Isopropyl Toluene	ND	1.00	ug/kg							U
1,3-Dichlorobenzene	ND	1.00	ug/kg							U
1,4-Dichlorobenzene	ND	1.00	ug/kg							U
n-Butylbenzene	ND	1.00	ug/kg							U
1,2-Dichlorobenzene	ND	1.00	ug/kg							U
1,2-Dibromo-3-chloropropane	ND	5.00	ug/kg							U
1,2,4-Trichlorobenzene	ND	5.00	ug/kg							U
Hexachloro-1,3-Butadiene	ND	5.00	ug/kg							U

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BFF0131-BLK1)				Prepared: 20-May-2017 Analyzed: 20-May-2017 17:37						
Naphthalene	ND	5.00	ug/kg							U
1,2,3-Trichlorobenzene	ND	5.00	ug/kg							U
Dichlorodifluoromethane	ND	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	1.00	ug/kg							U
Surrogate: 1,2-Dichloroethane-d4	48.2		ug/kg	*50.0*		*96.4*	*80-149*			
Surrogate: Toluene-d8	49.4		ug/kg	*50.0*		*98.8*	*77-120*			
Surrogate: 4-Bromofluorobenzene	51.2		ug/kg	*50.0*		*102*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	49.7		ug/kg	*50.0*		*99.5*	*80-120*			
LCS (BFF0131-BS1)				Prepared: 20-May-2017 Analyzed: 20-May-2017 16:30						
Chloromethane	43.9		ug/kg	50.0		87.9	64-132			
Vinyl Chloride	40.9		ug/kg	50.0		81.9	74-135			
Bromomethane	64.5		ug/kg	50.0		129	53-144			Q
Chloroethane	48.7		ug/kg	50.0		97.5	55-149			
Trichlorofluoromethane	50.5		ug/kg	50.0		101	61-164			
Acrolein	226		ug/kg	250		90.3	59-140			
1,1,2-Trichloro-1,2,2-Trifluoroethane	49.1		ug/kg	50.0		98.3	74-143			
Acetone	174		ug/kg	250		69.4	48-137			Q
1,1-Dichloroethene	49.5		ug/kg	50.0		98.9	77-134			
Bromoethane	47.1		ug/kg	50.0		94.3	65-145			
Iodomethane	46.6		ug/kg	50.0		93.2	31-162			
Methylene Chloride	46.3		ug/kg	50.0		92.5	69-129			
Acrylonitrile	39.4		ug/kg	50.0		78.8	69-134			
Carbon Disulfide	45.7		ug/kg	50.0		91.4	71-137			
trans-1,2-Dichloroethene	46.6		ug/kg	50.0		93.1	79-130			
Vinyl Acetate	41.0		ug/kg	50.0		82.0	66-141			
1,1-Dichloroethane	43.8		ug/kg	50.0		87.6	80-126			
2-Butanone	212		ug/kg	250		84.7	70-132			
2,2-Dichloropropane	43.6		ug/kg	50.0		87.1	77-138			
cis-1,2-Dichloroethene	46.0		ug/kg	50.0		92.1	80-125			
Chloroform	41.4		ug/kg	50.0		82.8	80-126			
Bromochloromethane	44.0		ug/kg	50.0		87.9	80-129			
1,1,1-Trichloroethane	44.8		ug/kg	50.0		89.5	78-133			
1,1-Dichloropropene	44.9		ug/kg	50.0		89.8	79-120			
Carbon tetrachloride	44.8		ug/kg	50.0		89.5	71-129			

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFF0131-BS1)			Prepared: 20-May-2017 Analyzed: 20-May-2017 16:30							
1,2-Dichloroethane	44.4		ug/kg	50.0		88.8	76-120			
Benzene	45.4		ug/kg	50.0		90.7	80-120			
Trichloroethene	45.0		ug/kg	50.0		90.1	80-120			
1,2-Dichloropropane	45.9		ug/kg	50.0		91.9	79-120			
Bromodichloromethane	46.9		ug/kg	50.0		93.8	80-122			
Dibromomethane	47.7		ug/kg	50.0		95.3	80-120			
2-Chloroethyl vinyl ether	43.2		ug/kg	50.0		86.4	51-129			
4-Methyl-2-Pentanone	215		ug/kg	250		86.1	73-121			
cis-1,3-Dichloropropene	46.5		ug/kg	50.0		92.9	80-120			
Toluene	44.6		ug/kg	50.0		89.2	75-120			
trans-1,3-Dichloropropene	46.8		ug/kg	50.0		93.6	80-124			
2-Hexanone	198		ug/kg	250		79.1	68-122			
1,1,2-Trichloroethane	47.8		ug/kg	50.0		95.6	79-120			
1,3-Dichloropropane	47.7		ug/kg	50.0		95.4	78-120			
Tetrachloroethene	46.1		ug/kg	50.0		92.3	74-124			
Dibromochloromethane	47.8		ug/kg	50.0		95.6	74-125			
1,2-Dibromoethane	46.8		ug/kg	50.0		93.6	80-120			
Chlorobenzene	46.4		ug/kg	50.0		92.8	78-120			
Ethylbenzene	45.7		ug/kg	50.0		91.4	80-125			
1,1,1,2-Tetrachloroethane	47.1		ug/kg	50.0		94.1	80-120			
m,p-Xylene	92.8		ug/kg	100		92.8	76-121			
o-Xylene	46.1		ug/kg	50.0		92.3	67-132			
Xylenes, total	139		ug/kg	150		92.6	67-132			
Styrene	47.3		ug/kg	50.0		94.6	80-120			
Bromoform	46.9		ug/kg	50.0		93.8	64-128			
1,1,2,2-Tetrachloroethane	44.5		ug/kg	50.0		88.9	74-120			
1,2,3-Trichloropropane	44.4		ug/kg	50.0		88.8	73-120			
trans-1,4-Dichloro 2-Butene	40.0		ug/kg	50.0		80.1	65-125			Q
n-Propylbenzene	45.1		ug/kg	50.0		90.2	72-124			
Bromobenzene	46.4		ug/kg	50.0		92.8	76-120			
Isopropyl Benzene	45.0		ug/kg	50.0		90.0	74-121			
2-Chlorotoluene	44.5		ug/kg	50.0		89.0	75-120			
4-Chlorotoluene	45.0		ug/kg	50.0		90.0	69-124			
t-Butylbenzene	45.1		ug/kg	50.0		90.2	72-122			
1,3,5-Trimethylbenzene	45.2		ug/kg	50.0		90.5	74-122			

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BFF0131-BS1)				Prepared: 20-May-2017 Analyzed: 20-May-2017 16:30						
1,2,4-Trimethylbenzene	45.7		ug/kg	50.0		91.5	75-121			
s-Butylbenzene	45.1		ug/kg	50.0		90.2	70-128			
4-Isopropyl Toluene	46.3		ug/kg	50.0		92.6	75-125			
1,3-Dichlorobenzene	46.5		ug/kg	50.0		92.9	75-120			
1,4-Dichlorobenzene	47.9		ug/kg	50.0		95.8	73-120			
n-Butylbenzene	45.7		ug/kg	50.0		91.4	73-130			
1,2-Dichlorobenzene	47.2		ug/kg	50.0		94.5	76-120			
1,2-Dibromo-3-chloropropane	40.9		ug/kg	50.0		81.8	65-126			
1,2,4-Trichlorobenzene	48.7		ug/kg	50.0		97.5	66-140			
Hexachloro-1,3-Butadiene	47.0		ug/kg	50.0		94.0	67-133			
Naphthalene	46.3		ug/kg	50.0		92.6	69-125			
1,2,3-Trichlorobenzene	47.7		ug/kg	50.0		95.4	68-132			
Dichlorodifluoromethane	38.0		ug/kg	50.0		76.1	67-142			Q
Methyl tert-butyl Ether	47.2		ug/kg	50.0		94.3	79-127			
Surrogate: 1,2-Dichloroethane-d4		46.9	ug/kg	*50.0*		*93.8*	*80-149*			
Surrogate: Toluene-d8		49.3	ug/kg	*50.0*		*98.6*	*77-120*			
Surrogate: 4-Bromofluorobenzene		51.3	ug/kg	*50.0*		*103*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4		50.0	ug/kg	*50.0*		*100*	*80-120*			
LCS Dup (BFF0131-BSD1)				Prepared: 20-May-2017 Analyzed: 20-May-2017 16:52						
Chloromethane	44.2		ug/kg	50.0		88.4	64-132	0.62	30	
Vinyl Chloride	44.7		ug/kg	50.0		89.4	74-135	8.75	30	
Bromomethane	66.7		ug/kg	50.0		133	53-144	3.21	30	Q
Chloroethane	52.0		ug/kg	50.0		104	55-149	6.48	30	
Trichlorofluoromethane	55.7		ug/kg	50.0		111	61-164	9.76	30	
Acrolein	238		ug/kg	250		95.1	59-140	5.18	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	49.3		ug/kg	50.0		98.6	74-143	0.35	30	
Acetone	183		ug/kg	250		73.0	48-137	5.05	30	Q
1,1-Dichloroethene	43.9		ug/kg	50.0		87.9	77-134	11.80	30	
Bromoethane	49.8		ug/kg	50.0		99.5	65-145	5.39	30	
Iodomethane	51.0		ug/kg	50.0		102	31-162	9.02	30	
Methylene Chloride	49.1		ug/kg	50.0		98.2	69-129	5.98	30	
Acrylonitrile	43.9		ug/kg	50.0		87.9	69-134	10.80	30	
Carbon Disulfide	42.8		ug/kg	50.0		85.7	71-137	6.44	30	
trans-1,2-Dichloroethene	49.3		ug/kg	50.0		98.6	79-130	5.67	30	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFF0131-BSD1)			Prepared: 20-May-2017 Analyzed: 20-May-2017 16:52							
Vinyl Acetate	44.5		ug/kg	50.0		89.0	66-141	8.18	30	
1,1-Dichloroethane	46.8		ug/kg	50.0		93.6	80-126	6.66	30	
2-Butanone	225		ug/kg	250		89.9	70-132	5.95	30	
2,2-Dichloropropane	44.8		ug/kg	50.0		89.7	77-138	2.91	30	
cis-1,2-Dichloroethene	48.9		ug/kg	50.0		97.8	80-125	6.07	30	
Chloroform	44.3		ug/kg	50.0		88.7	80-126	6.89	30	
Bromochloromethane	47.6		ug/kg	50.0		95.2	80-129	7.91	30	
1,1,1-Trichloroethane	47.5		ug/kg	50.0		95.0	78-133	5.88	30	
1,1-Dichloropropene	47.7		ug/kg	50.0		95.4	79-120	6.04	30	
Carbon tetrachloride	44.1		ug/kg	50.0		88.2	71-129	1.49	30	
1,2-Dichloroethane	47.2		ug/kg	50.0		94.4	76-120	6.08	30	
Benzene	48.2		ug/kg	50.0		96.4	80-120	6.13	30	
Trichloroethene	47.1		ug/kg	50.0		94.2	80-120	4.53	30	
1,2-Dichloropropane	49.4		ug/kg	50.0		98.8	79-120	7.28	30	
Bromodichloromethane	50.5		ug/kg	50.0		101	80-122	7.43	30	
Dibromomethane	50.4		ug/kg	50.0		101	80-120	5.57	30	
2-Chloroethyl vinyl ether	46.9		ug/kg	50.0		93.8	51-129	8.29	30	
4-Methyl-2-Pentanone	234		ug/kg	250		93.6	73-121	8.37	30	
cis-1,3-Dichloropropene	49.1		ug/kg	50.0		98.2	80-120	5.54	30	
Toluene	47.4		ug/kg	50.0		94.8	75-120	6.08	30	
trans-1,3-Dichloropropene	49.3		ug/kg	50.0		98.6	80-124	5.19	30	
2-Hexanone	216		ug/kg	250		86.3	68-122	8.63	30	
1,1,2-Trichloroethane	52.5		ug/kg	50.0		105	79-120	9.42	30	
1,3-Dichloropropane	50.4		ug/kg	50.0		101	78-120	5.51	30	
Tetrachloroethene	47.9		ug/kg	50.0		95.8	74-124	3.79	30	
Dibromochloromethane	51.3		ug/kg	50.0		103	74-125	7.11	30	
1,2-Dibromoethane	50.9		ug/kg	50.0		102	80-120	8.41	30	
Chlorobenzene	49.4		ug/kg	50.0		98.8	78-120	6.26	30	
Ethylbenzene	48.5		ug/kg	50.0		97.0	80-125	6.04	30	
1,1,1,2-Tetrachloroethane	50.8		ug/kg	50.0		102	80-120	7.64	30	
m,p-Xylene	97.7		ug/kg	100		97.7	76-121	5.12	30	
o-Xylene	49.2		ug/kg	50.0		98.4	67-132	6.36	30	
Xylenes, total	147		ug/kg	150		97.9	67-132	5.53	30	
Styrene	50.1		ug/kg	50.0		100	80-120	5.82	30	
Bromoform	49.4		ug/kg	50.0		98.7	64-128	5.11	30	

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Volatile Organic Compounds - Quality Control

Batch BFF0131 - No Prep - Volatiles

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BFF0131-BSD1)			Prepared: 20-May-2017 Analyzed: 20-May-2017 16:52							
1,1,2,2-Tetrachloroethane	47.2		ug/kg	50.0		94.4	74-120	5.94	30	
1,2,3-Trichloropropane	48.3		ug/kg	50.0		96.6	73-120	8.44	30	
trans-1,4-Dichloro 2-Butene	40.6		ug/kg	50.0		81.2	65-125	1.34	30	Q
n-Propylbenzene	46.5		ug/kg	50.0		93.0	72-124	3.01	30	
Bromobenzene	48.8		ug/kg	50.0		97.6	76-120	5.05	30	
Isopropyl Benzene	47.4		ug/kg	50.0		94.9	74-121	5.29	30	
2-Chlorotoluene	46.9		ug/kg	50.0		93.9	75-120	5.37	30	
4-Chlorotoluene	46.8		ug/kg	50.0		93.7	69-124	3.99	30	
t-Butylbenzene	47.4		ug/kg	50.0		94.7	72-122	4.96	30	
1,3,5-Trimethylbenzene	47.2		ug/kg	50.0		94.4	74-122	4.28	30	
1,2,4-Trimethylbenzene	47.3		ug/kg	50.0		94.6	75-121	3.33	30	
s-Butylbenzene	47.2		ug/kg	50.0		94.5	70-128	4.64	30	
4-Isopropyl Toluene	47.6		ug/kg	50.0		95.3	75-125	2.80	30	
1,3-Dichlorobenzene	47.9		ug/kg	50.0		95.9	75-120	3.10	30	
1,4-Dichlorobenzene	48.8		ug/kg	50.0		97.5	73-120	1.76	30	
n-Butylbenzene	46.4		ug/kg	50.0		92.8	73-130	1.47	30	
1,2-Dichlorobenzene	48.6		ug/kg	50.0		97.3	76-120	2.90	30	
1,2-Dibromo-3-chloropropane	43.5		ug/kg	50.0		86.9	65-126	6.10	30	
1,2,4-Trichlorobenzene	47.1		ug/kg	50.0		94.1	66-140	3.48	30	
Hexachloro-1,3-Butadiene	48.4		ug/kg	50.0		96.7	67-133	2.83	30	
Naphthalene	49.1		ug/kg	50.0		98.2	69-125	5.83	30	
1,2,3-Trichlorobenzene	48.4		ug/kg	50.0		96.8	68-132	1.50	30	
Dichlorodifluoromethane	37.4		ug/kg	50.0		74.9	67-142	1.64	30	Q
Methyl tert-butyl Ether	50.1		ug/kg	50.0		100	79-127	6.08	30	
Surrogate: 1,2-Dichloroethane-d4		47.5	ug/kg	*50.0*		*95.1*	*80-149*			
Surrogate: Toluene-d8		48.8	ug/kg	*50.0*		*97.7*	*77-120*			
Surrogate: 4-Bromofluorobenzene		51.1	ug/kg	*50.0*		*102*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4		50.1	ug/kg	*50.0*		*100*	*80-120*			

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	WADOE,DoD-ELAP,NELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	UST-033	05/06/2017
CALAP	California Department of Public Health CAELAP	2748	02/28/2018
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	03/30/2017
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006	05/11/2017
WADOE	WA Dept of Ecology	C558	06/30/2017
WA-DW	Ecology - Drinking Water	C558	06/30/2017

Test America-Tacoma	Project: Little Port Walter AK	
5755 8th Street East	Project Number: 58011097	**Reported:**
Tacoma WA, 98424	Project Manager: Elaine Walker	07-Jun-2017 06:00

Notes and Definitions

U	This analyte is not detected above the applicable reporting or detection limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
*	Flagged value is not within established control limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

TestAmerica
5755 8th Street East
Tacoma, WA 9842
Phone (253) 922-23

580-68287 Chain of Custody

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information

Client Contact: Kathryn Cleveland
Phone: -LC
Company: Ahtna Engineering Services LLC
Address: 19540 International Blvd. Suite 201
City: Seatac
State, Zip: WA, 98188
Phone: 952-393-2743
Email: kcleveland@ahtna.net
Project Name: Little Port Walter AK
Site: 17

Lab PM: Walker, Elaine M
E-Mail: elaine.walker@testamericainc.com
Carrier Tracking No(s): Alaska Airlines Cargo GoldStreak
COC No: 580-24314-8019.1
Page: Page 1 of 13
Job #: 05150.01

Due Date Requested:
TAT Requested (days): Standard
PO #: Purchase Order Requested
WO #:
Project #: 58011097
SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
Preservation Code:							F	N	J	N	N	N	N	D	A	J	A	N	A		
LPW17-LBP-Weir-01	5/6/17	1820	G	Solid																	Paint Chip - lead analysis
LPW17-LBP-Weir-02	5/6/17	1825	G	Solid																	"
LPW17-LBP-Weir-03	5/6/17	1830	G	Solid																	"
LPW17-SL-WeirP-01(2)	5/7/17	0930	G	Solid			X	X	X							X		X	X		LL VOC - Freezer 5/7 1618 / 5/9 0600
LPW17-SL-WeirP-02(2)	5/7/17	0940	G	Solid			X		X							X		X	X		"
LPW17-SL-WeirP-02D(2)	5/7/17	0940	G	Solid			X		X							X		X	X		"
LPW17-SS-WeirP-03(2.5)	5/7/17	1000	G	Solid		Y	X		X							X		X	X		"
LPW17-SL-CCP-01(2)	5/7/17	1050	G	Solid			X		X							X		X	X		LL VOC - Freezer 5/7 1127 / 5/9 0600
LPW17-SL-CCP-02(2)	5/7/17	1100	G	Solid			X		X							X		X	X		LL VOC - Freezer 5/7 1127 / 5/9 0600
LPW17-SL-GSP-01(2)	5/7/17	1305	G	Solid			X		X							X		X	X		LL VOC - Freezer 5/7 1318 / 5/9 0600
LPW17-SL-GSP-03(1.5)	5/7/17	1530	G	Solid			X		X							X		X	X		LL VOC - Freezer 5/7 1618 / 5/9 0600

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): [ ] Return To Client [X] Disposal By Lab [ ] Archive For ___ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Kathryn Cleveland	Date/Time: 5/9/17 1320	Company: AE	Received by:	Date/Time: 5/10/17 1400	Company: TA-SEA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.3
Client Contact: Kathryn Cleveland	Phone	E-Mail: elaine.walker@testamericainc.com		Page: Page 3 of 13
Company: Ahtna Engineering Services LLC				Job #
Address: 19540 International Blvd. Suite 201	Due Date Requested:	Analysis Requested		
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
Preservation Code:							F	N	J	N	N	N	N	D	A	J	A	N	A		
LPW17-SL-WSP-01 (2)	5/7/17	1555	G	Solid			X		X							X		X	X		LL VOC - freeze 5/17 1610 / 5/19 0800
LPW17-SL-HMP-01 (2)		1545		Solid			X		X							X		X	X		"
LPW17-SS-HMP-02 (2.5)		1630		Solid	Y		X		X							X		X	X		LL VOC - freeze 5/17 1700 / 5/19 0800
LPW17-SL-OBP-01 (1.5)		1635		Solid			X		X							X		X	X		"
LPW17-SL-OBP-02 (2)		1645		Solid			X		X							X		X	X		"
LPW17-SL-WHP-01 (2)		1750		Solid			X		X							X		X	X		LL VOC - freeze 5/17 1835 / 5/19 0800
LPW17-SL-WHP-01D (2)		1750		Solid			X		X							X		X	X		"
LPW17-SL-WHP-02 (1)		1810		Solid			X		X							X		X	X		"
LPW17-SL-WHP-03 (1)		1815		Solid			X		X							X		X	X		"
LPW17-SL-WHP-04 (1)		1820		Solid			X		X							X		X	X		"
LPW17-Bkgd-Weir-01 (1.5)		2000		Solid															X		TOC analysis

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Kathryn Cleveland	5/9/17 1320	AEI		5/10/17 1100	TAS-H
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.5
Client Contact: Kathryn Cleveland	Phone:	E-Mail: elaine.walker@testamericainc.com		Page: Page 5 of 13
Company: Ahtna Engineering Services LLC				Job #:
Address: 19540 International Blvd. Suite 201	Due Date Requested:			
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of Containers	Special Instructions/Note:
			Preservation Code:		X	X	F	N	J	N	N	N	N	D	A	J	A	N	A	X	
LLW17-Bkgd-WH-02(1)	5/7/17	2010	G	Solid		Y													X		TOC analysis
LPW17-SL-WeirL-01(0.5)	5/8/17	0905		Solid																	Pb, As, Cr analysis ~~Lead (Pb) analysis~~ kc
LPW17-SL-WeirL-01D (0.5)		0905		Solid																	"
LPW17-SL-WeirL-02 (0.5)		0908		Solid																	"
LPW17-SL-WeirL-03 (0.5)		0915		Solid																	"
LPW17-SL-WeirL-04 (0.5)		0918		Solid																	Pb, As, Cr analysis ~~Lead (Pb) analysis~~ kc
LPW17-SL-WeirT-01 (0.5)		0911		Solid						X											Run 7196A if Cr hit from total Cr
LPW17-SL-WeirT-02 (0.5)		0920		Solid						X											"
LPW17-SL-WeirT-03 (0.5)		0922		Solid						X											"
LPW17-SL-WeirT-03D (0.5)		0922		Solid						X											"
LPW17-SL-WeirT-04 (0.5)		0926		Solid						X											Run 7196A if Cr hit

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ________ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Kathryn Cleveland	5/9/17 1320	AEI	[illegible signature]	5/11/17 1400	TASEA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.7
Client Contact: Kathryn Cleveland	Phone:	E-Mail: elaine.walker@testamericainc.com		Page: Page 7 of 13
Company: Ahtna Engineering Services LLC				Job #:
Address: 19540 International Blvd. Suite 201	Due Date Requested:			
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	F	N	J	N	N	N	N	D	A	J	A	N	A	X	
LPW17-SL-PASL-01 (0.5)	5/8/17	0945	G	Solid																	~~Lead (Pb) analysis~~ Pb, As, Cr analysis
LPW17-SL-PAST-01 (0.5)		0938		Solid						X											Run 7196A if Cr hit
LPW17-SL-PAST-02 (0.5)		0942		Solid						X											"
LPW17-SL PAST-03 (0.5)		1002		Solid						X											"
LPW17-SL-PAST-Bkgd (0.5)		0956		Solid						X											"
LPW17-SL-FBT-01 (0.5)		1016		Solid						X											"
LPW17-SL-FBT-02 (0.5)		1019		Solid						X											"
LPW17-SL-MBT-01 (0.5)		1028		Solid						X											"
LPW17-SL-MBT-02 (0.5)		1031		Solid						X											"
LPW17-SL-PACT-01 (0.5)		1039		Solid						X											"
LPW17-SL-PACT-01D (0.5		1039		Solid						X											Run 7196A if Cr hit

Possible Hazard Identification
[X] *Non-Hazard* [ ] *Flammable* [ ] *Skin Irritant* [ ] *Poison B* [ ] *Unknown* [ ] *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
[ ] *Return To Client* [X] *Disposal By Lab* [ ] *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Kathryn Cleveland	Date/Time: 5/9/17 1320	Company: AEI	Received by: [signature]	Date/Time: 5/10/17 1400	Company: TA SEA
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.9
Client Contact: Kathryn Cleveland	Phone:	E-Mail: elaine.walker@testamericainc.com		Page: Page 9 of 13
Company: Ahtna Engineering Services LLC				Job #:
Address: 19540 International Blvd. Suite 201	Due Date Requested:			
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
			Preservation Code:				F	N	J	N	N	N	N	D	A	J	A	N	A		
LAW17-SL-PACT-02(0.5)	5/8/17	1044	G	Solid						X											Run 7196A if Cr hit
LAW17-SL-CCBT-01(0.5)		1055		Solid						X											"
LAW17-SL-CCBT-02(0.5)		1100		Solid						X											Run 7196A if Cr hit
LAW17-SL-CCL-01(0.5)		1108		Solid																	Lead (Pb) analysis
LAW17-SL-CCT-02(0.5)		1110		Solid						X											Run 7196A if Cr hit
LAW17-SL-CCT-02(0.5)		1140		Solid						X											
LAW17-SL-CCT-02(0.5)		1145		Solid						X											Run 7196A if Cr hit
LAW17-SL-GSL-01(0.5)		1203		Solid																	~~Lead (Pb) analysis~~ Pb, As, Cr analysis KC
LAW17-SL-GSL-02(0.5)		1206		Solid																	~~Lead (Pb) analysis~~ Pb, As, Cr analysis KC
LAW17-SL-INT-01(0.5)		1212		Solid						X											Run 7196A if Cr hit
LAW17-SL-INT-02(0.5)		1216		Solid						X											Run 7196A if Cr hit

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Kathryn Cleveland	5/9/17 1320	ACI		5/10/17 1140	TA-SEA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.11
Client Contact: Kathryn Cleveland	Phone:	E-Mail: elaine.walker@testamericainc.com		Page: Page 11 of 13
Company: Ahtna Engineering Services LLC				Job #:
Address: 19540 International Blvd. Suite 201	Due Date Requested:			
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	F	N	J	N	N	N	N	D	A	J	A	N	A	X	
LAW17-SL-WAT-01 (0.5)	5/8/17	1218	G	Solid						X											Run 7196A if Cr hit
LAW17-SL-WAT-02 (0.5)		1220		Solid						X											Run 7196A if Cr hit
LAW17-SL-WSL-01 (0.5)		1232		Solid																	~~Pb, As, Cr analysis~~ ~~Lead (Pb) analysis~~ KC
LAW17-SL-WSL-02 (0.5)		1242		Solid																	"
LAW17-SL-WSL-03 (0.5)		1245		Solid																	~~Pb, As, Cr analysis~~ ~~Lead (Pb) analysis~~ KC
LAW17-SL-WHBT-01 (0.5)		1250		Solid						X											Run 7196A if Cr hit
LAW17-SL-WHBT-02 (0.5)		1253		Solid						X											"
LAW17-SL-WHDT-01 (0.5)		1300		Solid						X											"
LAW17-SL-WHDT-02 (0.5)		1304		Solid						X											"
LAW17-SL-WHBT-02D (0.5)		1304		Solid						X											Run 7196A if Cr hit
LAW17-SL-WHL-01 (0.5)		1312		Solid																	~~Pb, As, Cr analysis~~ ~~Lead (Pb) analysis~~ KC

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Kathryn Cleveland	5/9/17 1320	AEI	[signature] 1400	5/10/17 1400	TA-SEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.13
Client Contact: Kathryn Cleveland	Phone:	E-Mail: elaine.walker@testamericainc.com		Page: Page 13 of 13
Company: Ahtna Engineering Services LLC				Job #:
Address: 19540 International Blvd. Suite 201	Due Date Requested:			
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	F	N	J	N	N	N	N	D	A	J	A	N	A	X	
LPW17-SL-WHL-02 (0.5)	5/8/17	1314	G	Solid																	~~Lead (Pb) analysis~~ Pb, As, Cr analysis
LPW17-SL-WHL-03 (0.5)		1316		Solid																	"
LPW17-SL-WHL-03D (0.5)		1316		Solid																	"
LPW17-SL-WHL-04 (0.5)		1318		Solid																	~~Lead (Pb) analysis~~ Pb, As, Cr analysis
LPW17-SL-GSP-W-01		1540		Solid		X	X	X										X	X		LL VOC - freeze 5/8 1650 / 5/9 0800
LPW17-SL-GSP-Leak01		1555		Solid			X											X	X		"
LPW17-SL-GSP-Leak02		~~1620~~ 1605		Solid														X	X		"
LPW17-SL-GSP-Leak03		1620		Solid														X	X		"
LPW17-LBP-WH-01	5/9/17	0930		Solid																	Paint Chip lead analysis
LPW17-LBP-WH-02		0935		Solid																	"
LPW17-LBP-WH-03		0940		Solid																	"

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Kathryn Cleveland	5/9/17 1320	AES	[signature]	5/10/17 1000	TASEA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Seattle
5755 8th Street East
Tacoma, WA 98424
Phone (253) 922-2310 Fax (253) 922-5047

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler:	Lab PM: Walker, Elaine M	Carrier Tracking No(s):	COC No: 580-24314-8019.15
Client Contact: Kathryn Cleveland	Phone:	E-Mail: elaine.walker@testamericainc.com		Page: Page 15 of 13
Company: Ahtna Engineering Services LLC				Job #:
Address: 19540 International Blvd. Suite 201	Due Date Requested:			
City: Seatac	TAT Requested (days):			
State, Zip: WA, 98188				
Phone:	PO #: Purchase Order Requested			
Email: kcleveland@ahtna.net	WO #:			
Project Name: Little Port Walter AK	Project #: 58011097			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C, AK101	8270D_SIM, AK102_103	8260C - Low Level Volatiles	6020A - (As,Cr,Cu)	7196A - Hex Chrom	7471A - Mercury	7196A - Hexavalent Chromium	6020A - As,Cr	8260C_LL - Volatiles, standard list AK	8260C - Volatiles, standard list AK	8260C, AK101	8270D_SIM - PAHs, standard list	AK102_103 - DRO/RRO with and without SGCleanup	Total Number of containers	Special Instructions/Note:
			Preservation Code:				F	N	J	N	N	N	N	D	A	J	A	N	A		
LPW17-LBP-WH-04	5/9/17	0945	G	Solid																	Paint Chip lead analysis
LPW17-LBP-WH-05	5/9/17	0950	G	Solid																	"
LPW17-LBP-WeW04	5/6/17	1835	G	Solid																	"
				Solid																	
				Solid																	
				Solid																	
				Solid																	
				Solid																	
				Solid																	
				Solid																	
				Solid																	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Kathryn Cleveland	5/9/17 1320	AEI	[signature]	5/10/17 1460	TASEA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

TB AZ Cooler ___ Cor 1.0°C Unc 1.2°C
Cooler Dsc Lg Blue/wht @Lab ___
Wet/Packs Packing Bubble
w/ cs

TB AZ Cooler ___ Cor 0.5°C Unc 0.7°C
Cooler Dsc Lg Blue/wht @Lab ___
Wet/Packs Packing Bubble
w/ cs

TB AZ Cooler ___ Cor 3.3°C Unc 3.5°C
Cooler Dsc Lg Blue/wht @Lab ___
Wet/Packs Packing Bubble
w/ cs

TB AZ Cooler ___ Cor 0.5°C Unc 0.7°C
Cooler Dsc Lg Blue/wht @Lab ___
Wet/Packs Packing Bubble
w/ cs

Login Sample Receipt Checklist

Client: Ahtna Engineering Services LLC

Job Number: 580-68287-1

Login Number: 68287
List Number: 1
Creator: Bean, Dennis L

List Source: TestAmerica Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

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May 18, 2017

Bernie Wong
Ahtna Engineering Services, LLC
19540 International Blvd. Suite 201
Seatac, WA 98188

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1708569.00

Client Project: 05150.01
Location: Little Port Walter, AK

Dear Mr. Wong,

Enclosed please find test results for the 11 sample(s) submitted to our laboratory for analysis on 5/12/2017.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

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1.888.(685.5227)
www.nvllabs.com

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Ahtna Engineering Services, LLC
Address: 19540 International Blvd. Suite 201
Seatac, WA 98188

Attention: Mr. Bernie Wong
Project Location: Little Port Walter, AK

Batch #: 1708569.00
Client Project #: 05150.01
Date Received: 5/12/2017
Samples Received: 11
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 17046279 **Client Sample #: LPW17-AS-WH-01**
Location: Little Port Walter, AK

Layer 1 of 1	**Description:** Brown rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**

Lab ID: 17046280 **Client Sample #: LPW17-AS-WH-02**
Location: Little Port Walter, AK

Layer 1 of 1	**Description:** White rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**

Lab ID: 17046281 **Client Sample #: LPW17-AS-WH-03**
Location: Little Port Walter, AK

Layer 1 of 2	**Description:** Black rubbery material			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Rubber/Binder	None Detected	ND	**None Detected ND**
Layer 2 of 2	**Description:** Brown soft mastic with fibrous mesh			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	Synthetic fibers	5%	**None Detected ND**
		Cellulose	3%	

Lab ID: 17046282 **Client Sample #: LPW17-AS-WH-04**
Location: Little Port Walter, AK

Layer 1 of 1	**Description:** Gray fibrous material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Paint, Perlite	Cellulose	56%	**None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 05/18/2017
Reviewed by: Nick Ly **Date:** 05/18/2017

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Ahtna Engineering Services, LLC
Address: 19540 International Blvd. Suite 201
Seatac, WA 98188

Attention: Mr. Bernie Wong
Project Location: Little Port Walter, AK

Batch #: 1708569.00
Client Project #: 05150.01
Date Received: 5/12/2017
Samples Received: 11
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Glass fibers 5%

Lab ID: 17046283 **Client Sample #: LPW17-AS-WH-05**
Location: Little Port Walter, AK

Layer 1 of 1 **Description:** White chalky material with paper

Non-Fibrous Materials: Other Fibrous Materials:% **Asbestos Type: %**
Binder/Filler, Gypsum/Binder, Mica Cellulose 25% **None Detected ND**
Glass fibers 5%

Lab ID: 17046284 **Client Sample #: LPW17-AS-WH-06**
Location: Little Port Walter, AK

Layer 1 of 3 **Description:** White compacted powdery material with paint

Non-Fibrous Materials: Other Fibrous Materials:% **Asbestos Type: %**
Calcareous particles, Paint, Binder/Filler Cellulose 2% **None Detected ND**

Layer 2 of 3 **Description:** White compacted powdery material with paper

Non-Fibrous Materials: Other Fibrous Materials:% **Asbestos Type: %**
Calcareous particles, Binder/Filler Cellulose 23% **None Detected ND**

Layer 3 of 3 **Description:** White chalky material with paper

Non-Fibrous Materials: Other Fibrous Materials:% **Asbestos Type: %**
Binder/Filler, Gypsum/Binder, Mica Cellulose 24% **None Detected ND**
Glass fibers 4%

Lab ID: 17046285 **Client Sample #: LPW17-AS-WH-07**
Location: Little Port Walter, AK

Layer 1 of 1 **Description:** White chalky material with paper and paint

Non-Fibrous Materials: Other Fibrous Materials:% **Asbestos Type: %**
Binder/Filler, Gypsum/Binder, Paint Cellulose 23% **None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 05/18/2017
Reviewed by: Nick Ly **Date:** 05/18/2017

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Ahtna Engineering Services, LLC
Address: 19540 International Blvd. Suite 201
Seatac, WA 98188

Attention: Mr. Bernie Wong
Project Location: Little Port Walter, AK

Batch #: 1708569.00
Client Project #: 05150.01
Date Received: 5/12/2017
Samples Received: 11
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

	Wood flakes	Wood fibers	4%	

Lab ID: 17046286 **Client Sample #: LPW17-AS-WH-08**
Location: Little Port Walter, AK

Layer 1 of 1 **Description:** White chalky material

	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Gypsum/Binder, Binder/Filler	Cellulose	10%	**None Detected ND**
		Glass fibers	9%	

Lab ID: 17046287 **Client Sample #: LPW17-AS-WH-09**
Location: Little Port Walter, AK

Layer 1 of 2 **Description:** Gray sheet vinyl with multi-colored dotted pattern

	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Binder/Filler	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** Gray fibrous backing with mastic

	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder	Cellulose	65%	**None Detected ND**
		Synthetic fibers	4%	

Lab ID: 17046288 **Client Sample #: LPW17-AS-WH-10**
Location: Little Port Walter, AK

Layer 1 of 2 **Description:** Orange/brown sheet vinyl

	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Vinyl/Binder, Binder/Filler	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** Gray fibrous backing with mastic and debris

	Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder, Wood flakes	Cellulose	61%	**None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 05/18/2017
Reviewed by: Nick Ly **Date:** 05/18/2017

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Ahtna Engineering Services, LLC
Address: 19540 International Blvd. Suite 201
Seatac, WA 98188

Attention: Mr. Bernie Wong
Project Location: Little Port Walter, AK

Batch #: 1708569.00
Client Project #: 05150.01
Date Received: 5/12/2017
Samples Received: 11
Samples Analyzed: 11
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Synthetic fibers	5%
Wood fibers	3%

Lab ID: 17046289 **Client Sample #: LPW17-AS-Weir-01**

Location: Little Port Walter, AK

Layer 1 of 1 **Description:** Gray putty material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Putty Compound, Paint, Binder/Filler	Cellulose 2%	**None Detected ND**

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 05/18/2017
Reviewed by: Nick Ly **Date:** 05/18/2017

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

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ASBESTOS LABORATORY SERVICES

Company Ahtna Engineering Services, LLC
Address 19540 International Blvd. Suite 201
Seatac, WA 98188
Project Manager Mr. Bernie Wong
Phone (206) 299-0601
Cell (425) 864-1695

NVL Batch Number **1708569.00**
TAT 5 Days **AH** No
Rush TAT
Due Date 5/19/2017 **Time** 11:40 AM
Email bwong@ahtna.net
Fax

Project Name/Number: 05150.01 **Project Location:** Little Port Walter, AK

Subcategory PLM Bulk
Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 11 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	17046279	LPW17-AS-WH-01		A
2	17046280	LPW17-AS-WH-02		A
3	17046281	LPW17-AS-WH-03		A
4	17046282	LPW17-AS-WH-04		A
5	17046283	LPW17-AS-WH-05		A
6	17046284	LPW17-AS-WH-06		A
7	17046285	LPW17-AS-WH-07		A
8	17046286	LPW17-AS-WH-08		A
9	17046287	LPW17-AS-WH-09		A
10	17046288	LPW17-AS-WH-10		A
11	17046289	LPW17-AS-Weir-01		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Mohammed Jamal		NVL	5/12/17	1140
Analyzed by	Lori Tseng		NVL	5/18/17	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 5/12/2017
Time: 3:23 PM
Entered By: Mohammed Jamal

NVL Laboratories, Inc.

4708 Aurora Ave N, Seattle, WA 98103
Tel: 206.547.0100 Emerg.Cell: 206.914.4646
Fax: 206.634.1936 1.888.NVL.LABS (685.5227)

CHAIN of CUSTODY SAMPLE LOG

1708569

Client Ahtna Engineering Services, LLC
Street 19540 International Blvd. Suite 201
Seatac, WA 98188

Project Manager Mr. Bernie Wong
Project Location Little Port Walker, AK

Phone: (206) 299-0601 **Fax:**

NVL Batch Number
Client Job Number 05150.01
Total Samples 11
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☐ 1 Day ☐ 4 Days ☐ 4 Hrs ☐ 2 Days ☒ 5 Days
Please call for TAT less than 24 Hrs

Email address bwong@ahtna.net
Cell (425) 864-1695

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☐ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS: ☐ Total Metals ☐ TCLP ☐ Cr 6

Det. Limit: ☐ FAA (ppm) ☐ ICP (ppm) ☐ GFAA (ppl

Matrix: ☐ Air Filter ☐ Drinking water ☐ Dust/wipe (Area) ☐ Soil ☐ Paint Chips in % ☐ Paint Chips in cm ☐ Waste Water ☐ Other

RCRA Metals: ☐ Arsenic (As) ☐ Barium (Ba) ☐ Cadmium (Cd) ☐ Chromium (Cr) ☐ All 8 ☐ Lead (Pb) ☐ Mercury (Hg) ☐ Selenium (Se) ☐ Silver (Ag)

Other Metals: ☐ All 3 ☐ Copper (Cu) ☐ Nickel (Ni) ☐ Zinc (Zn)

Other Types of Analysis: ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) ☐ Silica ☐ Respirable Dust

Condition of Package: ☒ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		LPW17-AS-WH-01		
2		LPW17-AS-WH-02		
3		LPW17-AS-WH-03		
4		LPW17-AS-WH-04		
5		LPW17-AS-WH-05		
6		LPW17-AS-WH-06		
7		LPW17-AS-WH-07		
8		LPW17-AS-WH-08		
9		LPW17-AS-WH-09		
10		LPW17-AS-WH-10		
11		LPW17-AS-Weir-01		
12				
13				
14				
15				

PAID 5/12/17 M.S

	Print Below	Sign Below	Company	Date	Time
Sampled by	KLC	Kathryn Cleveland	Ahtna	5/9/17	
Relinquished by	Kathryn Cleveland	Kathryn Cleveland	Ahtna	5/12/17	1140
Received by	M. Hurd		NVL	5/12/17	11:40
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.

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APPENDIX D

DATA QUALITY REVIEW AND ADEC CHECKLISTS

DATA QUALITY REVIEW

Date: June 22, 2017

Project : NOAA Little Port Walter
Laboratory: TestAmerica Tacoma
Work Orders: 580-68287 (TestAmerica)
1708569 (NVL)
Analysis: Polycyclic Aromatic Hydrocarbons (PAH) by United States Environmental Protection Agency (EPA) Method 8270D;
Volatile Organic Compounds (VOC) by EPA Method 8260;
Gasoline Range Organics (GRO) by EPA Method AK101;
Diesel and Residual Range Organics (DRO/RRO) by Method AK 102/103;
Metals (As, Cr, Cu) by EPA Method 6020;
Bulk Asbestos by Polarized Light Microscopy.

Reviewer Name: Emily Freitas, Ahtna
Reviewer Title: Project Chemist

INTRODUCTION

Table 1 lists the laboratory sample delivery group number, number of samples submitted and identifies quality control (QC) samples.

TABLE 1: FIELD SAMPLE PLAN OVERVIEW

Lab Sample Delivery Group	Number of Submitted Samples	Quality Control
580-68287	82	8 duplicates, 1 trip blank
1708569	11	NA

DATA QUALIFIER DEFINITIONS

For the purpose of this Data Quality Review (DQR) the following code letters and associated definitions are provided for use by the project chemist to summarize the data quality.

R Reported value is "rejected." Resampling or reanalysis may be necessary to verify the presence or absence of the compound.

Q The associated numerical value is an estimated quantity because QC criteria were not met, may be biased high (QH) or low (QL).

UJ The reported quantitation limit is estimated because QC criteria were not met and the element or compound was not detected.

DATA REVIEW

This DQR includes a review, where appropriate, of the following parameters:

- Data completeness
- Chain of Custody (COC) and Cooler Receipt Forms
- Holding times and preservation
- Analytical reporting limits (limits of quantitation [LOQ] and method detection limits [DL])
- Blank analysis results
- Surrogate recoveries (organics only)
- Field duplicates
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Matrix spike (MS) and matrix spike duplicate (MSD) results

Each analysis that was performed is evaluated in the following subsections of this report, and only the criteria exceedances that impact data qualification or require assessment beyond laboratory documentation are discussed.

Validation was conducted in accordance with the USEPA document "*Test Methods for Evaluating Solid Wastes, SW-846, revision 6*" (February, 2007 and updates), USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic* (August, 2014) *and Organic* (August, 2014) *Review*, where and when applicable.

Sample Receipt Conditions

Samples were submitted to TestAmerica in Tacoma, Washington and NVL laboratories, Inc. in Seattle, Washington. Eighty two soil samples, including one trip blank, were submitted in four coolers under an intact custody seals to Test America. Low level VOC analyses were subcontracted from TestAmerica to Analytical Resources Incorporated. Data was reported in sample delivery group (SDG) 580-68287. Eight asbestos samples were submitted in one cooler to NVL Laboratories. Data was reported under batch number 1708569.

All samples were received with proper preservation and in good condition, within the Alaska Department of Environmental Conservation (ADEC) temperature preservation requirements (< 6°C).

There were sample name discrepancies noted upon receipt in SDG 580-68287. Samples were logged in per the CoC. Additionally, standard level VOC analyses were canceled due to sample handling errors. Low level VOC results were available so data quality is not impacted.

Holding Times and Preservatives

Preservation criteria were met. All holding times were met however, one sample, LPW17-SL-GSP-Leak01, in SDG 580-68287, required reanalysis due to failed quality control criteria. This re-

analyses occurred outside of the hold time therefore, the results are qualified "H" and should be estimated, biased low.

PRECISION

Field Duplicates

Eight duplicate sets were submitted for analysis which meets the 10% duplicate rate required by the project. RPDs were calculated using the following equation for the primary and duplicate field samples when both analytes were detected above the Reporting Limit (RL). All RPDs were within the 50 percent RPD recommendation for soil.

No results were qualified due to duplicate precision.

Laboratory Control Samples/Duplicates and Matrix Spike/Duplicates

RPDs were within control limits, with the following exceptions:

SDG 580-68287

- The RPD calculated for RRO between the MS and MSD in analytical batch 580-246593 was outside control limits.
- The RPD for bromomethane, chloroethane, trichlorofluoromethane, acrolein, bromomethane, acetone, trans-1,4-dichloro-2-butene, and dichlorodifluoromethane in the ICV standards were above the control limits.

No qualifications were made since additional quality control criteria were available and within recommended limits.

ACCURACY

Laboratory Control Samples/Duplicates, Matrix Spike/Matrix Spike Duplicates, and Internal Standards

%R were within control limits with the exceptions listed below:

SDG 580-68287

- The %R for Lead and Chromium was outside control limits for the MS, MSD, or laboratory dulices in batches 580-246576 and 580-24300.
- The %R for various PAH analytes was outside control limits for the MS and MSD in analytical batches 580-247152 and 580-246475.
- The %R for bromomethane was outside control limits for the LCS/LCSD

- The %R for various 2-Butanone was outside control limits for the LCS in analytical batch 580-246075.

No qualifications were made since additional quality control criteria were available and within recommended limits.

Surrogate Percent Recoveries

All surrogate percent recoveries were within quality control criteria with the following exceptions:

SDG 580-68287

- AK102/103 surrogate o-Terphenyl was slightly below quality control limits for sample LPW17-SL-WHP-01(2) and sample LPW17-SL-WHP-01D(2).

- An 8270D surrogate was slightly outside of quality control limits for sample LPW17-SL-HMP-01(2), sample LPW17-SL-GSP-Leak01, and associated MSD.

- An 8260 surrogate, d4-1,2-dichloroethane was outside quality control limits for sample LPW17-SL-GSP-03(1.5).

No qualifications were made since additional surrogates were available to verify laboratory methods.

REPRESENTATIVENESS

All samples were collected in accordance with the work plan. Samples collected are considered representative of conditions and meet data quality objectives discussed in the work plan.

COMPARABILITY

Three laboratories and two SDGs were produced for this project. The results, methods, procedures, quantitation units, and format of the work order are comparable in quality and data validity to all applicable regulations.

COMPLETENESS

All data necessary to complete a level II data validation on this SDG was provided. No data were rejected, so 100% of the results are usable. This exceeds the 85% minimum project completeness goal.

SENSITIVITY

All results were evaluated to the RL. No qualifications were made based on RLs.

Trip Blanks

One trip blank was submitted for this project. All results were not detected.

Method Blanks

Laboratory method blanks were not detected at the method reporting limit with the following exceptions:

SDG 580-68287

- Hexachlorobutadiene was detected above the MDL in analytical batches 580-246075 and 580-246158.
- Benzo[a]anthracene was detected above the MDL in analytical batches 580-246433 and 580-247152.
- Benzo[a]anthracene, Fluoranthene, Phenanthrene, and Pyrene were detected above the MDL in analytical batch 580-246750.
- The percent differences for bromomethane, chloroethane, trichlorofluoromethane and acrolein

The method blank detections were less than half of the reporting limit therefore no sample results were deemed affected.

OVERALL ASSESSMENT

Based on the data review completed, no data were rejected. Samples were qualified due to incorrect sample handling (additional labels on VOC jars). One sample was qualified as "H" for hold time error.

All analytical data is considered usable for the purpose of evaluating the presence or absence and magnitude of the suspected site contaminants.

Laboratory Data Review Checklist

Completed by: Emily Freitas

Title: Chemist Date: 06/20/2017

CS Report Name: NOAA Little Port Walter Report Date: May 2017

Consultant Firm: Ahtna Environmental Inc.

Laboratory Name: TestAmerica Tacoma Laboratory Report Number: 580-68287

ADEC File Number: ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

      Twenty three samples were transferred to Analytical Resources, Incorporated for low level volatile analyses.

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. Correct analyses requested?
      ☒Yes ☐ No ☐NA (Please explain.) Comments:

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      ☐Yes ☒ No ☐NA (Please explain.) Comments:

      Samples were within the limits of less than 6 degrees celsius.

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

      Sample was correctly preserved according to analyses requested.

☒Yes ☐ No ☐NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
☒Yes ☐ No ☐NA (Please explain.) Comments:

There were no discrepancies in sample condition upon receipt.

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:

There were sample name discrepancies noted upon receipt. Samples were logged in per the CoC. Additionally, various methods were requested on the CoC but were not run by the laboratory. These analyses have been canceled since the samples were outside hold time when the error was noted.

e. Data quality or usability affected? (Please explain.)
Comments:

Data usability or quality is not affected by the sample receipt conditions.

4. Case Narrative
   a. Present and understandable?
   ☒Yes ☐ No ☐NA (Please explain.) Comments:

   b. Discrepancies, errors or QC failures identified by the lab?
   ☒Yes ☐ No ☐NA (Please explain.) Comments:

   c. Were all corrective actions documented?
   ☒Yes ☐ No ☐NA (Please explain.) Comments:

   d. What is the effect on data quality/usability according to the case narrative?
   Comments:

Data usability was not affected by the case narrative.

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   ☒Yes ☐ No ☐NA (Please explain.) Comments:

b. All applicable holding times met?
☒Yes ☐ No ☐NA (Please explain.) Comments:

All holidng times were met however, one sample, LPW17-SL-GSP-Leak01, required reanalysis due to failed quality control criteria. This reanalyses occurred outside of the hold time therefore, the results are qualified "H" and should be estimated, biased low.

c. All soils reported on a dry weight basis?
☒Yes ☐ No ☐NA (Please explain.) Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
☒Yes ☐ No ☐NA (Please explain.) Comments:

e. Data quality or usability affected?

Comments:

Data quality and usability is not affected with respect to the reported sample results. Sample LPW17-SL-GSP-Leak01 was qualified, biased low, but the results are still considered valid and usable.

6. QC Samples
a. Method Blank
i. One method blank reported per matrix, analysis and 20 samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. All method blank results less than PQL?
☐Yes ☒ No ☐NA (Please explain.) Comments:

Hexachlorobutadiene was detected above the MDL in analytical batches 580-246075 and 580-246158. Benzo[a]anthracene was detected above the MDL in analytical batches 580-246433 and 580-247152. Benzo[a]anthracene, Fluoranthene, Phenanthrene, and Pyrene were detected above the MDL in analytical batch 580-246750.

iii. If above PQL, what samples are affected?

Comments:

No samples were affected. The method blank detections were less than half of the reporting limit therefore no sample results were deemed affected.

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?

No. Data flags were not required.

☐Yes ☐ No ☒NA (Please explain.) Comments:

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

Data quality and usability was not affected with respect to the reported method blank results.

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

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)
☐Yes ☒ No ☐NA (Please explain.) Comments:

The following accuracy errors were observed: The %R for Lead and Chromium was outisde control limits for the MS, MSD, or laboratory dulices in batches 580-246576 and 580-24300. The %R for various PAH analytes was outside control limits for the MS and MSD in analytical batches 580-247152 and 580-246475. The %R for bromomethane was outside control limits for the LCS/LCSD The %R for various 2-Butanone was outside control limits for the LCS in analytical batch 580-246075.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)
☐Yes ☒ No ☐NA (Please explain.) Comments:

The following precision errors were observed: The RPD for bromomethane, chloroethane, trichlorofluoromethane, acrolein, bromomethane, acetone, trans-1,4-dichloro-2-butene, and dichlorodifluoromethane in the ICV standards were above the control limits. The RPD calculated for RRO between the MS and MSD in analytical batch 580-246593 was outisde control limits.

v. If %R or RPD is outside of acceptable limits, what samples are affected?
Comments:

Additional quality control samples provided sufficient precision or accuracy information for all instances.

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 since additional quality control samples were provided.

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

Data quality or usability is not affected with respect to the reported results.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)
☐Yes ☒ No ☐NA (Please explain.) Comments:

AK102/103 surrogate o-Terphenyl was slightly below quality control limits for sample LPW17-SL-WHP-01(2) and sample LPW17-SL-WHP-01D(2). 8270D surrogate, , was slightly outside of quality control limits for sample LPW17-SL-HMP-01(2), sample LPW17-SL-GSP-Leak01, and associated MSD. An 8260 surrogate, d4-1,2-dichloroethane was outside quality control limits for sample LPW17-SL-GSP-03(1.5).

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
☐Yes ☒ No ☐NA (Please explain.) Comments:

The additional method surrogates were within limits therefore no qualifications were made.

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

Data quality or usability is not affected with regards to the surrogate results.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
☒Yes ☐ No ☐NA (Please explain.) Comments:

One trip blank was submitted.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)
☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. All results less than PQL?
☒Yes ☐ No ☐NA (Please explain.) Comments:

iv. If above PQL, what samples are affected?
Comments:

NA. All results were below PQL.

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

Data quality and usability is not affected with respect to the reported trip blank results.

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
☒Yes ☐ No ☐NA (Please explain.) Comments:

8 field duplciates were submitted within this sample delivery group.

ii. Submitted blind to lab?

☒Yes ☐ No ☐NA (Please explain.) Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (Recommended: 30% water, 50% soil)

RPD (%) = Absolute value of: $\frac{(R_1-R_2)}{((R_1+R_2)/2)} \times 100$

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

☒Yes ☐ No ☐NA (Please explain.) Comments:

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data usability was not affected by the field duplicate precision.

f. Decontamination or Equipment Blank (If not used explain why).

☐Yes ☐ No ☒NA (Please explain.) Comments:

No equipment blank was collected. Disposable equipment was used.

i. All results less than PQL?

☐Yes ☐ No ☒NA (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

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

Comments:

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

a. Defined and appropriate?

☒Yes ☐ No ☐NA (Please explain.) Comments:

No additional data qualifiers were used. Laboratory specific qualifiers were used in the lab report but not transferred to the project report or tables.

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APPENDIX E

VAPOR INTRUSION BUILDING SURVEY

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

This form should be prepared by a person familiar with indoor air assessments with assistance from a person knowledgeable about the building. Complete this form for each building where interior samples (e.g., indoor air, crawl space, or subslab soil gas samples) will be collected. Section I of this form should be used to assist in choosing an investigative strategy during work plan development. Section II should be used to assist in identification of complicating factors during a pre-sampling building walk-through.

Preparer's Name: Richard Koster, CIH Date/Time Prepared: May 8 through June 19, 2017

Preparer's Affiliation: NOAA National Marine Fisheries Services / Alaska Fisheries Science Center

Phone No: (206) 526 - 4165

Purpose of Investigation: Site characterization to identify environmental liabilities for the Alaska Fisheries Science Center Auke Bay Laboratories at the Little Port Walter Campus.

OWNER or LANDLORD:

Name: NOAA/NMFS/AFSC/ Auke Bay Laboratories

Address: 17109 Point Lena Loop Road

City: Juneau AK 99801

Phone No.: (907) 789-6000

SECTION I: STRUCTURE INVENTORY

1	White House	Building
2	White House fuel tank	Sheltered Pad
3	Walk in Freezer / Hot tub shed	Unoccupied Building
4	White House bridge	Wood Structure
5	Outboard motor storage shed	Unoccupied Building
6	Wood/Metal shop	Building
7	Hazmat storage	Unoccupied Building
8	Fuel tank shed	Unoccupied Building
9	Generator shed	Unoccupied Building
10	Warehouse complex	Building
11	Dock (Tag & Feed) sheds	Building
12	Incinerator shed	Unoccupied Building
13	Cove cabin fuel tank	Sheltered Pad
14	Cove Cabin	Building
15	Cove cabin bridge	Wood Structure
16	Pan Abode bridge	Wood Structure
17	Pan Abode fuel tank	Sheltered Pad
18	Pan Abode cabin	Building
19	Weir bridge	Wood Structure
20	Weir Pan Abode shack	Building
21	Weir storage area	Wood Structure
22	Weir cabin.	Building

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED
Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: White House
City; Little Port Walter AK
Phone No.: (907) 789-6000

Number of Occupants at this location: Varies 2 – 12 Age of Occupants Varies from 6 months to 75 years
Average: (@survey) ~ 38

Type of Building: (Circle appropriate response.)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other

The building is a residence with common areas for gathering the personnel at the campus for meetings and dining.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	(Colonial)
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other

If multiple units, how many? 2 residences 8 rooms for housing guest scientists and research teams.

If the property is commercial, what type?
Business types(s) Barracks to support scientific research teams.

Does it include residences (i.e., multi-use)? (Y) / N If yes, how many? 2 - Specifics are above.

Other characteristics:
Number of floors: 3 Building age: 77 years
Is the building insulated? (Y) / N How airtight? Tight / (Average) / Not Tight

Have occupants noticed chemical odors in the building? Y / (N)
If yes, please describe:

2. AIRFLOW
Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Airflow between the floors is natural convection currents. There are no ventilation systems in the building. Heat is baseboard electric and hot water radiators. Smoke rose slowly (<0.5 feet per second) in the stairwell between floors with the warm air from the first floor.

Airflow in building near suspected source

There is no evidence of intrusion at this time. The only penetration of the slab is the toilet discharge on the first floor in the northwest corner. That bathroom is about 6' by 8' It contains a commode and pantry shelves. It also has a window for ventilation. The room door is left open when unoccupied and window ventilated when in use.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat while exhausting

odors from food and people living in a communal area.

Infiltration into air ducts
There are no air ducts present.

3. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply.)

a. Above-grade construction:

wood frame | log
(concrete) | brick

constructed on pilings with open air space | constructed on pilings with enclosed air space

b. Basement type:	full	crawlspace	(slab-on-grade)	other
c. Basement floor:	concrete	dirt	stone	other
d. Basement floor:	unsealed	sealed	sealed with	
e. Foundation walls:	poured	block	stone	other
f. Foundation walls:	unsealed	sealed	sealed with	
g. The basement is:	wet	damp	dry	
h. The basement is:	finished	unfinished	partially finished	
i. Sump present?	Y / (N)			
j. Water in sump?	Y / N / (not applicable)			

Basement or lowest level depth below grade: No below grade structures – slab foundation. ____(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
The only identified breach in the slab is the 2¼ inch opening for the toilet effluent. All other entry points are above ground.

4. HEATING, VENTING, and AIR CONDITIONING (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation	Heat pump	(Hot water baseboard)	
Space heaters	Stream radiation	Radiant floor	
(Electric baseboard)	Wood stove	Outdoor wood boiler	Other_____

The primary type of fuel used is:

Natural gas	(Fuel oil)	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: #2Diesel fuel

Boiler/furnace is located in:

Basement Outdoors (Main floor) Other _____

Do any of the heating appliances have cold-air intakes? **Y / N**

Type of air conditioning or ventilation used in this building:

Central air	Window units	Open windows	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / N

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time | Occasionally | Seldom | Almost never

Level	General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).
Basement	There is no basement
1st Floor	Communal kitchen dining area, office space with computers, laundry, pantries and storage areas.
2nd Floor	Two communal rooms and a residence with kitchen.
3rd Floor	Sleeping quarters.

6. WATER AND SEWAGE

Water supply:

Public water	Drilled well	Driven well	Dug well	Other	Sashin Creek

Sewage disposal:

Public sewer	Septic tank	Leach field	Dry well	Other	Little Port Walter Bay

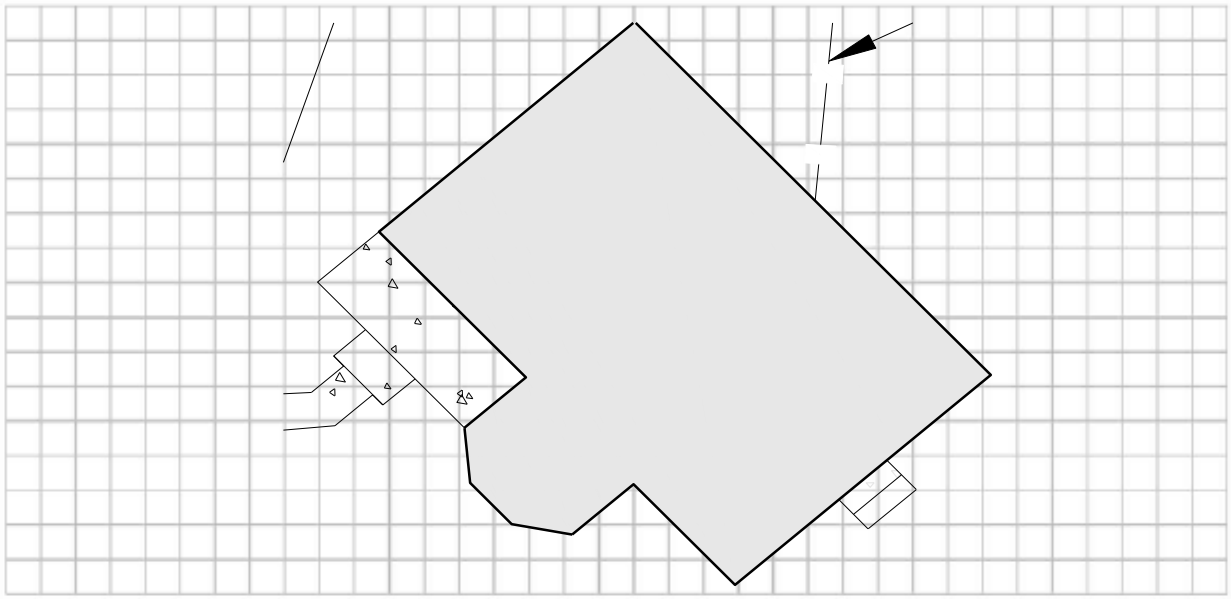
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

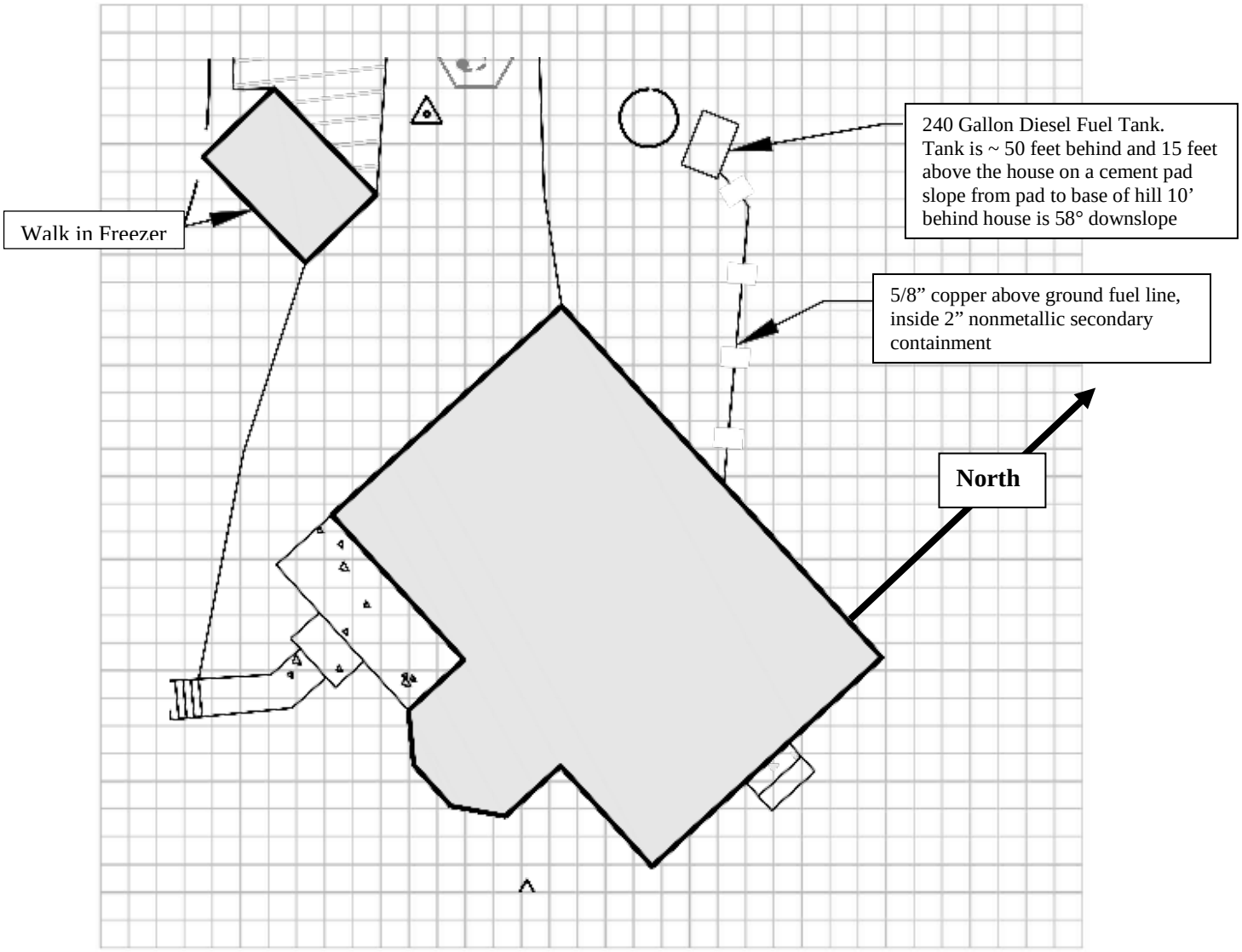
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	Y / (N)	
Where and type		
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	(Y) / N	
If yes, where is it vented?	Outdoors through the South face of the building	
Is there a bathroom exhaust fan?	(Y) / N	2
If yes, where is it vented	Both through the west wall one at the roofline one lower	
Is there a clothes dryer?	(Y) / N	
If yes, is it vented outside?	(Y) / N	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	Y / (N)	
If yes, please describe		

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? All solvents contained in the chemical inventory can migrate into the communal residence Maintenance mechanics are in contact with the petroleum solvents and scientists are in contact with the alcohols and formalin solutions.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)
Yes, use dry cleaning infrequently (monthly or less) Unknown
Yes, work at a dry cleaning services

2. **PRODUCT INVENTORY FORM** (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
Kitchen Bathrooms Bedrooms	Consumer Products in Consumer Use.		Used			

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Wood / Metal Shop

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of people at this location: Varies 1 – 4 Age of Occupants Varies from 20 to 75 years
Average: (@survey) ~ 38

Type of Building: (Circle appropriate response.)

Residential	School	Commercial/Multi-use
(Industrial)	Church	Other

The building houses the tools used for working with wood and metals to maintain the campus and assist the scientists by building unique rigging to support the experiments.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many?

If the property is commercial, what type?
Business types(s) Construction shops to support scientific research teams.

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many?

Other characteristics:

Number of floors: 1 Building age: 77 years
Is the building insulated? (Y) / N How airtight? Tight / (Average) / Not Tight

Have occupants noticed chemical odors in the building? Y / (N)
If yes, please describe:

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

One Story

Airflow in building near suspected source

There is no evidence of intrusion at this time. There are no apparent cracks in the slab floor.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat while exhausting dust and fume when construction is being performed in the shop.

Infiltration into air ducts

There are no air ducts present.

3. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply.)

a. **Above-grade construction:**

wood frame — log
concrete — brick

constructed on pilings with open air space — constructed on pilings with enclosed air space

b. Basement type:	full	crawlspace	slab-on-grade	other_____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	unsealed	sealed	sealed with_____	
e. Foundation walls:	poured	block	stone	other _____
f. Foundation walls:	unsealed	sealed	sealed with _	
g. The basement is:	wet	damp	dry	
h. The basement is:	finished	unfinished	partially finished	
i. Sump present?	Y / N			
j. Water in sump?	Y / N / not applicable			

Basement or lowest level depth below grade: No below grade structures – slab foundation. ____(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
None

4. **HEATING, VENTING, and AIR CONDITIONING** (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation	Heat pump	Hot water baseboard	
Space heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other Electric Space Heaters elevated.

The primary type of fuel used is:

Natural gas	Fuel oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: None

Boiler/furnace is located in:

Basement Outdoors Main floor Other None

Do any of the heating appliances have cold-air intakes? **Y / N**

Type of air conditioning or ventilation used in this building:

Central air	Window units	Open windows	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / N

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time | Occasionally | Seldom | Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement
1st Floor	Wood and metal fabrication shops.
2nd Floor	
3rd Floor	

6. WATER AND SEWAGE

Water supply:					
Public water	Drilled well	Driven well	Dug well	Other	None
Sewage disposal:					
Public sewer	Septic tank	Leach field	Dry well	Other	None

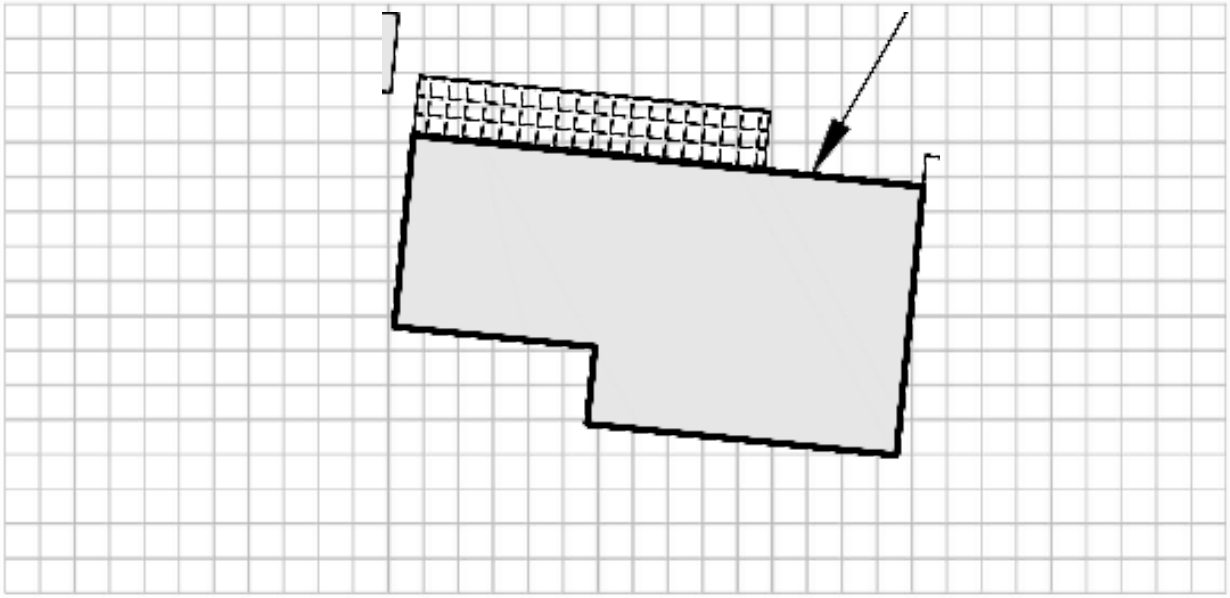
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

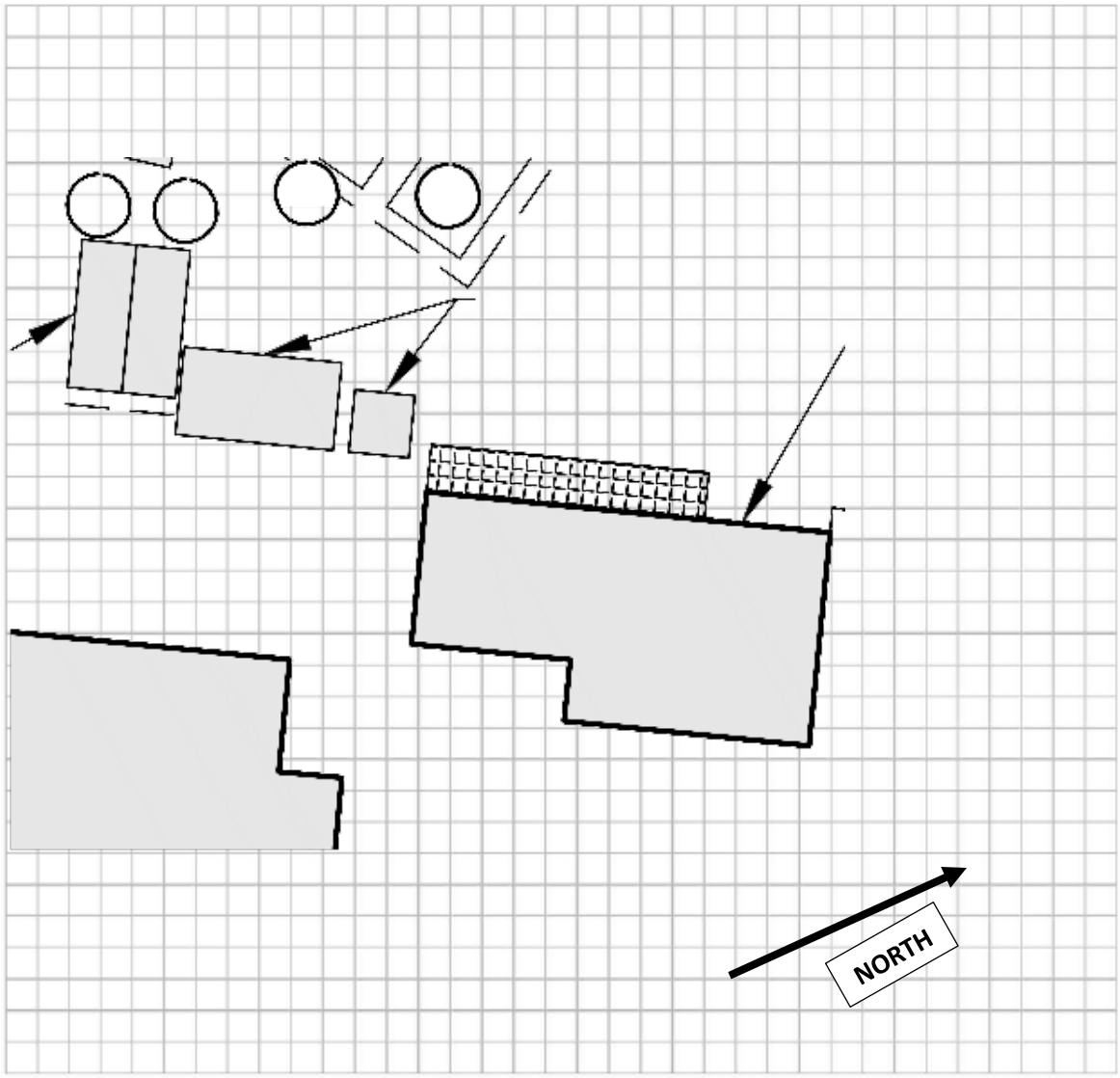
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	(Y) / N	
Where and type	Wood and Metal shops	
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / N	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	Y / (N)	
If yes, where is it vented		
Is there a clothes dryer?	Y / (N)	
If yes, is it vented outside?	Y / (N)	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	(Y) / N	
If yes, please describe	Solvents, paints, welding fume	

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? All solvents contained in the chemical inventory can migrate into the communal residence Maintenance mechanics are in contact with the petroleum solvents and scientists are in contact with the alcohols and formalin solutions.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)
Yes, use dry cleaning infrequently (monthly or less) Unknown
Yes, work at a dry cleaning services

2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
Warehouse: Stored Shop area: used	569 THREAD SEALANT HIGH STRENGTH HYDRAULIC SEALANT		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	WELD-ON P-70 Low VOC Primer for PVC and CPVC Plastic Pipe		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	KRYLON Matte Finish Spray Coating		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	RectorSeal Tru-Blu		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	WELD-ON 705 Low VOC Cements for PVC Plastic Pipe		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	X-PANDO PIPE JOINT COMPOUND		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	KRYLON Industrial QUIK-MARK Solvent-Based Inverted Marking Paint (Fluorescent), Orange		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	WD-40 Multi-Use Product Aerosol		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Delo 400 SAE 30, 40, 50		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Instant Cold Galvanize		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	GA-12 12oz GEL GLOSS AEROSOL		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Drislide Multi-Purpose Lubricant-Aerosol Can		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	WELD-ON 711 Low VOC PVC Plastic Pipe Cements		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area:	KRYLON ColorMaster with Covermax Technology Paint + Primer, Gloss White		**Used**	**See SDS**		**N**

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
used						
Warehouse: Stored Shop area: used	Famowood Wood Filler - Original Formula		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Rust Stain Remover		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Goof Off Super Glue Remover		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	PTOUCH 2X +SSPR 6PK FLAT MATTE CLEAR		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	KRYLON Industrial IRON GUARD DTM Water-Based Anti-Rust Acrylic Coating, Flat Black		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	SCOFIELD Formula One Liquid Dye Concentrate		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	THRUST QUICK STARTING FLUID		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	KRYLON ColorMaster with Covermax Technology Primer, Gray		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	ACE Premium Enamel, Almond		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Weld-On 700 Low VOC Cement for PVC Plastic Pipe		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	CORROSION BLOCK NON-FLAMMABLE AEROSOL		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Foam-It Part B		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	BENJAMIN MOORE ARBORCOAT EXTERIOR OIL STAIN SEMI SOLID-TINT BASE		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Gasoila Soft Set		**Used**	**See SDS**		**N**
Warehouse: Stored	KRYLON High Heat, White		**Used**	**See SDS**		**N**

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BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
Shop area: used						
Warehouse: Stored Shop area: used	MITEE DARK THREAD CUTTING OIL		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	NAPA/CRC Battery Cleaner with Indicator		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	765-1674 NAPA ANTI-SEIZE LUBRICANT (PTX80078) 8 OZ.		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Mac's Premium Starting Fluid		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	765-1151 NAPA ANTI-SEIZE LUBRICANT (PTX80208) 16 OZ		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	NAPA Mac's Battery Terminal Protector		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Roberts 3000 Carpet and Felt-Back Vinyl Adhesive		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	22001 - Fogging Oil - Gold Eagle Fogging Oil		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	TYTAN Cleaner		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Ace Contact Cement		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	3M Marine Fiberglass Cleaner and Wax, P.N. 09009, 09010, 09010E, 09011		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	BRITE ZINC		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	LEAK LOCK		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Touch N Foam Pro Quick Cure Sealant Foam		**Used**	**See SDS**		**N**

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
Warehouse: Stored Shop area: used	BRUSHING LIQUID 333 CLEAR		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	STARBRITE LIQUID ELECTRICAL TAPE		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	Silicone Spray		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	PB Penetrating Catalyst (Aerosol)		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	OATEY PVC REGULAR CLEAR – LO-VOC FORMULA		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	OATEY PURPLE OR CLEAR PRIMER NSF LISTED		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	RectorSeal No. 5		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	RectorSeal No. 5 Special		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	3M Marine Premium Filler. PN: 46004 (pint); 46005 (quart); 46006 (gallon); 46003 (DMS); 46002 (6 fl. oz.) - KIT		**Used**	**See SDS**		**N**
Warehouse: Stored Shop area: used	3M High Power Brake Cleaner, P.N. 08880		**Used**	**See SDS**		**N**

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Warehouse Complex

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of people at this location: Varies 1 – 4 Age of Occupants Varies from 20 to 75 years
Average: (@survey) ~ 38

Type of Building: (Circle appropriate response.)

Residential	School	Commercial/Multi-use
Industrial	Church	Other

The building houses the equipment and supplies used to conduct missions and maintain infrastructure. The complex also contains two fish rearing facilities as well as a central electrical power junction room.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many?

If the property is commercial, what type?
Business types(s): Larval fish rearing, administration and logistics support. .

Does it include residences (i.e., multi-use)? Y / N If yes, how many?

Other characteristics:

Number of floors: 2 Building age: 37 years
Is the building insulated? Y / N How airtight? Tight / Average / Not Tight

Have occupants noticed chemical odors in the building? Y / N
If yes, please describe: Chemicals and solvents are used in this building.

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

The complex is two stories with four rooms on the first floor and six rooms on the second. There is one room on the second level accessible from the warehouse that is open to the first floor. Thermal circulation is the method of air circulation to the "pool" room. The other rooms upstairs are a completely different envelope and there is no circulation between floors. Entrance to the second floor envelope is through an exterior wall in inside a storage area that is uninsulated.

Airflow in building near suspected source

There is no evidence of intrusion at this time. There are no apparent cracks in the slab floor. Potential contaminant locations are > 20 feet from entrances and the nearest slab contact point.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat.

Infiltration into air ducts

There is an electric furnace inside a mechanical closet adjacent to the minor electronics repair area on the second floor, which is accessed from the exterior equipment storage area. All ductwork is galvanized round pipe at the furnace. Accessible ducts and joints show no evidence of leaking into or out of the ductwork. All grates have airflow reaching them.

3. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply.)

a. **Above-grade construction:**

(wood frame) concrete (Metal / steel) log brick

constructed on pilings with open air space — constructed on pilings with enclosed air space

b. Basement type:	full	crawlspace	(slab-on-grade)	other_____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	unsealed	sealed	sealed with_____	
e. Foundation walls:	poured	block	stone	other _____
f. Foundation walls:	unsealed	sealed	sealed with _	
g. The basement is:	wet	damp	dry	
h. The basement is:	finished	unfinished	partially finished	
i. Sump present?	Y (N)			
j. Water in sump?	Y / N (not applicable)			

Basement or lowest level depth below grade: No below grade structures – slab foundation. ____(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).

None

4. HEATING, VENTING, and AIR CONDITIONING (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

(Hot air circulation)	Heat pump	Hot water baseboard	
(Space heaters)	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other_____

The primary type of fuel used is:

Natural gas	Fuel oil	Kerosene
(Electric)	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: None

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Boiler/furnace is located in:

Basement Outdoors Main floor (Other) Second Floor furnace room

Do any of the heating appliances have cold-air intakes? **Y / N**

Type of air conditioning or ventilation used in this building:

Central air Window units (Open windows) None

Commercial HVAC Heat-recovery system Passive air system

Are there air distribution ducts present? Y / (N)

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / (N)

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement
1st Floor	Fish rearing experiments, Warehouse storage, Large mechanical repair area, and Electrical room
2nd Floor	Conference room, latrine, office space, minor (electronics) repair workspace. Recreation space (pool table)
3rd Floor	

6. WATER AND SEWAGE

Water supply:

Public water Drilled well Driven well Dug well (Other) Sashin Creek

Sewage disposal:

Public sewer Septic tank Leach field Dry well (Other) Little Port Walter Bay

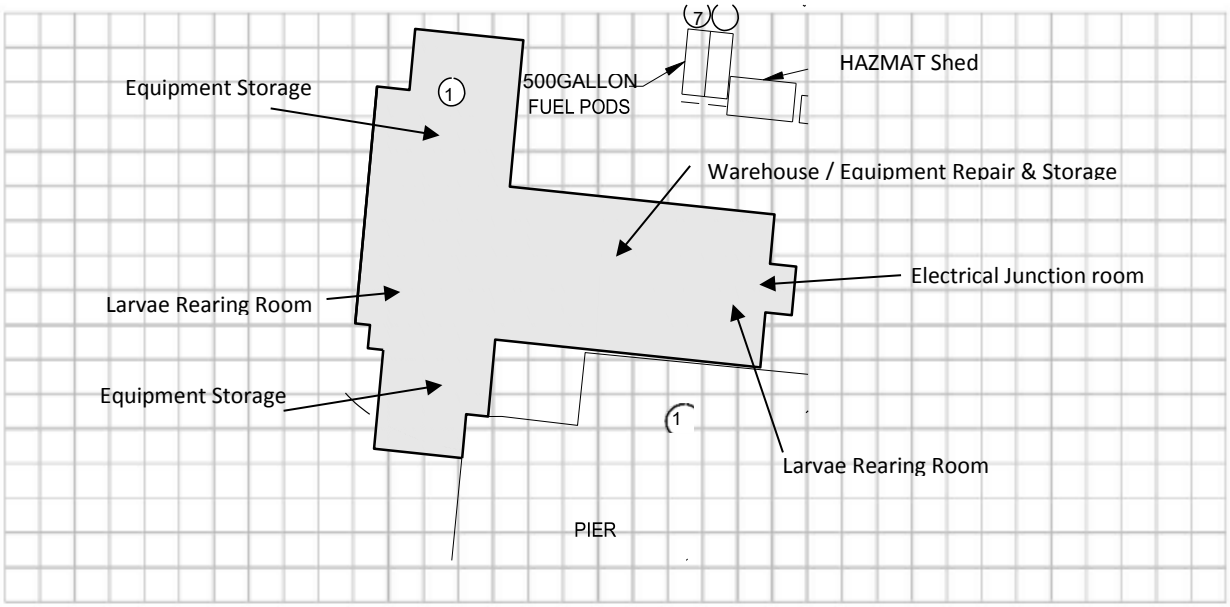
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

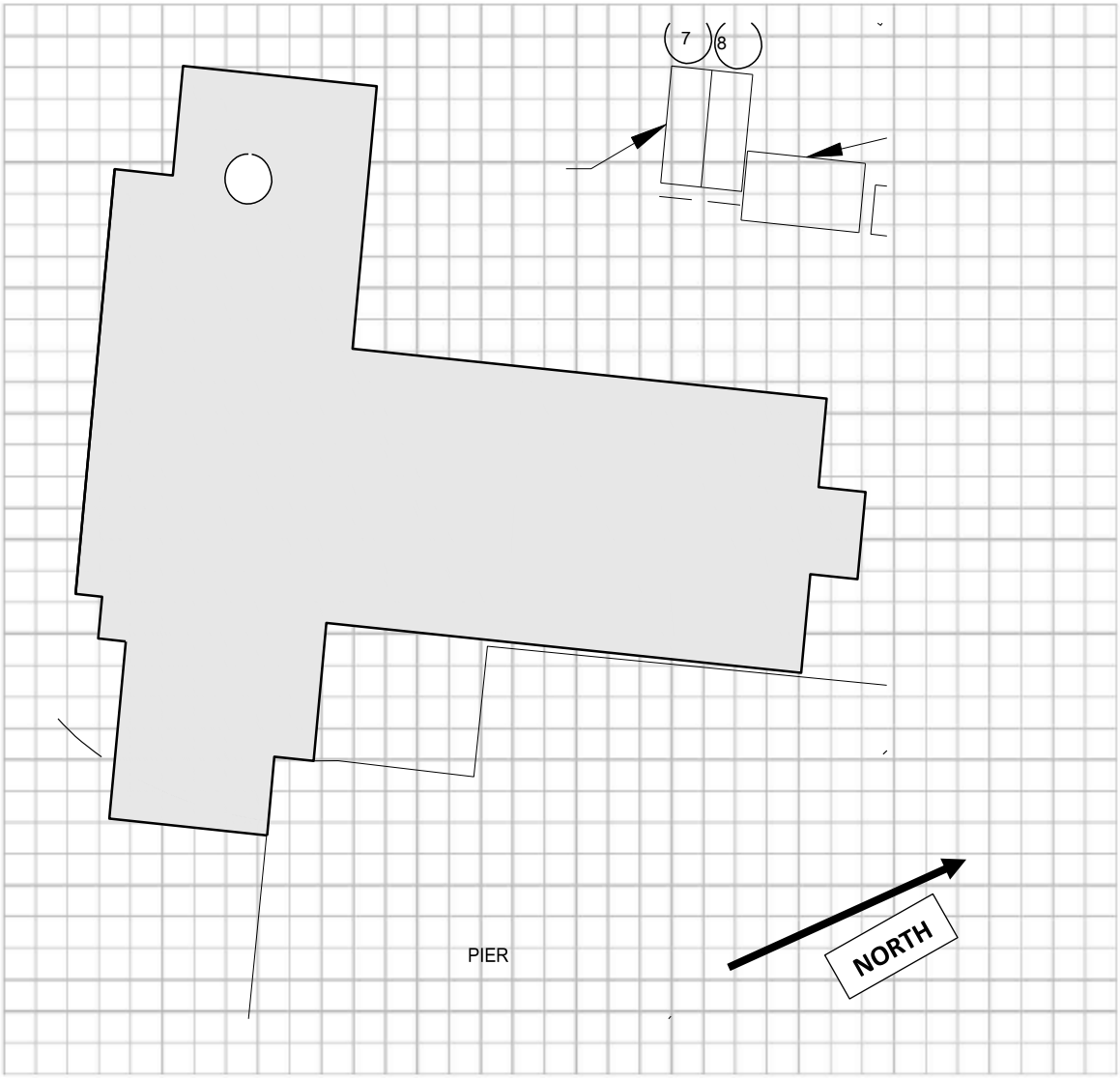
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	(Y) / N	
Does the garage have a separate heating unit?	Y / (N) / NA	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	(Y) / N /NA	
Please specify	Gator, excavator small boats and snow blowers	
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	(Y) / N	
Where and type	Maintenance in the large warehouse bay and electronics in the second repair area.	
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	(Y) / N	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	(Y) / N	
If yes, where is it vented		
Is there a clothes dryer?	(Y) / N	
If yes, is it vented outside?	(Y) / N	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	(Y) / N	
If yes, please describe	All solvents in the inventory are used in the shops	

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? Maintenance mechanics are in contact with the petroleum solvents and scientists are in contact with the alcohols and formalin solutions.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)

Yes, use dry cleaning infrequently (monthly or less) Unknown

Yes, work at a dry cleaning services

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2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
HAZMAT Shed	569 THREAD SEALANT HIGH STRENGTH HYDRAULIC SEALANT		Used	See SDS sheets.	N/A	N
HAZMAT Shed	WELD-ON P-70 Low VOC Primer for PVC and CPVC Plastic Pipe		Used	See SDS sheets.	N/A	N
HAZMAT Shed	KRYLON Matte Finish Spray Coating		Used	See SDS sheets.	N/A	N
HAZMAT Shed	RectorSeal Tru-Blu		Used	See SDS sheets.	N/A	N
HAZMAT Shed	UNBRANDED CONVENTIONAL GASOLINE		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Molecular Biology Grade Ethanol		Used	See SDS sheets.	N/A	N
HAZMAT Shed	WELD-ON 705 Low VOC Cements for PVC Plastic Pipe		Used	See SDS sheets.	N/A	N
HAZMAT Shed	X-PANDO PIPE JOINT COMPOUND		Used	See SDS sheets.	N/A	N
HAZMAT Shed	KRYLON Industrial QUIK-MARK Solvent-Based Inverted Marking Paint (Fluorescent), Orange		Used	See SDS sheets.	N/A	N
HAZMAT Shed	WD-40 Multi-Use Product Aerosol		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Delo 400 SAE 30, 40, 50		Used	See SDS sheets.	N/A	N
HAZMAT Shed	DIESEL FUEL		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Instant Cold Galvanize		Used	See SDS sheets.	N/A	N
HAZMAT Shed	GA-12 12oz GEL GLOSS AEROSOL		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Drislide Multi-Purpose Lubricant-Aerosol Can		Used	See SDS sheets.	N/A	N
HAZMAT Shed	WELD-ON 711 Low VOC PVC Plastic Pipe Cements		Used	See SDS sheets.	N/A	N
HAZMAT Shed	KRYLON ColorMaster with Covermax Technology Paint + Primer, Gloss White		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Famowood Wood Filler - Original Formula		Used	See SDS sheets.	N/A	N
HAZMAT Shed	22206 - STABIL Fuel Stabilizer		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Rust Stain Remover		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Goof Off Super Glue Remover		Used	See SDS sheets.	N/A	N
HAZMAT Shed	PTOUCH 2X +SSPR 6PK FLAT MATTE CLEAR		Used	See SDS sheets.	N/A	N
HAZMAT Shed	KRYLON Industrial IRON GUARD DTM Water-Based Anti-Rust Acrylic Coating, Flat Black		Used	See SDS sheets.	N/A	N
HAZMAT Shed	SCOFIELD Formula One Liquid Dye Concentrate		Used	See SDS sheets.	N/A	N
HAZMAT Shed	THRUST QUICK STARTING FLUID		Used	See SDS sheets.	N/A	N

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
HAZMAT Shed	KRYLON ColorMaster with Covermax Technology Primer, Gray		Used	See SDS sheets.	N/A	N
HAZMAT Shed	ACE Premium Enamel, Almond		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Weld-On 700 Low VOC Cement for PVC Plastic Pipe		Used	See SDS sheets.	N/A	N
HAZMAT Shed	CORROSION BLOCK NON-FLAMMABLE AEROSOL		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Foam-It Part B		Used	See SDS sheets.	N/A	N
HAZMAT Shed	BENJAMIN MOORE ARBORCOAT EXTERIOR OIL STAIN SEMI SOLID-TINT BASE		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Gasoila Soft Set		Used	See SDS sheets.	N/A	N
HAZMAT Shed	KRYLON High Heat, White		Used	See SDS sheets.	N/A	N
HAZMAT Shed	MITEE DARK THREAD CUTTING OIL		Used	See SDS sheets.	N/A	N
HAZMAT Shed	NAPA/CRC Battery Cleaner with Indicator		Used	See SDS sheets.	N/A	N
HAZMAT Shed	765-1674 NAPA ANTI-SEIZE LUBRICANT (PTX80078) 8 OZ.		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Air Tool Lubricant		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Mac's Premium Starting Fluid		Used	See SDS sheets.	N/A	N
HAZMAT Shed	765-1151 NAPA ANTI-SEIZE LUBRICANT (PTX80208) 16 OZ		Used	See SDS sheets.	N/A	N
HAZMAT Shed	NAPA Mac's Battery Terminal Protector		Used	See SDS sheets.	N/A	N
HAZMAT Shed	RONSONOL LIGHTER FUEL		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Roberts 3000 Carpet and Felt-Back Vinyl Adhesive		Used	See SDS sheets.	N/A	N
HAZMAT Shed	22001 - Fogging Oil - Gold Eagle Fogging Oil		Used	See SDS sheets.	N/A	N
HAZMAT Shed	TYTAN Cleaner		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Ace Contact Cement		Used	See SDS sheets.	N/A	N
HAZMAT Shed	3M Marine Fiberglass Cleaner and Wax, P.N. 09009, 09010, 09010E, 09011		Used	See SDS sheets.	N/A	N
HAZMAT Shed	BRITE ZINC		Used	See SDS sheets.	N/A	N
HAZMAT Shed	LEAK LOCK		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Touch N Foam Pro Quick Cure Sealant Foam		Used	See SDS sheets.	N/A	N
HAZMAT Shed	BRUSHING LIQUID 333 CLEAR		Used	See SDS sheets.	N/A	N
HAZMAT Shed	STARBRITE LIQUID ELECTRICAL TAPE		Used	See SDS sheets.	N/A	N
HAZMAT Shed	Silicone Spray		Used	See SDS sheets.	N/A	N
HAZMAT Shed	PB Penetrating Catalyst (Aerosol)		Used	See SDS sheets.	N/A	N

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Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
HAZMAT Shed	OATEY PVC REGULAR CLEAR – LO-VOC FORMULA		Used	See SDS sheets.	N/A	N
HAZMAT Shed	OATEY PURPLE OR CLEAR PRIMER NSF LISTED		Used	See SDS sheets.	N/A	N
HAZMAT Shed	RectorSeal No. 5		Used	See SDS sheets.	N/A	N
HAZMAT Shed	RectorSeal No. 5 Special		Used	See SDS sheets.	N/A	N
HAZMAT Shed	3M Marine Premium Filler. PN: 46004 (pint); 46005 (quart); 46006 (gallon); 46003 (DMS); 46002 (6 fl. oz.) - KIT		Used	See SDS sheets.	N/A	N
HAZMAT Shed	3M High Power Brake Cleaner, P.N. 08880		Used	See SDS sheets.	N/A	N

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Dock (Tag & Feed) sheds

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of Occupants at this location: Varies 2 – 12 Age of Occupants Varies from 24 to 75 years
Average: (@survey) ~ 38

Type of Building: (Circle appropriate response.)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: Science Research

The buildings are laboratory shops where feed for maturing fish living in the fish pens outside the shops is prepared and stored. The shops also serve as a staging area for coordination the tagging of fish before they are released.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many? NA

If the property is commercial, what type?
Business types(s) Fisheries Aquaculture research

Does it include residences (i.e., multi-use)? Y / N If yes, how many? N/A.

Other characteristics:

Number of floors: 1 Building age: 27 years
Is the building insulated? Y / N How airtight? Tight / Average / Not Tight

Have occupants noticed chemical odors in the building? Y / N
If yes, please describe: Decay odors from fish, solvent (CLP) odors when solvents are in use

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Single floor

Airflow in building near suspected source

There is no evidence of intrusion at this time. These sheds are built on floating docks.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat while exhausting odors from working with fish.

Infiltration into air ducts

There are no air ducts present.

3. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply.)

a. Above-grade construction:

wood frame | log
concrete | brick
Steel / Metals

constructed on pilings with open air space | constructed on pilings with enclosed air space

b. Basement type:	full	crawlspace	slab-on-grade	other Water
c. Basement floor:	concrete	dirt	stone	other _
d. Basement floor:	unsealed	sealed	sealed with _	
e. Foundation walls:	poured	block	stone	other _
f. Foundation walls:	unsealed	sealed	sealed with _	
g. The basement is:	wet	damp	dry	
h. The basement is:	finished	unfinished	partially finished	
i. Sump present?	Y / N			
j. Water in sump?	Y / N / not applicable			

Basement or lowest level depth below grade: No below grade structures – floating foundation. _(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
The only entrance point is gaps in the floor and surrounding docks from Little Port Walter Bay. .

4. **HEATING, VENTING, and AIR CONDITIONING** (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation	Heat pump	Hot water baseboard	
Space heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other_____

The primary type of fuel used is:

Natural gas	Fuel oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: N/A

Boiler/furnace is located in:

Basement Outdoors Main floor Other _____

Do any of the heating appliances have cold-air intakes? **Y / N**

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

Type of air conditioning or ventilation used in this building:

Central air	Window units	(Open windows)	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / (N)

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / (N)

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement
1st Floor	Laboratory and maintenance spaces
2nd Floor	
3rd Floor	

6. WATER AND SEWAGE

Water supply:					
Public water	Drilled well	Driven well	Dug well	(Other)	None
Sewage disposal:					
Public sewer	Septic tank	Leach field	Dry well	(Other)	None

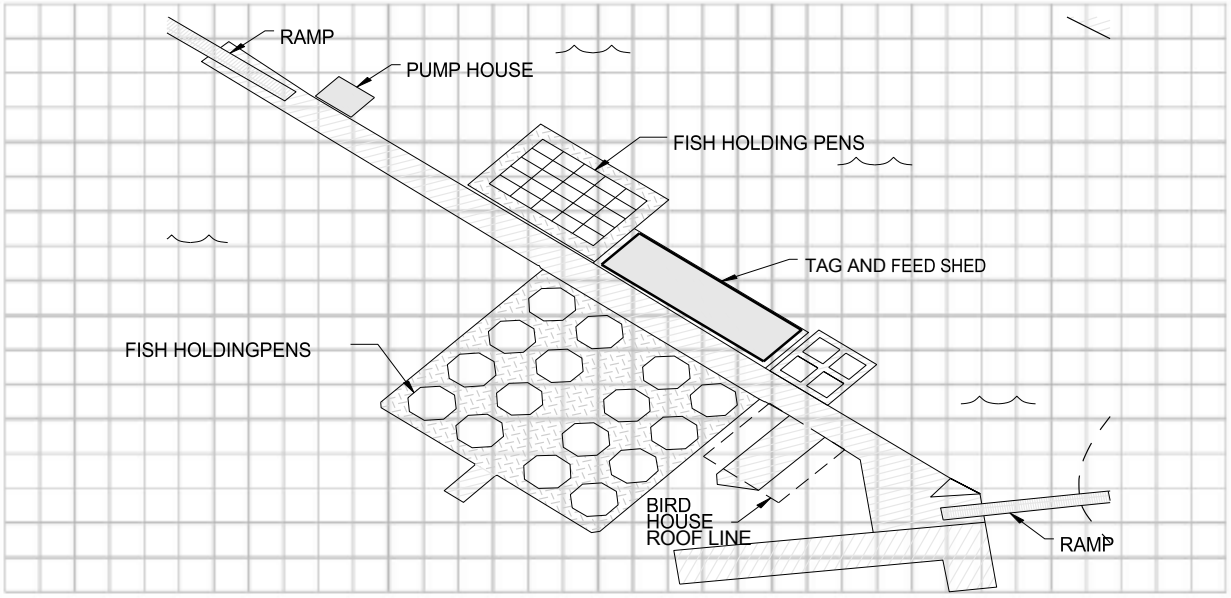
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

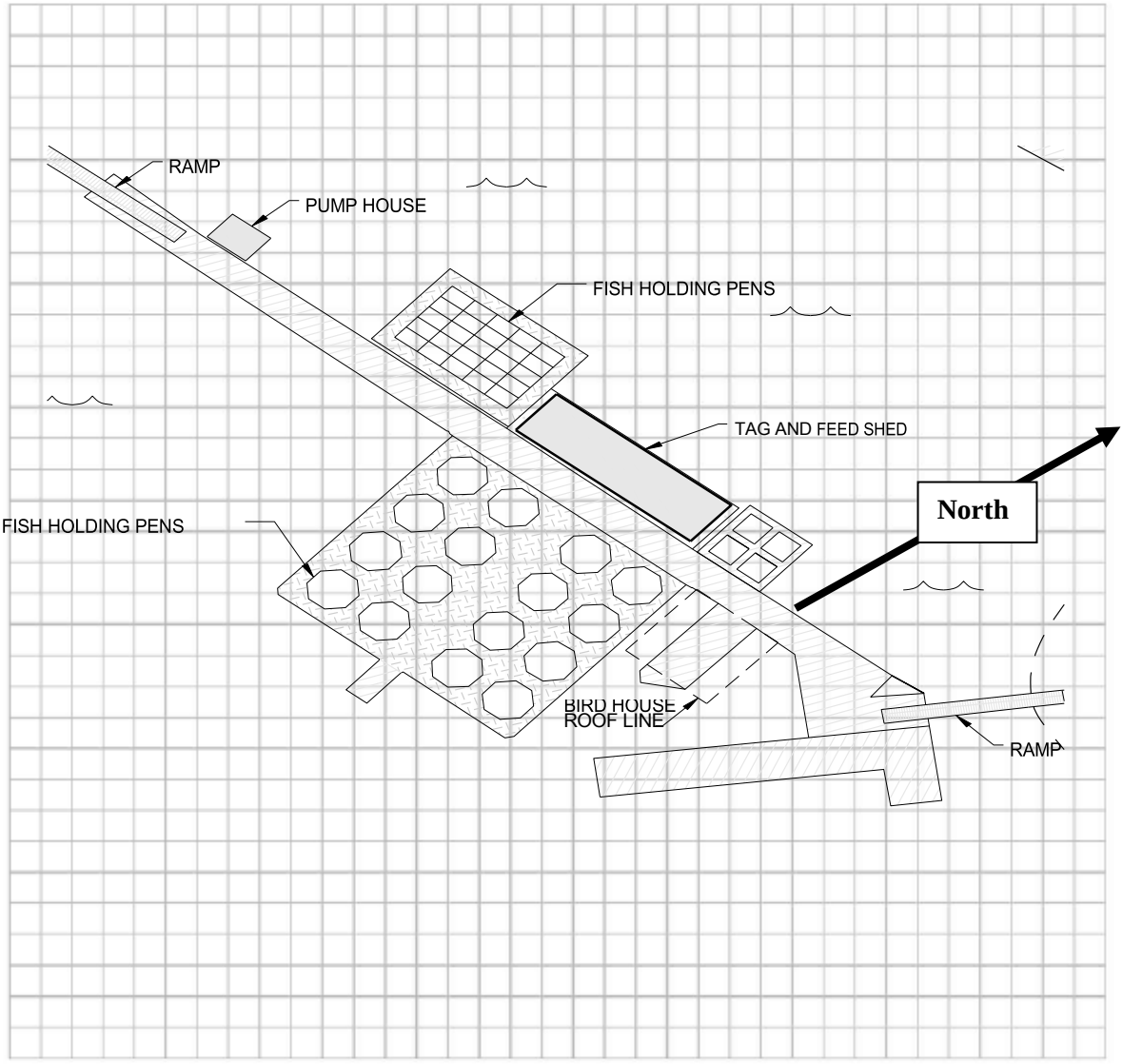
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	Y / (N)	
Where and type		
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	Y / (N)	
If yes, where is it vented		
Is there a clothes dryer?	Y / (N)	
If yes, is it vented outside?	Y / N	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	(Y) / N	
If yes, please describe	Alcohol, formalin solutions, lubricants.	

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? Scientists are in contact with the alcohols and formalin solutions.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)

Yes, use dry cleaning infrequently (monthly or less) Unknown

Yes, work at a dry cleaning services

2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
Lab	Molecular Biology Grade Ethanol		Used	See SDS		
Lab	Formaldehyde, 37 wt% solution, stabilized with methanol		Used	See SDS		
Mech Space	Drislide Multi-Purpose Lubricant-Aerosol Can		Used	See SDS		
Lab	Reagent Alcohol		Used	See SDS		
Lab	10% Neutral buffered formalin		Used	See SDS		
Lab	Tricaine Methanesulfonate		Used	See SDS		
Mech Space	Silicone Spray		Used	See SDS		
Mech Space	PB Penetrating Catalyst (Aerosol)		Used	See SDS		
Lab	Ethyl Alcohol 190 - 200 Proof USP/ACS/Grain/Synthetic/Kosher/Organic/ Cane/Wood		Used	See SDS		

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Cove Cabin

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of people at this location: Varies 1 – 4 Age of Occupants Varies from 12 Months to 75 years
Average: (@survey) ~ 30

Type of Building: (Circle appropriate response.)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other

The building houses the tools used for working with wood and metals to maintain the campus and assist the scientists by building unique rigging to support the experiments.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
(Raised Ranch)	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many?

If the property is commercial, what type?
Business types(s) Residence for caretaker and family.

Does it include residences (i.e., multi-use)? (Y) / N If yes, how many? 1

Other characteristics:

Number of floors: 1 Building age: 57 years
Is the building insulated? (Y) / N How airtight? Tight / (Average) / Not Tight

Have occupants noticed chemical odors in the building? Y / (N)
If yes, please describe:

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

One Story

Airflow in building near suspected source

There is no evidence of intrusion at this time. The nearest source is about 18 feet from the front door. The subfloor is at least two feet above the bedrock and loam.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat while exhausting dust and odor from the house.

Infiltration into air ducts
There are no air ducts present.

3. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply.)

a. **Above-grade construction:**

(wood frame) concrete log brick

(constructed on pilings with open air space) constructed on pilings with enclosed air space

b. Basement type: full crawlspace slab-on-grade (other) Structure elevated on pilings

c. Basement floor: concrete (dirt) stone (other) Water

d. Basement floor: unsealed sealed sealed with _____

e. Foundation walls: poured block stone other _____

f. Foundation walls: unsealed sealed sealed with _____

g. The basement is: wet damp dry

h. The basement is: finished unfinished partially finished

i. Sump present? Y / (N)

j. Water in sump? Y / N / (not applicable)

Basement or lowest level depth below grade: No below grade structures. _(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
None

4. HEATING, VENTING, and AIR CONDITIONING (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation Heat pump Hot water baseboard
Space heaters Stream radiation Radiant floor
Electric baseboard Wood stove Outdoor wood boiler (Other) Fuel stove

The primary type of fuel used is:

Natural gas (Fuel oil) Kerosene
Electric Propane Solar
Wood Coal

Domestic hot water tank is fueled by: Fuel Oil

Boiler/furnace is located in:

Basement Outdoors (Main floor) Other None

Do any of the heating appliances have cold-air intakes? **Y** / (**N**)

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

Type of air conditioning or ventilation used in this building:

Central air	Window units	Open windows	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.
There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / N
Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY
Is basement/lowest level occupied? Full-time Occasionally Seldom Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement
1st Floor	Living quarters for the caretaker and family.
2nd Floor	
3rd Floor	

6. WATER AND SEWAGE

Water supply:					
Public water	Drilled well	Driven well	Dug well	Other	Sashin Creek
Sewage disposal:					
Public sewer	Septic tank	Leach field	Dry well	Other	Little Port Walter Bay

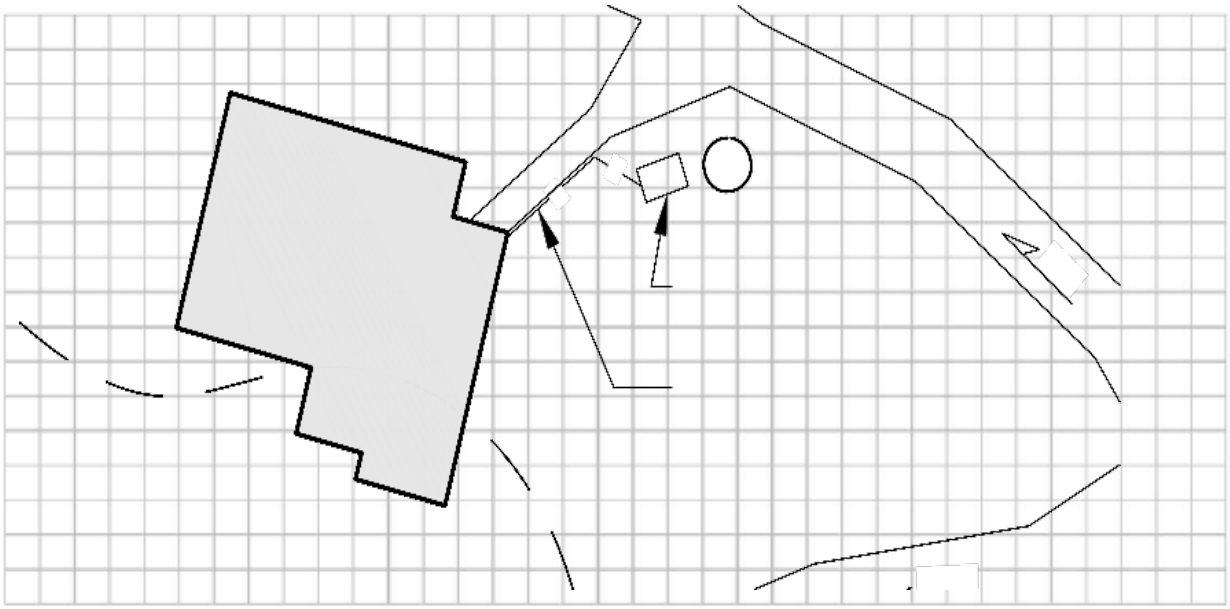
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

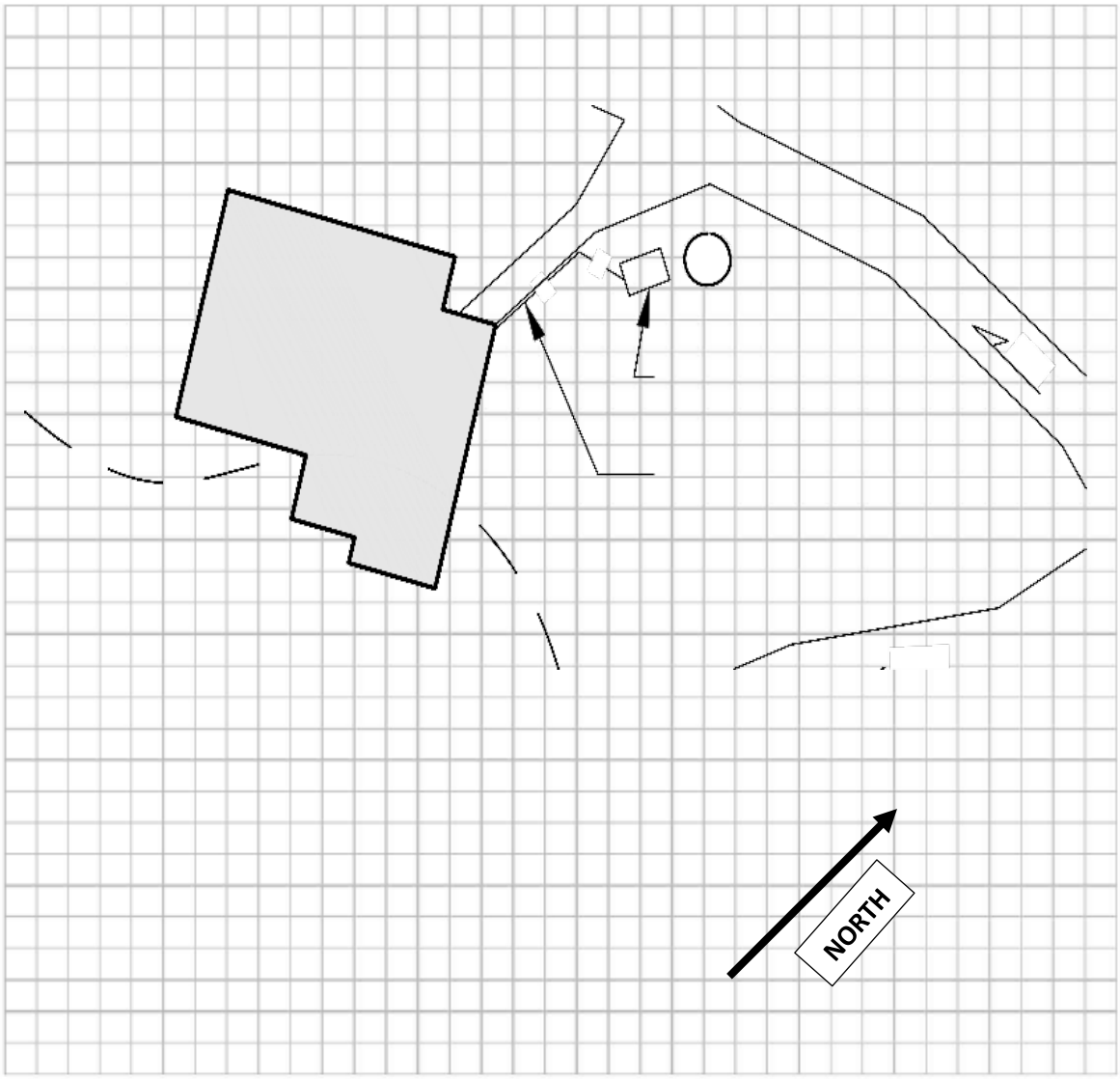
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	Y / (N)	
Where and type		
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	Y / (N)	
If yes, where is it vented		
Is there a clothes dryer?	Y / (N)	
If yes, is it vented outside?	Y / (N)	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	(Y) / N	
If yes, please describe	Consumer cleaning products used throughout the building	

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? All solvents contained in the chemical inventory can migrate into the residence. Maintenance mechanics are in contact with the petroleum solvents and assist with the Alcohol and formalin solutions. Residents also use household cleaners to maintain their living space.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)
Yes, use dry cleaning infrequently (monthly or less) Unknown
Yes, work at a dry cleaning services

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
	Consumer Products as consumer use.					

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Pan Abode Cabin

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of people at this location: Varies 1 – 4 Age of Occupants Varies from 6 months to 75 years
Average: (@survey) Unoccupied

Type of Building: (Circle appropriate response.)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other

If the property is residential, what type? (Circle appropriate response.)

(Ranch)	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	(Log Home)	Other_____

If multiple units, how many?

If the property is commercial, what type?
Business types(s): Residence for caretaker and family.

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many?

Other characteristics:

Number of floors: 1 Building age: 37 years
Is the building insulated? (Y) / N How airtight? Tight / (Average) / Not Tight

Have occupants noticed chemical odors in the building? (Y) / N
If yes, please describe: burned fuel odors from stove operation.

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Single floor dwelling

Airflow in building near suspected source

Suspect source is about 30 feet from the front door with limited migration due to soil composition and position of fuel relative to the bedrock layer.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat.

Infiltration into air ducts

No air ducts

3. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply.)

a. **Above-grade construction:**

wood frame | log
concrete | brick

constructed on pilings with open air space | constructed on pilings with enclosed air space

b. Basement type: full | crawlspace | slab-on-grade | other_____

c. Basement floor: concrete | dirt | stone | other _____

d. Basement floor: unsealed | sealed | sealed with_____

e. Foundation walls: poured | block | stone | other Plywood

f. Foundation walls: unsealed | sealed | sealed with

g. The basement is: wet | damp | dry

h. The basement is: finished | unfinished | partially finished

i. Sump present? Y / N

j. Water in sump? Y / N / not applicable

Basement or lowest level depth below grade: No below grade structures The Pan Abode Cabin was also constructed on pilings to raise it off the ground. Subsequent residents enclosed some of the space under the cabin to gain some more storage space for supplies and personal equipment. Approximately half of the cabin footprint is enclosed. .

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
None because of water action and enclosure the cabin is built above bedrock.

4. **HEATING, VENTING, and AIR CONDITIONING** (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation	Heat pump	Hot water baseboard	
Space heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other Fuel Oil Stove

The primary type of fuel used is:

Natural gas	Fuel oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: Fuel Oil

Boiler/furnace is located in:

Basement | Outdoors | Main floor | Other _____

Do any of the heating appliances have cold-air intakes? **Y / N**

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

Type of air conditioning or ventilation used in this building:

Central air	Window units	(Open windows)	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / (N)

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / (N)

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement – Enclosed space around onshore pilings.
1st Floor	Living quarters of the caretaker and family
2nd Floor	
3rd Floor	

6. WATER AND SEWAGE

Water supply:					
Public water	Drilled well	Driven well	Dug well	(Other)	Sashin Creek
Sewage disposal:					
Public sewer	Septic tank	Leach field	Dry well	(Other)	Little Port Walter Bay

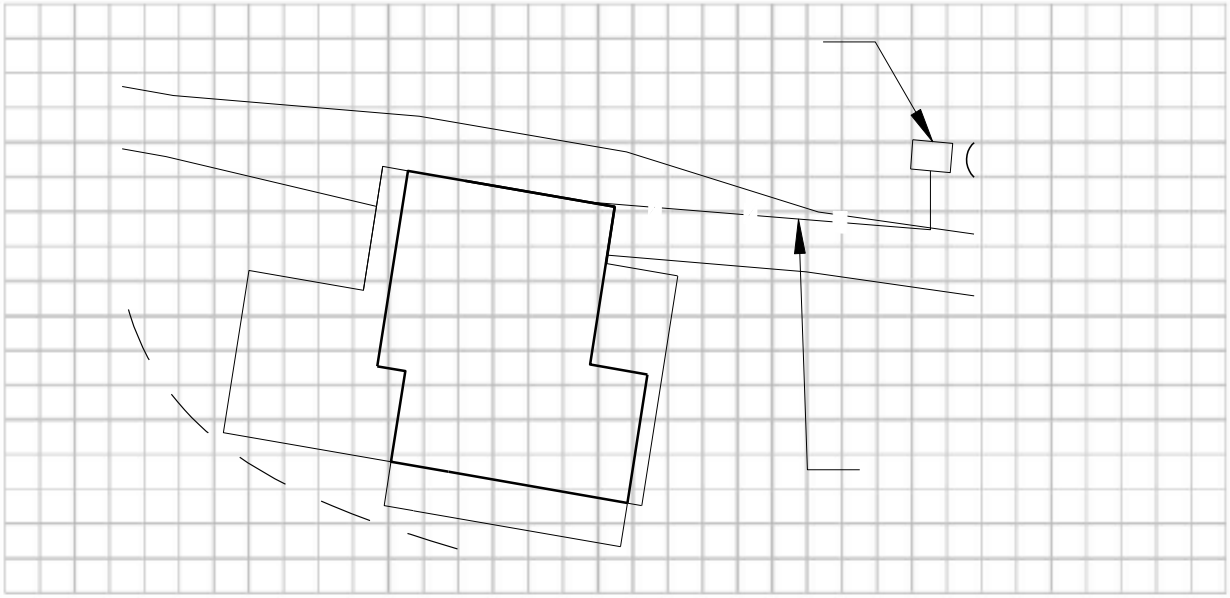
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

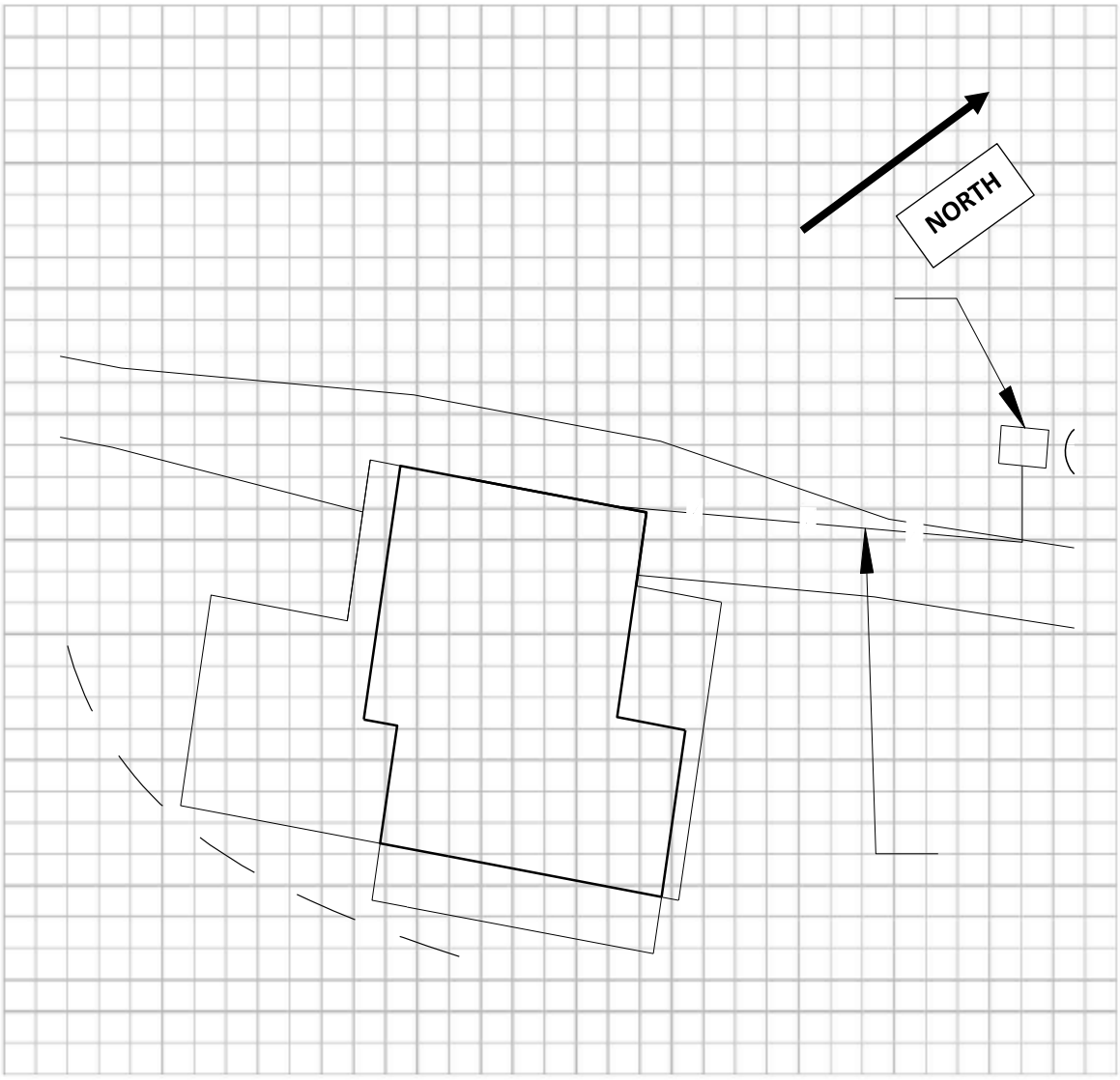
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	Y / (N)	
Where and type		
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	Y / (N)	
If yes, where is it vented		
Is there a clothes dryer?	(Y) / N	
If yes, is it vented outside?	(Y) / N	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	Y / (N)	
If yes, please describe		

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? All solvents contained in the chemical inventory can migrate into the communal residence Maintenance mechanics are in contact with the petroleum solvents and scientists are in contact with the alcohols and formalin solutions.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)
Yes, use dry cleaning infrequently (monthly or less) Unknown
Yes, work at a dry cleaning services

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
	Consumer Products as Consumer use		Used	See SDS sheets.	N/A	N

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Weir Pan Abode Shop

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of Occupants at this location: Varies 2 – 12 Age of Occupants Varies from 24 to 75 years
Average: (@survey) ~ 38

Type of Building: (Circle appropriate response.)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: Science Research

The buildings are laboratory shops where feed for maturing fish living in the fish pens outside the shops is prepared and stored. The shops also serve as a staging area for coordination the tagging of fish before they are released.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many? NA

If the property is commercial, what type?
Business types(s) Fisheries Aquaculture research

Does it include residences (i.e., multi-use)? Y / N If yes, how many? N/A.

Other characteristics:

Number of floors: 1 Building age: 32 years
Is the building insulated? Y / N How airtight? Tight / Average / Not Tight

Have occupants noticed chemical odors in the building? Y / N
If yes, please describe: Decay odors from fish, solvent (CLP) odors when solvents are in use

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Single floor

Airflow in building near suspected source

There is no evidence of intrusion at this time. This structure is built on pilings near the fish weir.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat while exhausting odors from working with fish.

Infiltration into air ducts

There are no air ducts present.

3. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply.)

a. Above-grade construction:

wood frame | log
concrete | brick
Steel / Metals

constructed on pilings with open air space | constructed on pilings with enclosed air space

b. Basement type:	full	crawlspace	slab-on-grade	other_
c. Basement floor:	concrete	dirt	stone	other _
d. Basement floor:	unsealed	sealed	sealed with_	
e. Foundation walls:	poured	block	stone	other _
f. Foundation walls:	unsealed	sealed	sealed with _	
g. The basement is:	wet	damp	dry	
h. The basement is:	finished	unfinished	partially finished	
i. Sump present?	Y / N			
j. Water in sump?	Y / N / not applicable			

Basement or lowest level depth below grade: No below grade structures – Pier foundation. _(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
The only entrance point is gaps in the floor which are at least 3 feet off the ground. .

4. **HEATING, VENTING, and AIR CONDITIONING** (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation	Heat pump	Hot water baseboard	
Space heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other_____

The primary type of fuel used is:

Natural gas	Fuel oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank is fueled by: N/A

Boiler/furnace is located in:

Basement Outdoors Main floor Other _____

Do any of the heating appliances have cold-air intakes? **Y / N**

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

Type of air conditioning or ventilation used in this building:

Central air	Window units	Open windows	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / N

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time | Occasionally | Seldom | Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement
1st Floor	Laboratory and maintenance spaces
2nd Floor	
3rd Floor	

6. WATER AND SEWAGE

Water supply:					
Public water	Drilled well	Driven well	Dug well	Other	None
Sewage disposal:					
Public sewer	Septic tank	Leach field	Dry well	Other	None

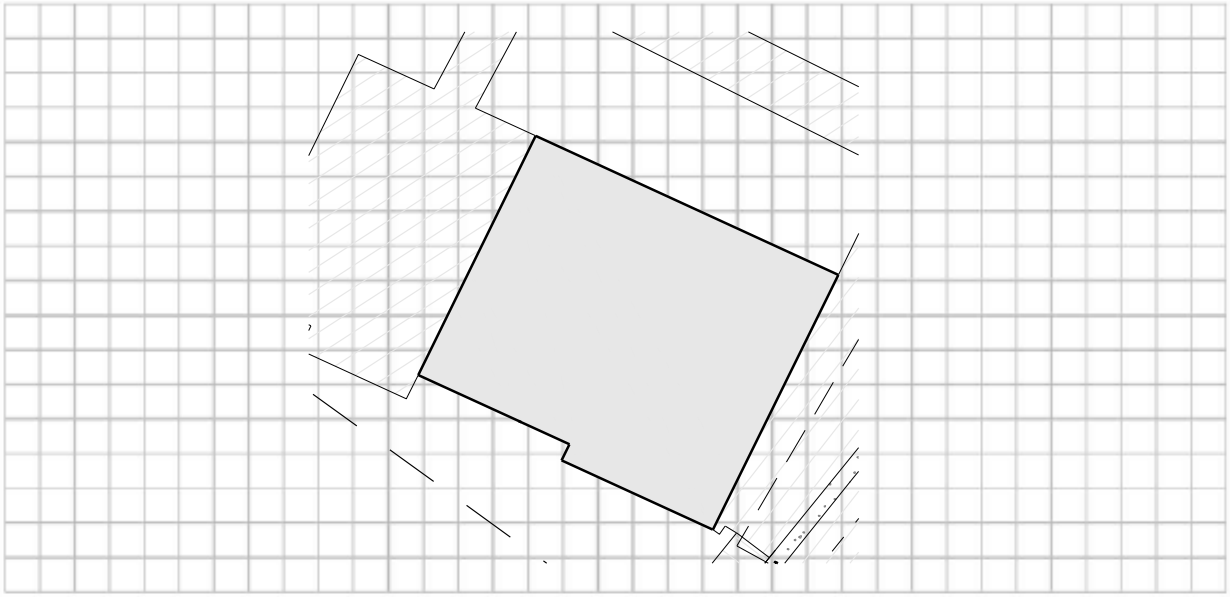
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

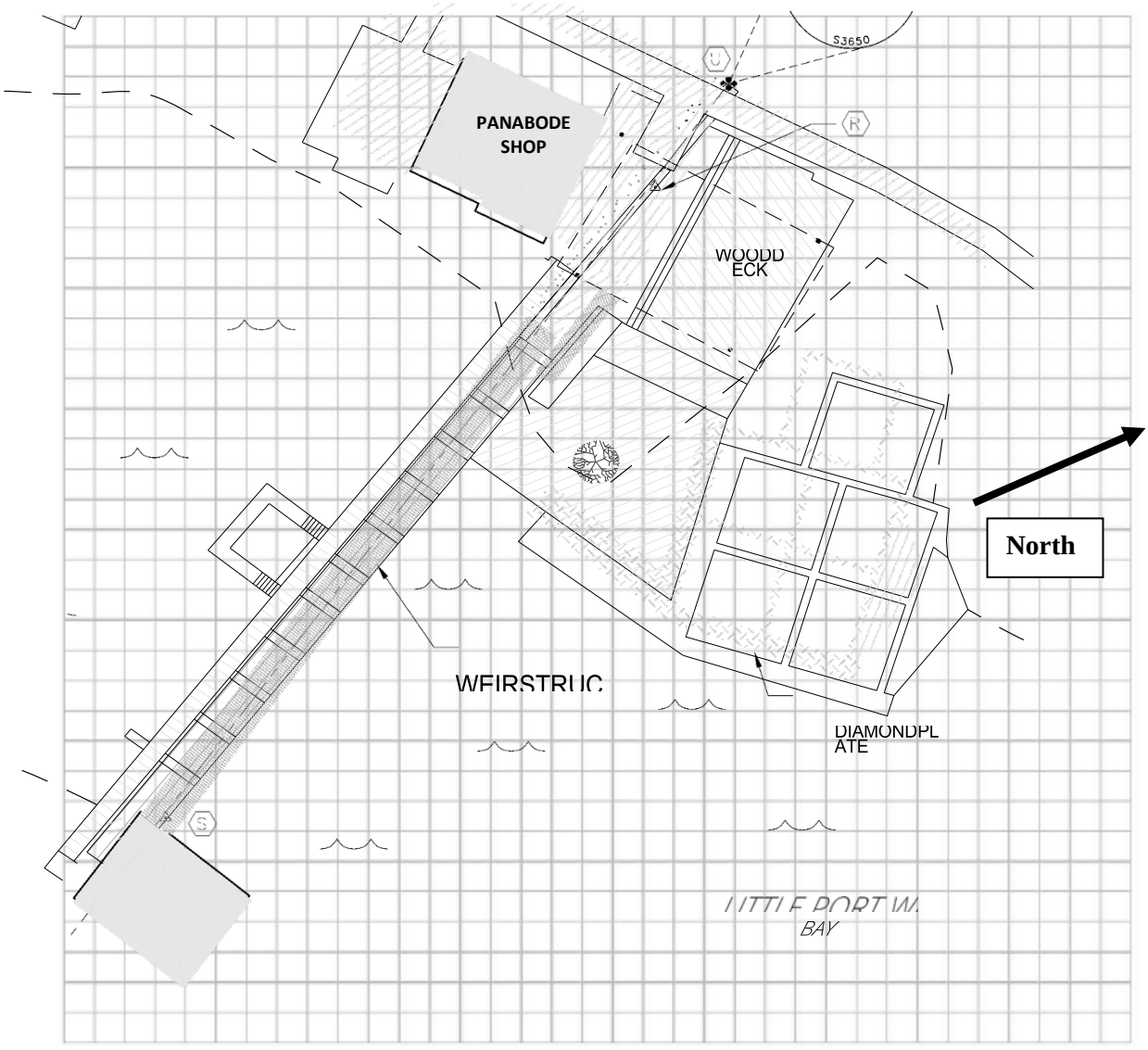
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	Y / (N)	
Where and type		
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	Y / (N)	
If yes, where is it vented		
Is there a clothes dryer?	Y / (N)	
If yes, is it vented outside?	Y / N	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	Y / (N)	
If yes, please describe		

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? Scientists are in contact with the alcohols and formalin solutions.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)

Yes, use dry cleaning infrequently (monthly or less) Unknown

Yes, work at a dry cleaning services

2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
	Molecular Biology Grade Ethanol					
	Formaldehyde, 37 wt% solution, stabilized with methanol					
	Reagent Alcohol					
	10% Neutral buffered formalin					
	Tricaine Methanesulfonate					
	Ethyl Alcohol 190 - 200 Proof USP/ACS/Grain/Synthetic/Kosher/Organic/ Cane/Wood					

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

OCCUPANT OR BUILDING PERSONNEL INTERVIEWED

Last Name: Weinlaeder First Name: Brad

1. BUILDING CHARACTERISTICS

Address: Weir Cabin

City; Little Port Walter AK

Phone No.: (907) 789-6000

Number of people at this location: Varies 1 – 4 Age of Occupants Varies from 24 to 75 years
Average: (@survey) unoccupied

Type of Building: (Circle appropriate response.)

(Residential)	School	Commercial/Multi-use
Industrial	Church	(Other) Science Research

This building was the first structure on the Little Port Walter site. It is a small cabin that is not used as a residence unless all other space is exhausted. It does not have a bathroom but it does have running water and drains. It is often used to supplement the counter space at the Weir Pan Abode shop next-door.

If the property is residential, what type? (Circle appropriate response.)

Ranch	2-Family	3-Family
(Raised Ranch)	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouse/Condo
Modular	Log Home	Other_____

If multiple units, how many?

If the property is commercial, what type?
Business types(s) Temporary residence used as temporary research space.

Does it include residences (i.e., multi-use)? (Y) / N If yes, how many? 1

Other characteristics:

Number of floors: 2 Building age: 79 years
Is the building insulated? (Y) / N How airtight? Tight / (Average) / Not Tight

Have occupants noticed chemical odors in the building? Y / (N)
If yes, please describe:

2. AIRFLOW

Use air current tubes, tracer smoke, or knowledge about the building to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Air flow between floors is convection flow. The airflow is turbulent and driven by the heat from the fuel stove.

Airflow in building near suspected source

There is no evidence of intrusion at this time. The subfloor is at least two feet above the bedrock and loam.

Outdoor air infiltration

Outdoor air enters through opened windows and doors. The envelope is tight to preserve heat while exhausting odor from the house.

Infiltration into air ducts
There are no air ducts present.

3. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply.)

a. **Above-grade construction:**

(wood frame) concrete log brick

(constructed on pilings with open air space) constructed on pilings with enclosed air space

b. Basement type: full crawlspace slab-on-grade (other) Structure elevated on pilings

c. Basement floor: concrete (dirt) stone (other) Water

d. Basement floor: unsealed sealed sealed with _____

e. Foundation walls: poured block stone other _____

f. Foundation walls: unsealed sealed sealed with _____

g. The basement is: wet damp dry

h. The basement is: finished unfinished partially finished

i. Sump present? Y / (N)

j. Water in sump? Y / N / (not applicable)

Basement or lowest level depth below grade: No below grade structures. _(feet).

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, and drains).
None

4. HEATING, VENTING, and AIR CONDITIONING (Circle all that apply.)

Type of heating system(s) used in this building: (Circle all that apply – not just primary.)

Hot air circulation Heat pump Hot water baseboard
Space heaters Stream radiation Radiant floor
Electric baseboard Wood stove Outdoor wood boiler (Other) Fuel stove

The primary type of fuel used is:

Natural gas (Fuel oil) Kerosene
Electric Propane Solar
Wood Coal

Domestic hot water tank is fueled by: Fuel Oil

Boiler/furnace is located in:

Basement Outdoors (Main floor) Other None

Do any of the heating appliances have cold-air intakes? **Y** / (**N**)

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION
BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE

Type of air conditioning or ventilation used in this building:

Central air	Window units	Open windows	None
Commercial HVAC	Heat-recovery system	Passive air system	

Are there air distribution ducts present? Y / N

Describe the ventilation system in the building, its condition where visible, and the tightness of duct joints. Indicate the location of air supply and exhaust points on the floor plan.

There is no ventilation system in this structure.

Is there a radon mitigation system for the building/structure? Y / N

Date of Installation

Is the system active or passive? Active/Passive

5. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost never

Level	**General Use of Each Floor (e.g., family room, bedroom, laundry, workshop, or storage).**
Basement	There is no basement
1st Floor	Living quarters and extra laboratory space.
2nd Floor	
3rd Floor	

6. WATER AND SEWAGE

Water supply:

Public water	Drilled well	Driven well	Dug well	Other	Sashin Creek

Sewage disposal:

Public sewer	Septic tank	Leach field	Dry well	Other	Sashin creek

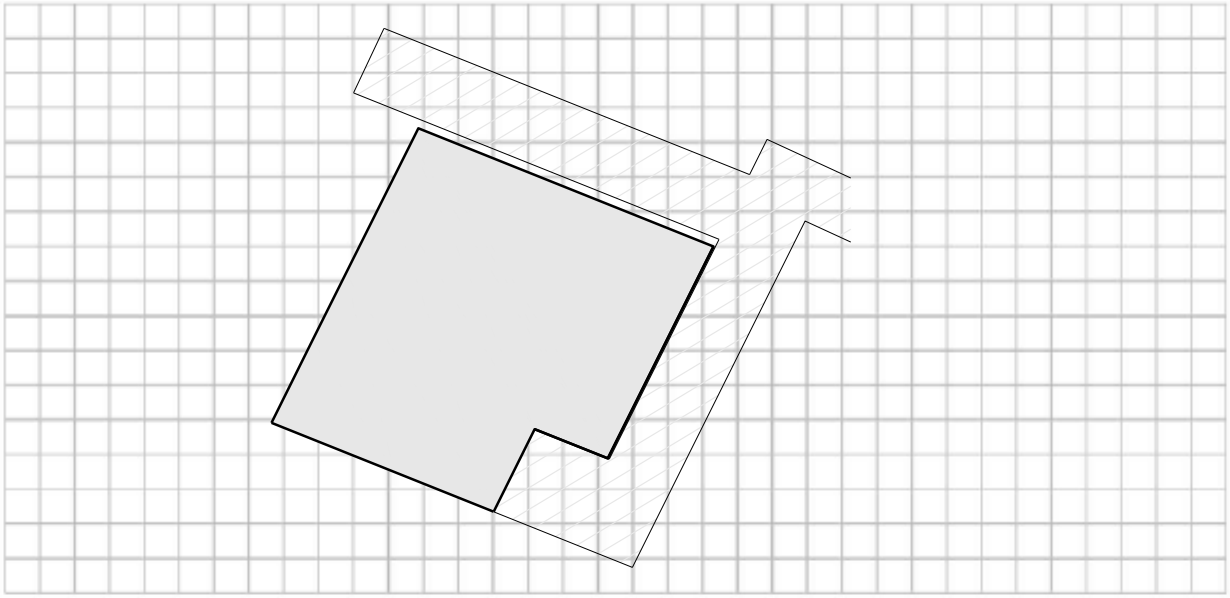
7. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note that.

Basement:

There is no basement

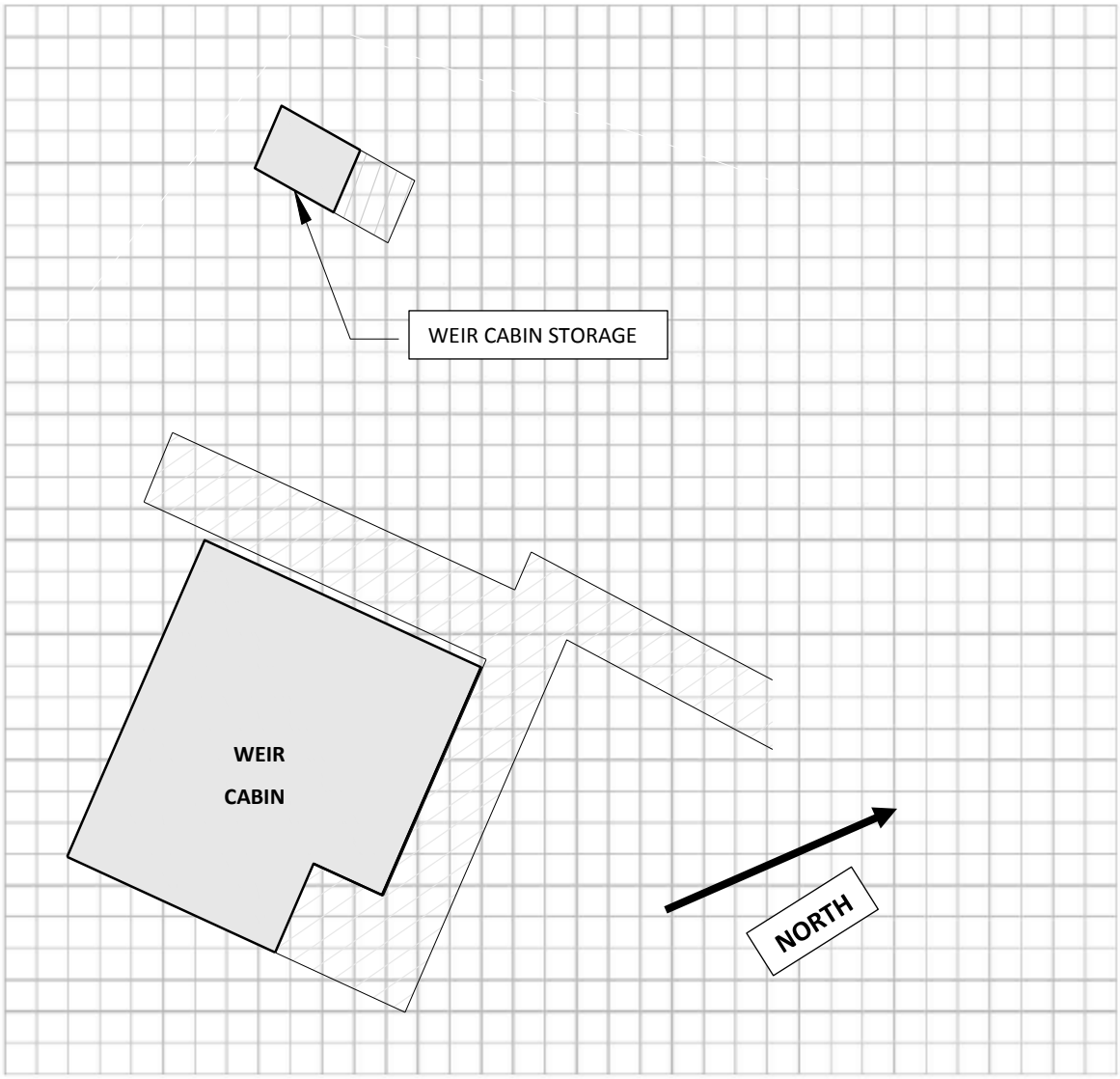
First Floor:



8. OUTDOOR PLOT

Draw a sketch of the area surrounding the building ~~being sampled~~. If applicable, provide information on spill locations, potential air contamination sources (e.g., industries, gas stations, repair shops, landfills, etc.), outdoor air sampling locations and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the location of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



SECTION II: INDOOR AIR SAMPLING QUESTIONNAIRE

This section should be completed during a pre-sampling walk-through. If indoor air sources of COCs are identified and removed, consider ventilating the building prior to sampling. However, ventilation and heating systems should be operating normally for 24 hours prior to sampling.

1. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

Is there an attached garage?	Y / (N)	
Does the garage have a separate heating unit?	Y / N / (NA)	
Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, ATV, or car)	Y / N / (NA)	
Please specify		
Has the building ever had a fire?	Y / (N)	
When?		
Is a kerosene or unvented gas space heater present?	Y / (N)	
Where?		
Is there a workshop or hobby/craft area?	Y / (N)	
Where and type		
Is there smoking in the building?	Y / (N)	
How frequently?		
Has painting/staining been done in the last six months?	Y / (N)	
Where and when?		
Is there new carpet, drapes or other textiles?	Y / (N)	
Where and when?		
Is there a kitchen exhaust fan?	Y / (N)	
If yes, where is it vented?		
Is there a bathroom exhaust fan?	Y / (N)	
If yes, where is it vented		
Is there a clothes dryer?	Y / (N)	
If yes, is it vented outside?	Y / (N)	
Are cleaning products, cosmetic products, or pesticides used that could interfere with indoor air sampling?	Y / (N)	
If yes, please describe		

Do any of the building occupants use solvents at work? (Y) / N

(For example, is the building used for chemical manufacturing or a laboratory, auto mechanic or auto body shop, painting shop, fuel oil delivery area, or do any of the occupants work as a boiler mechanic, pesticide applicator, or cosmetologist?)

If yes, what types of solvents are used? All solvents contained in the chemical inventory can migrate into the residence. Maintenance mechanics are in contact with the petroleum solvents and assist with the Alcohol and formalin solutions. Residents also use household cleaners to maintain their living space.

If yes, are his/her/their clothes washed at work? Y / (N)

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry cleaning regularly (weekly) (No)
Yes, use dry cleaning infrequently (monthly or less) Unknown
Yes, work at a dry cleaning services

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE (Chemical Inventory)

2. PRODUCT INVENTORY FORM (For use during building walk-through.)

List specific products found in the residence that have the potential to affect indoor air quality:

Location	Product Description	Site (units)	Condition	Chemical Ingredients	Field Instrument Reading (units)	Photo Y / N
	Consumer Products as consumer use.					
	Molecular Biology Grade Ethanol					
	Formaldehyde, 37 wt% solution, stabilized with methanol					
	Reagent Alcohol					
	10% Neutral buffered formalin					
	Tricaine Methanesulfonate					
	Ethyl Alcohol 190 - 200 Proof USP/ACS/Grain/Synthetic/Kosher/Organic/Cane/Wood					

[1] Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**.

[2] Photographs of the front and back of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

ALASKA DEPARTMENT OF ENVIRONMENAL CONSERVATION BUILDING INVENTORY AND INDOOR AIR SAMPLING QUESTIONNAIRE (Chemical Inventory)

Name	Manufacturer
569 THREAD SEALANT HIGH STRENGTH HYDRAULIC SEALANT	Henkel Corporation
WELD-ON P-70 Low VOC Primer for PVC and CPVC Plastic Pipe	IPS Corporation
KRYLON Matte Finish Spray Coating	KRYLON PRODUCTS
RectorSeal Tru-Blu	The RectorSeal Corporation
UNBRANDED CONVENTIONAL GASOLINE	Conoco Phillips
Molecular Biology Grade Ethanol	Thermo Fisher Scientific
Used Oil	Safety-Kleen Systems, Inc.
WELD-ON 705 Low VOC Cements for PVC Plastic Pipe	IPS Corporation
X-PANDO PIPE JOINT COMPOUND	X-PANDO PRODUCTS COMPANY
KRYLON Industrial QUIK-MARK Solvent-Based Inverted Marking Paint (Fluorescent), Orange	KRYLON PRODUCTS
WD-40 Multi-Use Product Aerosol	WD-40 Company
Formaldehyde, 37 wt% solution, stabilized with methanol	Thermo Fisher Scientific
Delo 400 SAE 30, 40, 50	Chevron Canada Limited
DIESEL FUEL	Petro-Canada
Instant Cold Galvanize	CRC Industries, Inc.
GA-12 12oz GEL GLOSS AEROSOL	T.R. INDUSTRIES
Drislide Multi-Purpose Lubricant-Aerosol Can	CORTEC CORPORATION
WELD-ON 711 Low VOC PVC Plastic Pipe Cements	IPS Corporation
KRYLON ColorMaster with Covermax Technology Paint + Primer, Gloss White	KRYLON PRODUCTS
Famowood Wood Filler - Original Formula	Eclectic Products, Inc.
22206 - STABIL Fuel Stabilizer	GOLD EAGLE COMPANY
Rust Stain Remover	Whink Products Company
Goof Off Super Glue Remover	W. M. Barr
PTOUCH 2X +SSPR 6PK FLAT MATTE CLEAR	Rust-Oleum Corporation
KRYLON Industrial IRON GUARD DTM Water-Based Anti-Rust Acrylic Coating, Flat Black	KRYLON PRODUCTS
SCOFIELD Formula One Liquid Dye Concentrate	L M SCOFIELD CO
Reagent Alcohol	MCC
THRUST QUICK STARTING FLUID	Radiator Specialty Company
KRYLON ColorMaster with Covermax Technology Primer, Gray	KRYLON PRODUCTS
ACE Premium Enamel, Almond	ACE HARDWARE CORPORATION
Weld-On 700 Low VOC Cement for PVC Plastic Pipe	IPS Corporation
CORROSION BLOCK NON-FLAMMABLE AEROSOL	LEAR CHEMICAL RESEARCH CORP.
10% Neutral buffered formalin	Thermo Fisher Scientific
Foam-It Part B	ITW Professional Brands
BENJAMIN MOORE ARBORCOAT EXTERIOR OIL STAIN SEMI SOLID-TINT BASE	BENJAMIN MOORE & COMPANY
Gasoila Soft Set	Federal Process Corporation
KRYLON High Heat, White	KRYLON PRODUCTS
MITEE DARK THREAD CUTTING OIL	DAP Products Inc.
NAPA/CRC Battery Cleaner with Indicator	CRC Industries, Inc.
765-1674 NAPA ANTI-SEIZE LUBRICANT (PTX80078) 8 OZ.	ITW Professional Brands
Air Tool Lubricant	The Blaster Corporation
Mac's Premium Starting Fluid	ASHLAND INC.
765-1151 NAPA ANTI-SEIZE LUBRICANT (PTX80208) 16 OZ	ITW Professional Brands

Name	Manufacturer
NAPA Mac's Battery Terminal Protector	THE SHERWIN-WILLIAMS COMPANY
RONSONOL LIGHTER FUEL	SOPUS Products
Roberts 3000 Carpet and Felt-Back Vinyl Adhesive	ROBERTS CONSOLIDATED INDUSTRIES INC
22001 - Fogging Oil - Gold Eagle Fogging Oil	GOLD EAGLE COMPANY
TYTAN Cleaner	Selena USA, Inc.
Tricaine Methanesulfonate	Western Chemical, Inc.
Ace Contact Cement	DAP Products Inc.
3M Marine Fiberglass Cleaner and Wax, P.N. 09009, 09010, 09010E, 09011	3M Corporation
ULTRATANE BUTANE FUEL	Master Appliance Corporation
BRITE ZINC	Weld-Aid Products
LEAK LOCK	Highside Chemicals
Touch N Foam Pro Quick Cure Sealant Foam	Convenience Products, Division of Clayton Corp.
BRUSHING LIQUID 333 CLEAR	Akzo Nobel
STARBRITE LIQUID ELECTRICAL TAPE	Star brite, Inc.
Silicone Spray	MCNETT CORPORATION
PB Penetrating Catalyst (Aerosol)	The Blaster Corporation
OATEY PVC REGULAR CLEAR – LO-VOC FORMULA	Oatey Company
OATEY PURPLE OR CLEAR PRIMER NSF LISTED	Oatey Company
RectorSeal No. 5	The RectorSeal Corporation
Ethyl Alcohol 190 - 200 Proof USP/ACS/Grain/Synthetic/Kosher/Organic/Cane/Wood	PHARMCO-AAPER
RectorSeal No. 5 Special	The RectorSeal Corporation
3M Marine Premium Filler. PN: 46004 (pint); 46005 (quart); 46006 (gallon); 46003 (DMS); 46002 (6 fl. oz.) - KIT	3M Corporation
3M High Power Brake Cleaner, P.N. 08880	3M Corporation

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APPENDIX F

FUEL LINE SNAG REPORT

Ahtna Environmental, Inc.
110 W. 38th Avenue. Suite 200B
Anchorage, AK 99503
www.aeiak.com
Phone: (907) 644-0760
Fax: (907) 272-6356

Design-Build • Construction • Environmental • Government Services

June 22, 2017

Louis Howard
ADEC-Division of Spill Prevention and Response
555 Cordova Street
2nd Floor
Anchorage, AK 99501-2617

Subject: Little Port Walter – Fuel Line Snag Report

Dear Mr. Howard:

Ahtna Environmental, Inc. (Ahtna) was onsite at Little Port Walter from Saturday, May 6, 2017 until Tuesday, May 9, 2017 to conduct an Environmental Liabilities Evaluation. On Sunday, May 7, 2017 while investigating a potential past fuel line spill near the generator shed and bulk fuel tanks, Ahtna snagged the current fuel line with the NOAA supplied CASE excavator. Immediately after the event, Ahtna worked with NOAA to shut off the valve and prevent additional fuel loss, and use absorbent pads to capture as much fuel as possible. It is estimated that less than 1/10 of a gallon of diesel was released. Ahtna then excavated approximately 7-cubic feet of material beneath the leak down to bedrock to remove any contaminated soil. The material is secured in a fish box wrapped in plastic and is currently stored onsite for future offsite disposal. The fuel line was repaired and the area backfilled. Onsite NOAA personnel were notified of the incident and inspected the repair. Additional details are presented in the remainder of this project.

Geology/Hydrology

The weather conditions on Sunday, May 7, 2017 were overcast with a continual moderate to heavy rainfall throughout the day. In support of the construction of the generator shed, the hill in the immediate vicinity was excavated after blasting to bedrock and the gravel used to level the area for the generator shed and bulk fuel tank storage area (Attachment 1, Figure 1). There is no soil between the bedrock and the gravel layer. Groundwater flows just below the gravel, 12-24-inches, along the surface of the bedrock from uphill (north) to downhill (south).

Utility Locate Procedure

Figures provided by NOAA were reviewed for potential locations of soil contamination and to support utility locate information. After arriving onsite via charter plane, Ahtna walked the entire site with NOAA field/maintenance staff locating all known utilities. The approximate locations of electrical, telecommunication, and fuel lines were noted by Ahtna before any field work commenced. The majority of utility lines are running within or alongside the gravel trails/paths throughout the site. The electrical panels were located within each structure and fuel line entrance/exist points were also noted (Attachment 1, Figure 2).

During the petroleum soil investigation, each structure's fuel tank and the entrance of the fuel line into the structures were located and inspected. The electrical panels within the structure were also located along with the approximate utility line locations provided by the onsite NOAA staff. The "snag" of the fuel line happened at the third structure of the day (area between workshops and generator shed), and the eighth (8^{th}) overall excavated area (Attachment 1, Figure 5).

Fuel Line Snag

Ahtna and NOAA's representatives conducted a tailgate health and safety meeting each morning prior to starting work activities. Topics discussed on Sunday included heavy equipment inspection checklist, safely working around heavy equipment, locating utilities and fuel lines, slip/trips/falls, potentially contaminated soil and water, and adverse weather conditions.

While excavating at the edge of the gravel roadway near the bulk fuel tanks, the tooth of the excavator caught the 1-inch interior diameter double walled diesel fuel line running to the generator shed. This took place approximately 22-feet north of the fuel tank outlets (Attachment 1, Figure 4). The spotter was able to signal the operator to stop prior to fully severing the line. The spotter inspected the kinked fuel line and determined it did not breach. The operator immediately followed the fuel line to the bulk fuel tanks and noticed a small leak (1-cm) in the flex fitting attaching the fuel line to the structure. The spotter was unable to see the leak because they were on the opposite side of the excavator bucket. The operator used his glove to reduce the flow of the leak. The kink of the fuel line occurred at 40-48-inches from the concrete pad (bulk fuel tank area). The fuel line was believed to run in the more direct path to the far NE corner of the generator shed.

Ahtna used a nearby snow shovel and placed it below the leak to collect any leaking fuel. Ahtna notified NOAA staff immediately and Ahtna used the spill kit (75 yards away) to absorb as much escaped fuel as possible while the NOAA staff shut off the inside valve from the fuel tank. Later the generator valve on the fuel line was closed creating a vacuum to trap the existing fuel inside the line.

After the release of additional fuel loss was eliminated, Ahtna used an empty wheelbarrow, two 5 gallon buckets, and shovels of varying blade widths to excavate the material and groundwater directly below the small leak. The material (gravel) was excavated straight down to bedrock, north (direction of groundwater flow) to bedrock, and south (direction towards generator shed, upstream) 2-feet. All excavated material was collected in the buckets and then placed in a wheel barrow. This excavated material was subsequently mixed/aired out to help release any volatiles.

The following day (Monday, May 8, 2017), the excavated material stored in the wheelbarrow was moved into a sealed fish box and secured with plastic. Both areas of the fuel line (kink and dripping flexible coupler) were re-inspected. The flexible coupler was removed and fuel was noticed inside the pipe within two inches of its top. This pipe was disconnected and drained an additional 3-feet back into the line with a rubber transfer hose, a snug metal plug was double hose clamped to the open end, and the entire array was suspended several feet higher than its previous location. A cap was also installed on the fuel take side. No diesel was observed in either of these procedures. The as-left conditions/repairs were shown to NOAA onsite maintenance staff (Attachment 1, Figures 9-12).

Ahtna offered to uncover the fuel line for future repairs before departure; this was declined due to potential safety trip hazards and weather considerations. Ahtna has staged the excavated material onsite and will incorporate it into future remediation work for eventual proper disposal. There were no replacement parts on hand and due to the remote location of the site, Ahtna is working with NOAA to purchase and ship replacement fuel line and parts associated with the leak to the site.

Due to the circumstances and potential hazards associated with the snag of the double walled fuel line, Ahtna implemented immediate measures to stop the leak, excavate contaminated material, and repair the impacted fuel supply system without direction by NOAA. The repair was inspected by NOAA who also provided a secure location for storing the impacted material for future disposal. Requesting parts in remote Alaska was not believed to be uncustomary. All actions were performed by Ahtna with the intent of doing the right and professional thing.

Attachment 1 shows additional detail photos associated with the snag and its repair.

Fuel Loss/Removed Material

The exterior pipe along the bulk fuel tank structure has a 1.5-inch exterior diameter pipe with a 1-inch interior diameter. There was up to 10 seconds of unobstructed fuel leak before a gloved hand was placed over the leak to reduce flow. Approximately 3-feet of vertical pipe lost fuel, it is anticipated that no more than 1/10 gallon of diesel fuel was released. Most of this fuel was contained. Approximately 7-cubic feet of material was removed.

Sample Collection

On Sunday, May 7, 2017, after the fuel line had been secured and excavated material safely stored, Ahtna's Environmental Sampler collected one sample from the excavated western sidewall [LPW17-SL-GSP-W-01]. This sample will be used to support the disposition of the contaminated soil removed from the area of the leak. The results are listed in the table below and indicate the following;

Analyte	Analytical Results (mg/kg)
Benzo[a]pyrene	.0029
Benzo[a]anthracene	.007
Benzo[b]fluoranthene	.013
Benzo[k]fluoranthene	.0047
Chrysene	.019
Dibenzo[a,h]anthracene	.0012
Indeno[1,2,3cd]pyrene	.004
DRO (Diesel Range Organics)	**9,000**
RRO (Residual Range Organics)	200

The following day, Monday, May 8, 2017, Ahtna's Environmental Sampler collected an additional 3 samples from the limits of excavation in locations shown in Attachment 2.

- LPW17-SL-GSP-leak01 was collected 2-feet west of the excavated material;
- LPW17-SL-GSP-leak02 was collected 3-feet north (upstream) of the excavated material; and

- LPW17-SL-GSP-leak03 was collected 2 feet south (downstream) of the excavated material.

One additional sample, LPW17-SL-GSP-leak04 was collected from outside of the impacted area, on the south side of the bulk fuel structure.

Analytical results are listed in the table below and the excerpt from the lab report is included as Attachment 3.

Sample ID	Analytes (mg/kg)					
	DRO	**RRO**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylene**
LPW17-SL-GSP-leak01	**750H**	47H	ND	.025	.093	.610
LPW17-SL-GSP-leak02	47	50	ND	ND	ND	ND
LPW17-SL-GSP-leak03	9.9	19	ND	ND	ND	ND
LPW17-SL-GSP-leak04	42	110	NA	NA	NA	NA
Cleanup Criteria	**260**	**9,700**	**0.022**	**6.7**	**0.13**	**1.5**

Notes:
DRO – Diesel Range Organics
mg/kg – milligram/kilogram
NA – Not Analyzed
ND – Non-Detect
RRO – Residual Range Organics
H- data qualifier for analysis out of hold time

Conclusions

The generator shed and bulk fuel tanks are built on approximately 1-2 feet of imported gravel placed directly on top of bedrock. The depth of gravel is dependent upon leveling of the bedrock in order to construct the structures. The utilities do not go in a straight line, instead they follow the curvature/depth of bedrock. Ahtna made every effort to clean up the unfortunate situation prior to leaving the site, and is still in communication with onsite NOAA staff to rectify the situation. The excavated soil is currently planned for transport and disposal in Juneau, pending finalization of logistics. Ahtna will submit the ADEC contaminated soil transport form for approval prior to moving the soil.

Sincerely,

Ahtna Environmental, Inc.

Vivian Tokar
Project Manager

Kathryn Cleveland
Assistant Project Manager/Field Team Lead

Attachments:

1. Photographic Log
2. Sample Locations
3. Analytical Results (pages 114-117, 126)

ATTACHMENT 1

PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG

Figure 1. Workshop and generator shed area: Blasted bedrock to build structures.

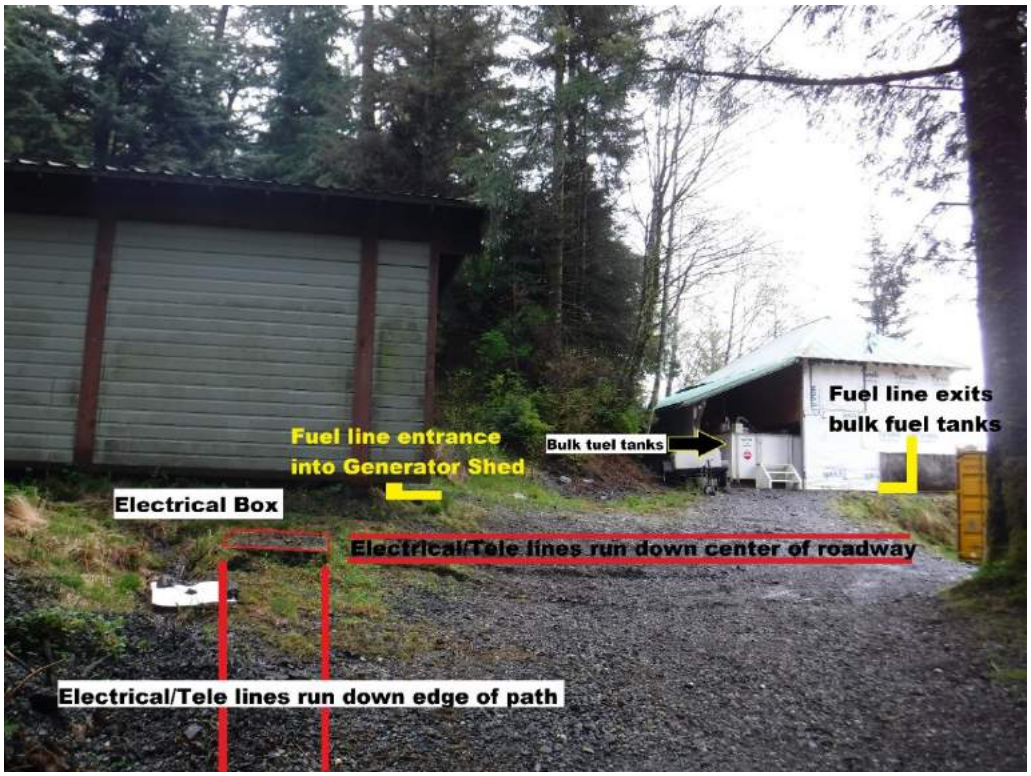


Figure 2. Workshop and generator shed area: Utility locations.

Figure 3. Workshop and generator shed area: Ahtna operator and spotter.

Figure 4. Workshop and generator shed area: Location of kink and leak.

Figure 5. Workshop and generator shed area: Kinked fuel line.

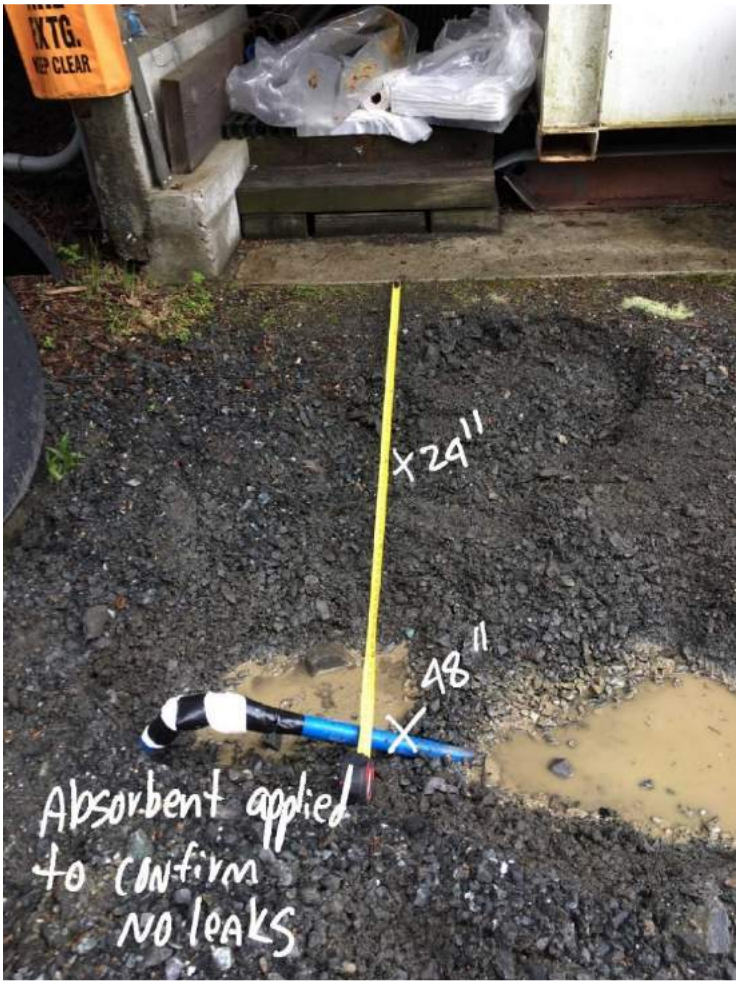


Figure 6. Workshop and generator shed area: Location of kinked fuel line.

Figure 7. Workshop and generator shed area: Location of leak.

Figure 8. Workshop and generator shed area: Flex fitting leak.

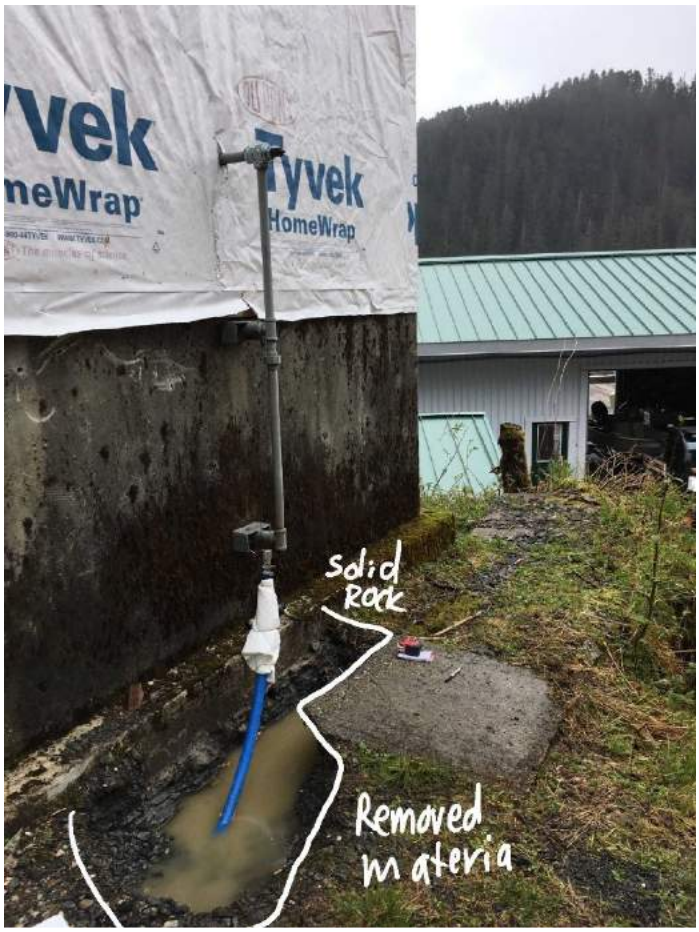


Figure 9. Workshop and generator shed area: Removed material.


Figure 10. Workshop and generator shed area: Removed material to bedrock.

Figure 9. Workshop and generator shed area: Ahtna repairs.

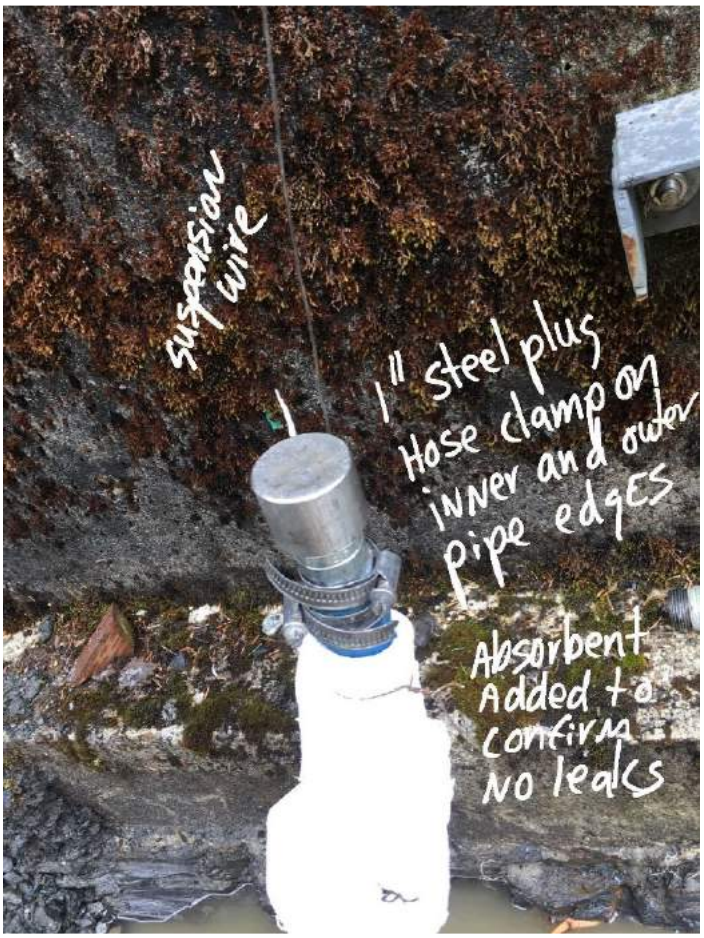


Figure 10. Workshop and generator shed area: Ahtna repairs.

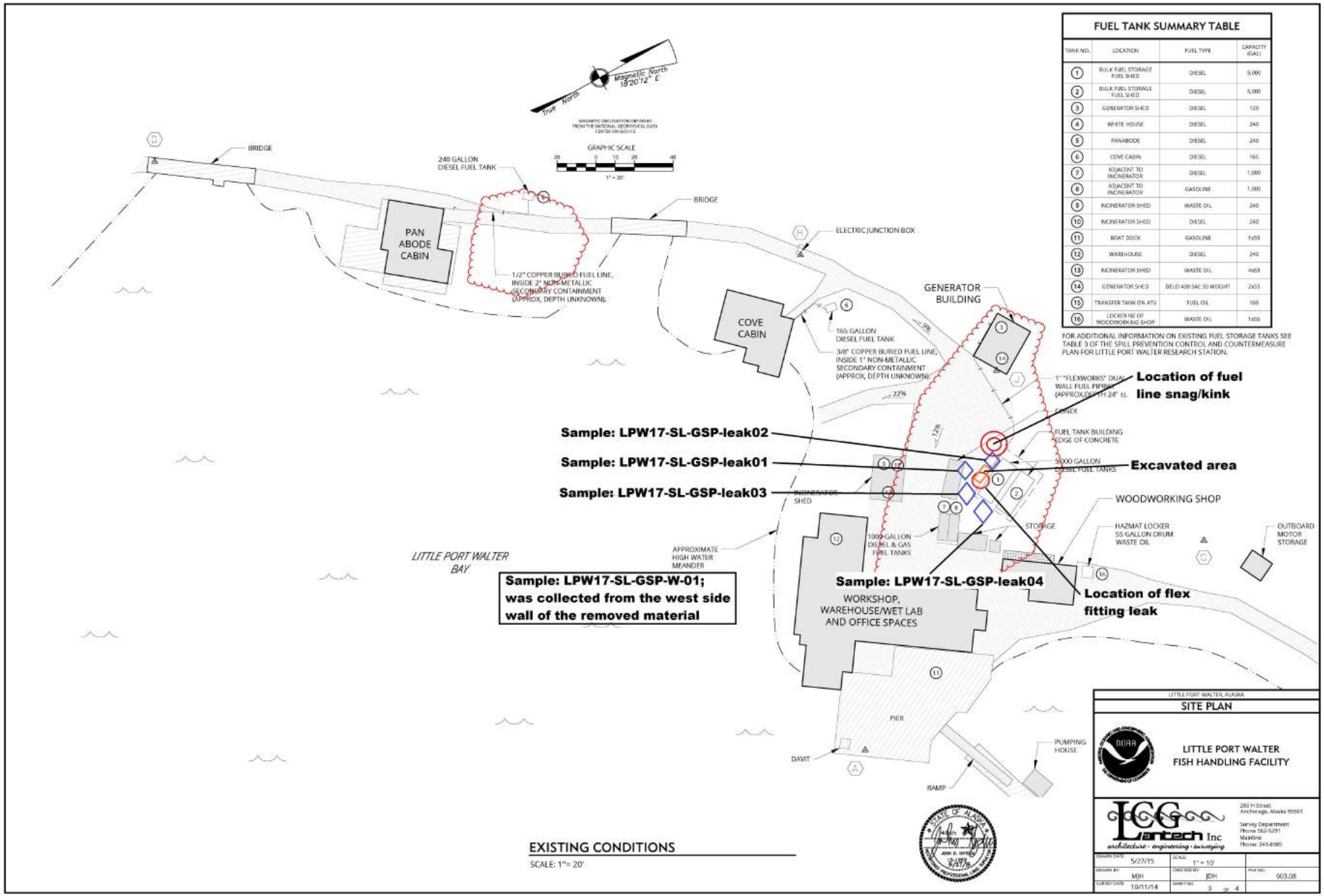
Figure 11. Workshop and generator shed area: Ahtna repairs.

Figure 12. Workshop and generator shed area: Ahtna repairs to both locations.

Figure 13. Workshop and generator shed area: Backfilled areas.

ATTACHMENT 2

NOAA FIGURE



FUEL TANK SUMMARY TABLE

TANK NO.	LOCATION	FUEL TYPE	CAPACITY (GAL)
1	BULK FUEL STORAGE FUEL SHED	DIESEL	5,000
2	BULK FUEL STORAGE FUEL SHED	DIESEL	5,000
3	GENERATOR SHED	DIESEL	120
4	WHITE HOUSE	DIESEL	240
5	PANABODE	DIESEL	240
6	COVE CABIN	DIESEL	165
7	ADJACENT TO INCINERATOR	DIESEL	1,000
8	ADJACENT TO INCINERATOR	GASOLINE	1,000
9	INCINERATOR SHED	WASTE OIL	240
10	INCINERATOR SHED	DIESEL	240
11	BOAT DOCK	GASOLINE	1x55
12	WAREHOUSE	DIESEL	240
13	INCINERATOR SHED	WASTE OIL	4x68
14	GENERATOR SHED	DELO 400 SAE 30 WEIGHT	2x55
15	TRANSFER TANK ON ATV	FUEL OIL	100
16	LOCKER NE OF WOODWORKING SHOP	WASTE OIL	1x55

FOR ADDITIONAL INFORMATION ON EXISTING FUEL STORAGE TANKS SEE TABLE 3 OF THE SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN FOR LITTLE PORT WALTER RESEARCH STATION.

EXISTING CONDITIONS

SCALE: 1"= 20'

LITTLE PORT WALTER, ALASKA

SITE PLAN

LITTLE PORT WALTER FISH HANDLING FACILITY

LCG Lantech Inc
architecture · engineering · surveying
250 H Street, Anchorage, Alaska 99501
Survey Department: Phone: 562-5281
Mainline: Phone: 243-8580

DRAWN DATE: 5/27/15	SCALE: 1" = 10'		
DRAWN BY: MJH	CHECKED BY: JDH		PROJ NO.: 903.08
SURVEY DATE: 10/11/14	SHEET NO.: 3 OF 4		

ATTACHMENT 3

ANALYTICAL RESULTS

(PAGES 114-117, 126)

Client Sample ID: LPW17-SL-GSP-W-01

Date Collected: 05/08/17 15:40
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-71

Matrix: Solid
Percent Solids: 58.4

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	870		8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
2-Methylnaphthalene	1200	F1	8.3	0.75	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Acenaphthene	58		8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Acenaphthylene	ND		8.3	0.83	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Anthracene	20		8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[a]anthracene	7.0	J B	8.3	1.3	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[a]pyrene	2.9	J	8.3	0.66	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[b]fluoranthene	13		8.3	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[g,h,i]perylene	3.7	J	8.3	0.83	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Benzo[k]fluoranthene	4.7	J	8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Chrysene	19		8.3	2.5	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Dibenz(a,h)anthracene	1.2	J	8.3	1.2	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Fluoranthene	43		8.3	2.3	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Fluorene	120		8.3	0.83	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Indeno[1,2,3-cd]pyrene	4.0	J	8.3	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Naphthalene	630		8.3	1.3	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Phenanthrene	98		8.3	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1
Pyrene	74		8.3	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 13:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*73*		*68 - 138*	*05/22/17 09:33*	*05/30/17 13:35*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	9000	F2	32	9.9	mg/Kg	☼	05/20/17 12:17	05/23/17 14:15	1
RRO (nC25-nC36)	200	F2	81	18	mg/Kg	☼	05/20/17 12:17	05/23/17 14:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*106*		*50 - 150*	*05/20/17 12:17*	*05/23/17 14:15*	*1*
n-Triacontane-d62	*89*		*50 - 150*	*05/20/17 12:17*	*05/23/17 14:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	58.4		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	41.6		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak01

Date Collected: 05/08/17 15:55
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-72

Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		11	4.7	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
Toluene	**25**	**J**	83	17	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
Ethylbenzene	**93**		22	5.0	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
m-Xylene & p-Xylene	**370**		110	18	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1
o-Xylene	**240**		22	7.4	ug/Kg	☼	05/17/17 14:40	05/18/17 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*91*		*52 - 152*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
Toluene-d8 (Surr)	*97*		*79 - 119*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 121*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
4-Bromofluorobenzene (Surr)	*97*		*79 - 120*	*05/17/17 14:40*	*05/18/17 00:47*	*1*
Dibromofluoromethane (Surr)	*98*		*78 - 118*	*05/17/17 14:40*	*05/18/17 00:47*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**75**		5.8	0.73	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
2-Methylnaphthalene	**77**		5.8	0.52	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Acenaphthene	**18**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Acenaphthylene	**13**		5.8	0.58	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Anthracene	**11**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[a]anthracene	**15**	**B**	5.8	0.89	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[a]pyrene	**43**		5.8	0.47	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[b]fluoranthene	**60**		5.8	0.69	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[g,h,i]perylene	**71**		5.8	0.58	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Benzo[k]fluoranthene	**18**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Chrysene	**22**		5.8	1.7	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Dibenz(a,h)anthracene	**8.3**		5.8	0.84	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Fluoranthene	**45**		5.8	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Fluorene	**20**		5.8	0.58	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Indeno[1,2,3-cd]pyrene	**80**		5.8	0.70	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Naphthalene	**45**		5.8	0.93	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Phenanthrene	**26**		5.8	0.80	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1
Pyrene	**74**		5.8	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 15:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*76*		*68 - 138*	*05/22/17 09:33*	*05/30/17 15:04*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**750**		22	6.7	mg/Kg	☼	05/20/17 12:17	05/23/17 15:23	1
RRO (nC25-nC36)	**47**	**J**	55	12	mg/Kg	☼	05/20/17 12:17	05/23/17 15:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:23*	*1*
n-Triacontane-d62	*87*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.2**		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	**15.8**		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak02

Date Collected: 05/08/17 16:05
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-73

Matrix: Solid
Percent Solids: 84.6

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		12	5.4	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
Toluene	ND		94	20	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
Ethylbenzene	ND		25	5.7	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
m-Xylene & p-Xylene	ND		120	20	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1
o-Xylene	ND		25	8.4	ug/Kg	☼	05/17/17 14:40	05/18/17 01:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*109*		*52 - 152*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
Toluene-d8 (Surr)	*98*		*79 - 119*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*81 - 121*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*05/17/17 14:40*	*05/18/17 01:13*	*1*
Dibromofluoromethane (Surr)	*96*		*78 - 118*	*05/17/17 14:40*	*05/18/17 01:13*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	**11**		5.4	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
2-Methylnaphthalene	**11**		5.4	0.49	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Acenaphthene	**3.9**	**J**	5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Acenaphthylene	**3.9**	**J**	5.4	0.54	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Anthracene	**6.9**		5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[a]anthracene	**14**	**B**	5.4	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[a]pyrene	**65**		5.4	0.43	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[b]fluoranthene	**73**		5.4	0.64	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[g,h,i]perylene	**71**		5.4	0.54	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Benzo[k]fluoranthene	**27**		5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Chrysene	**35**		5.4	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Dibenz(a,h)anthracene	**11**		5.4	0.78	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Fluoranthene	**32**		5.4	1.5	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Fluorene	**4.0**	**J**	5.4	0.54	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Indeno[1,2,3-cd]pyrene	**82**		5.4	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Naphthalene	**9.8**		5.4	0.87	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Phenanthrene	**15**		5.4	0.75	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1
Pyrene	**32**		5.4	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 14:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*74*		*68 - 138*	*05/22/17 09:33*	*05/30/17 14:42*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**47**		22	6.8	mg/Kg	☼	05/20/17 12:17	05/23/17 15:46	1
RRO (nC25-nC36)	**50**	**J**	56	12	mg/Kg	☼	05/20/17 12:17	05/23/17 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:46*	*1*
n-Triacontane-d62	*83*		*50 - 150*	*05/20/17 12:17*	*05/23/17 15:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**84.6**		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	**15.4**		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak03
Date Collected: 05/08/17 16:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-74
Matrix: Solid
Percent Solids: 85.4

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	4.5	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
Toluene	ND		78	16	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
Ethylbenzene	ND		21	4.7	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
m-Xylene & p-Xylene	ND		100	17	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1
o-Xylene	ND		21	7.0	ug/Kg	☼	05/17/17 14:40	05/18/17 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Trifluorotoluene (Surr)	*98*		*52 - 152*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
Toluene-d8 (Surr)	*98*		*79 - 119*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 121*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
4-Bromofluorobenzene (Surr)	*98*		*79 - 120*	*05/17/17 14:40*	*05/18/17 01:40*	*1*
Dibromofluoromethane (Surr)	*106*		*78 - 118*	*05/17/17 14:40*	*05/18/17 01:40*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	5.2	J	5.6	0.71	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
2-Methylnaphthalene	7.1		5.6	0.51	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Acenaphthene	1.3	J	5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Acenaphthylene	2.0	J	5.6	0.56	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Anthracene	2.8	J	5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[a]anthracene	5.6	B	5.6	0.86	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[a]pyrene	19		5.6	0.45	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[b]fluoranthene	18		5.6	0.67	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[g,h,i]perylene	21		5.6	0.56	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Benzo[k]fluoranthene	5.8		5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Chrysene	10		5.6	1.7	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Dibenz(a,h)anthracene	3.0	J	5.6	0.81	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Fluoranthene	8.3		5.6	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Fluorene	1.5	J	5.6	0.56	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Indeno[1,2,3-cd]pyrene	23		5.6	0.68	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Naphthalene	4.4	J	5.6	0.90	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Phenanthrene	4.9	J	5.6	0.78	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1
Pyrene	9.4		5.6	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 15:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*78*		*68 - 138*	*05/22/17 09:33*	*05/30/17 15:27*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	9.9	J	22	6.7	mg/Kg	☼	05/20/17 12:17	05/23/17 16:09	1
RRO (nC25-nC36)	19	J	55	12	mg/Kg	☼	05/20/17 12:17	05/23/17 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*80*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:09*	*1*
n-Triacontane-d62	*78*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	14.6		0.1	0.1	%			05/23/17 15:47	1

Client Sample ID: LPW17-SL-GSP-Leak04
Date Collected: 05/08/17 16:20
Date Received: 05/10/17 14:00

Lab Sample ID: 580-68287-82
Matrix: Solid
Percent Solids: 58.0

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		8.2	1.0	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
2-Methylnaphthalene	ND		8.2	0.73	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Acenaphthene	ND		8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Acenaphthylene	ND		8.2	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Anthracene	**1.1**	**J**	8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[a]anthracene	**4.3**	**J B**	8.2	1.2	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[a]pyrene	**7.3**	**J**	8.2	0.65	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[b]fluoranthene	**9.0**		8.2	0.96	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[g,h,i]perylene	**6.1**	**J**	8.2	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Benzo[k]fluoranthene	**3.0**	**J**	8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Chrysene	**3.3**	**J**	8.2	2.4	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Dibenz(a,h)anthracene	ND		8.2	1.2	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Fluoranthene	**5.4**	**J**	8.2	2.3	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Fluorene	ND		8.2	0.82	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Indeno[1,2,3-cd]pyrene	**6.4**	**J**	8.2	0.98	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Naphthalene	ND		8.2	1.3	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Phenanthrene	**4.3**	**J**	8.2	1.1	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1
Pyrene	**4.5**	**J**	8.2	1.6	ug/Kg	☼	05/22/17 09:33	05/30/17 15:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14	*82*		*68 - 138*	*05/22/17 09:33*	*05/30/17 15:49*	*1*

Method: AK102 & 103 - Alaska - Diesel Range Organics & Residual Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (nC10-<nC25)	**42**		33	10	mg/Kg	☼	05/20/17 12:17	05/23/17 16:55	1
RRO (nC25-nC36)	**110**		82	18	mg/Kg	☼	05/20/17 12:17	05/23/17 16:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*83*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:55*	*1*
n-Triacontane-d62	*80*		*50 - 150*	*05/20/17 12:17*	*05/23/17 16:55*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**58.0**		0.1	0.1	%			05/23/17 15:47	1
Percent Moisture	**42.0**		0.1	0.1	%			05/23/17 15:47	1

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APPENDIX G

ADEC COMMENTS

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