

**City of Pilot Point Former
Alaska Packers Association
Cannery Site – ADEC Hazard
ID #1028**

Draft Corrective Action Report



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Acronyms and Abbreviations

µg/L	micrograms per liter
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AK	Alaska Test Method
bgs	below ground surface
CERCLA	Comprehensive Environmental Resource, Conservation, and Liability Act
City	City of Pilot Point
DRO	diesel range organics
EDB	1,2-Dibromoethane
EPA	U.S. Environmental Protection Agency
GCL	groundwater cleanup level
GRO	gasoline range organics
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PID	photoionization detector
ppmv	parts per million by volume
PPR	Department of Prevention, Preparedness and Response Program
RCRA	Resource Conservation and Recovery Act
Report	Corrective Action Report
RRO	residual range organics
SCLs	soil cleanup level
SGS	SGS North America Inc.
Site	Former Alaska Packers Association Cannery Site
Stantec	Stantec Consulting Services Inc.
SW	Solid Waste Method-846
TSDf	Treatment Storage and Disposal Facility
VOC	volatile organic compound
WELTS	ADNR Well Log Tracking System
WP	Work Plan

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1.0 INTRODUCTION

1.1 BACKGROUND

The City of Pilot Point (City) currently owns the Former Alaska Packers Association Cannery Site (Site) located on Cannery Road, along the shore of Ugashik Bay (**Figure 1**). This Site has been identified by the Alaska Department of Environmental Conservation (ADEC) as having a Hazard ID of #1028. This Corrective Action Report (Report) has been developed by Stantec Consulting Inc. (Stantec) on behalf of the City.

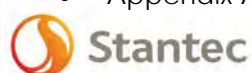
In August of 2016, ADEC staff visited the Site and found evidence of ongoing releases to the Site. ADEC Department of Prevention, Preparedness and Response Program (PPR) sent a letter to the City in September 2016 explaining the requirements for addressing the ongoing discharges and releases that were observed by ADEC staff while at the Site (ADEC, 2016a). This Report addresses the corrective actions taken in response to the findings by ADEC in addressing the recently observed releases of petroleum products and other potentially hazardous substances to the ground surface at the Site and their impacts. The individual subareas and activities that were addressed under this corrective action include:

- Shop Spill area – assessment and sampling of the former spill area, PPR Spill Number 14269926901.
- Shop Spill Stockpile – plan for treatment of the contaminated soil stockpile.
- Leaking Drums Area – excavation and disposal and/or treatment of contaminated soil and delineation of contamination.
- Small Spills Area – delineation of stained soil, excavation and disposal and/or treatment of contaminated soil.
- Drinking water well – Sampling of the drinking water well for contaminants of concern associated with the Leaking Drums Area.

1.2 REPORT ORGANIZATION

This Report is organized into four sections and three appendices, as follows:

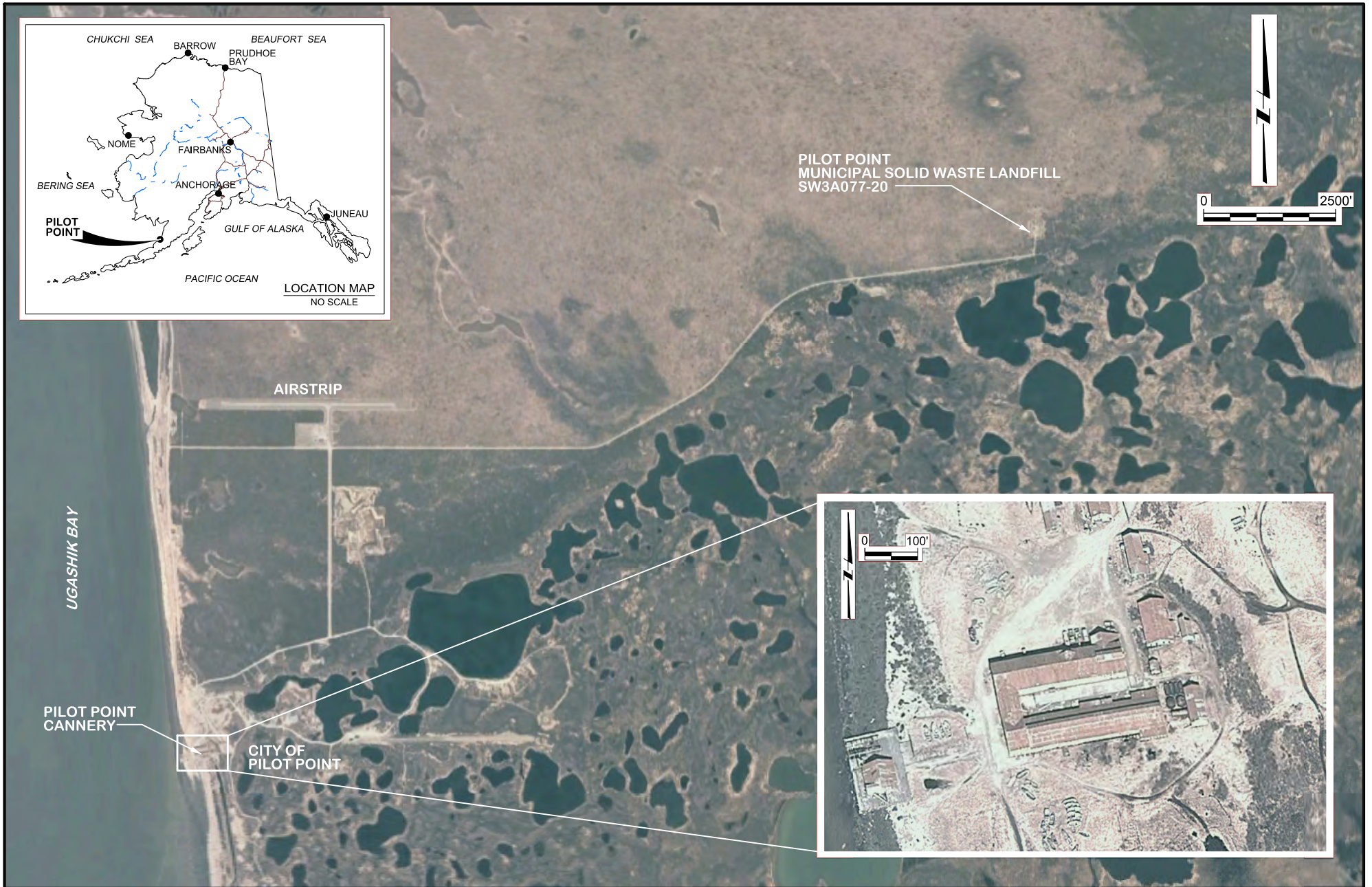
- Section 1 – Introduction
- Section 2 – Corrective Actions
- Section 3 – Recommendations
- Section 4 – References
- Appendix A – Field Notes



CITY OF PILOT POINT FORMER ALASKA PACKERS ASSOCIATION CANNERY SITE – ADEC HAZARD ID #1028

- Appendix B – SGS Laboratory Report and ADEC Data Checklist

Tables and figures are presented at the end of the section they are first called out in.



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2.0 CORRECTIVE ACTIONS

The corrective actions for each of the five subareas at the Site addressed under this Report are presented below. Soil cleanup levels for the Site consist of Migration to Groundwater Criterion for the Under 40-inch Zone contained in ADEC 18 Alaska Administrative Code (AAC) 75, Tables B1 and B2 Method Two Soil Cleanup Levels (SCLs). Groundwater cleanup levels (GCLs) are contained in 18 AAC 75 Table C (ADEC, 2017).

2.1 SHOP SPILL

2.1.1 Shop Spill Background

The Shop Spill occurred in September 2014, and consisted of used oil spilling from an overturned 55-gallon used oil burner onto the ground surface of the north side of the Former North Cannery Building, between Garage Bay Doors 3 and 4 (Garage Bay Door 1 being the westernmost and nearest Ugashik Bay). The location is based on the Site photographs of the Shop Spill and City employee recollection of its location (Pilot Point, 2017). The dimensions of the Shop Spill were approximately 10 feet in length by 6 feet in width, with an approximate depth of 1.5 feet. The source of the used oil was from both personal and City-owned vehicles and equipment such as excavators and backhoes. The stained soil from the Shop Spill was excavated and placed in a lined stockpile located to the east of the Former North Cannery Building. The excavation was backfilled with uncontaminated soil from the site. There were no soil samples collected from the extents of the excavation at the time of the cleanup. **Figure 2** shows the approximate location of the Shop Spill Area, and presents photographs of the Shop Spill (before and after excavation) and the Shop Spill Stockpile.

2.1.2 Shop Spill Corrective Actions

To determine if there was residual petroleum contamination above SCLs at the Shop Spill Site, one test pit was excavated based on the site knowledge of Jerry Phillips who was involved in the original cleanup. The original intent was for five individual excavations, but due to the nature and size of the spill, it was revised to one. This was confirmed by telephone communication with Erin Gleason at ADEC prior to beginning excavation.

The test pit was excavated with a City supplied backhoe and proceeded to a depth of approximately 2.5 feet below ground surface (bgs). One sample (17PIP001SL0.5) was collected from the center of the excavation at approximately 0.5 feet bgs, and moved to the staged stockpile. This had a photoionization detector (PID) reading of 53.9 parts per million by volume (ppmv).

A total of five field screening samples were collected at 0.75 bgs and had PID readings ranging from 0.00 to 0.03 ppmv. This depth was thought to be backfill from the original excavation of contaminated soil.

The excavation continued from 0.75 to 2.5 feet bgs with an additional five field screening samples collected from the bottom of the excavation, one each from the sidewalls and one from the center. These had PID readings ranging from 0.06 to 1.3 ppmv. The sample with the highest PID reading (17PIP009SL2.5) was submitted for off-site analysis along with a duplicate (17PIP209SL2.5). There was no visible staining or petroleum odor, and the substrate consisted of well-graded sand and appeared to be native soil.

Excavated soil was placed onto a 6-mil polyethylene liner adjacent to the excavation, to limit the potential for cross contamination. Due to the limited extent of the excavation, it was not feasible to segregate the overburden from potentially contaminated soil, so all excavated soil was combined with that placed in the original stockpile located to the east of the Former North Cannery Building.

Samples were submitted to the SGS North America Inc. (SGS) in Anchorage for the following analyses:

- Gasoline Range Organics (GRO) by Alaska Test Method (AK) 101
- Diesel Range Organics (DRO) by AK 102
- Residual Range Organics (RRO) by AK 103
- Volatile Organic Compounds (VOCs) by U.S. Environmental Protection Agency (EPA) Solid Waste Method-846 (SW) 8260C
- 1,2-Dibromoethane (EDB) by Low Level EPA 8011
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA SW 8270D
- Resource Conservation and Recovery Act Metals – Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, and Silver (RCRA 8 metals), as well as Nickel and Vanadium by EPA SW 6020A.

The soil sample results for the corrective actions are presented in **Table 1**. All samples were below their respective SCLs, or were not detected. Note that there are five VOCs (1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, Chloroform, and Vinyl chloride) where the reporting limit is greater than the ADEC SCL. All reported analytical results for these compounds were not-detected.

2.2 SHOP SPILL STOCKPILE

2.2.1 Shop Spill Stockpile Background

The Shop Spill Stockpile consists of waste oil contaminated soil from the Shop Spill that was relocated and spread on a liner to the east of the Former North Cannery Building, (**Figure 5**). In an effort to proactively address the Shop Spill Stockpile, as well as the leaking drums spill area along the western edge of the Former North Cannery Building, the stockpile was reconfigured by

City staff in late 2016/ early 2017. The stockpile liner was squared up, and an approximately 8-inch berm established around the perimeter of the liner.

Surface soil from the Leaking Drums Area was scrapped up from the underlying concrete and added to the Shop Spill Stockpile by City staff. The stockpiled soil was then spread in a relatively uniform layer across the liner, approximately 12 feet in width, 17 feet in length, and 3 inches in depth (approximately 51 cubic feet or 1.88 cubic yards). This configuration differs from what was previously observed during the August 2016 ADEC Site visit.

Additionally, wooden pallets were placed on top of the stockpiled soil, and the formerly leaking drums from the west side of the Former North Cannery Building, were relocated to the lined stockpile area and placed on top of the pallets. According to City staff, there is no ongoing leakage from the drums into the Shop Spill Stockpile.

2.2.2 Shop Spill Stockpile Corrective Actions

The staged formerly leaking drums were removed from the surface of the stockpiled soil and staged inside the Warehouse on a bermed liner. At the time of removal, none of the drums were actively leaking into the stockpiled soil. However, several drums were compromised and had holes in them. These drums were positioned such that no additional leakage was occurring.

The Shop Spill Stockpile soil was sampled in accordance with the Final ADEC Field Sampling Guidance (ADEC, 2016) Table 2A, which requires that at least two grab samples be collected from stockpiles up to 50 cubic yards for untreated soil. A total of 11 PID field screening samples were collected from a staggered grid as shown in **Figure 5** and ranged from 4.9 to 81.8 ppmv. Samples 17PIP077SL1.0 and 17PIP079SL1.0 exhibited the two highest PID readings at 67.2 and 81.8 ppmv respectively. These two locations, along with a duplicate of (17PIP279SL1.0) had laboratory samples collected and analyzed for the following in the order presented:

- GRO by AK 101
- VOCs by SW 8260C
- EDB by Low Level EPA 8011
- PAHs by EPA SW 8270D
- DRO by AK 102
- RRO by AK 103
- Polychlorinated biphenyls (PCBs) by EPA SW 8082A
- RCRA 8 Metals, Nickel and Vanadium by EPA SW 6020A

Table 1 provides a summary of the corrective action soil sampling performed at each of the sub areas. DRO for the Shop Spill Stockpile ranged from 437 to 2,660 milligrams per kilogram (mg/kg) and RRO ranged from 2,190 to 18,600 mg/kg across the two primary and one duplicate samples. GRO was detected but very close to the reporting limit and ranged from 0.684 to 0.974 mg/kg. All other analytes were below their respective soil cleanup levels, or were not detected.

Note that there are five VOCs (1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,3-Trichloropropane, Chloroform, and Vinyl chloride) where the reporting limit is greater than the ADEC SCL. All reported analytical results for these compounds were reported as not-detected by the laboratory.

After the sampling was completed, the Shop Spill Stockpile was covered with the same yellow liner material, approximately 10-mil poly sheeting, held in place with sand bags and dunnage, to allow rainfall and snowmelt to runoff and not collect within the containment area. The area was secured with snow fencing and signage posted stating the following:

Stop Warning
Contaminated Soil
Do Not Dispose Here
Do Not Tamper With
Stop Warning

2.3 LEAKING DRUMS AREA

2.3.1 Leaking Drums Area Background

The Leaking Drums Area (**Figure 3**), located at the Northwest end of the Former North Cannery Building, consisted of approximately 20 55-gallon steel drums, and several smaller containers including 5-gallon plastic buckets and 1-gallon containers, with unknown contents and stained soil overlying a concrete pad with a 2-inch berm along the north and west edge. It was verified that the bulk of the fluids contained in these containers consisted of used oil, glycol, diesel, or marine fuel mixed with rainwater or snowmelt where drums were not sealed. The soil present on top of the concrete pad was likely deposited by wind and, at the time of the ADEC site visit in August of 2016, it may have appeared to be native soil with no concrete underlayment.

Prior to preparation of this Report, the City removed the drums from this area and relocated them to the Shop Spill Stockpile containment area. City staff stated that there were no longer any ongoing releases from the drums at the time they were relocated. Additionally, the City scraped up the stained soil on top of the concrete pad along the western side of the Former North Cannery Building and placed it in the Shop Spill Stockpile. After which, the concrete pad was scrubbed and washed with Dawn liquid detergent and the wash water discharged to the ground surface to the south where the 2-inch berm is no longer present along the concrete pad.

2.3.2 Leaking Drums Area Corrective Actions

2.3.2.1 Stained Soil Sampling and Excavation

As the previously present stained soil in the Leaking Drum Area had been moved from the surface of the concrete pad, two PID field screening samples were collected from surface soil, one either side of the drinking water well, just to the west of the concrete curb. The samples

were collected from the most visibly stained areas (17PIP017SL0.5 and 17PIP018SL0.5). The PID readings for these samples were 0.7 and 0.4 ppmv respectively, neither of which had a petroleum odor.

One characterization sample was collected for laboratory analysis from the PID sample location indicating the highest non-elevated reading (17PIP017SL0.5). This sample was above the SCLs for DRO at 8,090 mg/kg and RRO at 62,500 mg/kg, but below for all other analytes, or non-detect.

Approximately 1.0 vertical foot of soil was excavated from the stained soils area located to the west of the concrete pad and curb, from an area approximately 5.5 feet east to west, and roughly 49 feet north to south as shown on Figure 3. The contaminated soil was excavated using a front end loader and stockpiled adjacent to the Shop Spill Stockpile on its own 10-mil yellow poly liner.

A total of 10 field screening samples were collected from the excavated area (17PIP019SL1.0 to 17PIP028SL1.0) and PID readings ranged from 0.0 to 0.9 ppmv. Two confirmation samples were collected from the two highest PID readings (17PIP021SL1.0 at 0.8 ppmv, and 17PIP025SL1.0 at 0.9 ppmv) and analyzed for the following in the order presented:

- GRO by AK 101
- VOCs by EPA SW 8260C
- EDB by Low Level EPA 8011
- PAHs by EPA SW 8270D
- DRO by AK 102
- RRO by AK 103
- PCBs by EPA SW 8082A
- RCRA 8 Metals, Nickel and Vanadium by EPA SW 6020A

All analytical results from the Drum Spill Area Excavation were below their respective SCLs and are complete results are provided in Table 1.

2.3.2.2 Leaking Drums Area Soil Stockpile

The Leaking Drums Area Soil Stockpile is located to the south of the existing Shop Spill Stockpile and adjacent to Warehouse located at the base of the bluff, towards the southeast of the site. The Leaking Drums Area Soil Stockpile is approximately 9 feet in length, 5 feet in width, and 2 feet in height at the top of the stockpile. This equates to approximately 1.6 cubic yards of stockpiled soil.

A total of 10 PID field screening samples (17PIP062SL0.5 to 17PIP071SL0.5) were collected from the stockpile as shown in Figure 5 and ranged from 0.0 ppmv to 1.7 ppmv. Sample 17PIP067SL1.0 had the greatest PID reading from the stockpile at 1.7 ppmv and was submitted along with 17PIP017SL0.5 (collected from the pre-excavated stained soil area) for laboratory analysis. These

two locations, along with a duplicate of (17PIP279SL1.0) had laboratory samples collected and analyzed for the following in the order presented:

- GRO by AK 101
- VOCs by SW 8260C
- EDB by Low Level EPA 8011
- PAHs by EPA SW 8270D
- DRO by AK 102
- RRO by AK 103
- PCBs by EPA SW 8082A
- RCRA 8 Metals, Nickel and Vanadium by EPA SW 6020A

DRO ranged from 23.5 to 8,090 mg/kg and RRO ranged from 187 to 62,500 mg/kg (Table 1). All other analytes were below their respective SCLs or were not detected.

After the sampling was completed, the Leaking Drums Area Stockpile was covered with the yellow liner material (approximately 10-mil poly sheeting), held in place with dunnage, to allow rainfall and snowmelt to runoff and not collect. The area was secured with snow fencing and signage posted as noted in Section 2.2.2.

2.3.3 Drums of Unknown Fluids

The drums that were previously located in the Leaking Drums Area, that were subsequently relocated to the Shop Spill Stockpile containment area, have been removed and placed inside the warehouse on a bermed liner (Figure 5). There were a total of 34 containers that were inventoried at the time of the corrective action, 23 55-gallon drums, nine 5-gallon buckets, and two 1-gallon plastic containers (Table 2). The drums and small containers were predominately mixtures of diesel, gas, used oil, hydraulic oil, glycol, and water. There were three 55-gallon drums (Drums 2, 17, and 19) that were not able to be opened at the time of the Corrective Action as their bungs had rusted shut. These drums will need to be sampled at a future date using a non-sparking drum piercing tool and non-sparking hammer.

The HazCat® 2.0 Chemical Identification System was not able to be transported to Pilot Point due to shipping restrictions; therefore, Dexsil CLOR-D-TECT® 1000 test kits were used to determine if the contents of those containers with used oil had potentially chlorinated contamination and subsequently potential PCBs. Only the 55-gallon drums containing diesel, waste oil, or hydraulic oil were field screened, as the field screening method is not compatible with heavily water laden mixtures. All field screening samples were negative for chlorine at 500 parts per million (ppm) (Table 2). Note that two premeasured syringe volumes were used to reduce the detection limit of the CLOR-D-TECT® 1000 test kits from 1,000 ppm to 500 ppm.

At the time of the Corrective Action, the oil/water separator and burner was not operational, but it was planned to be utilized over the winter months in 2017/2018. It is unclear at this time, if any of the drums of waste oil or fuel water mixtures have been burned on-site for energy recovery.

2.4 SMALL SPILLS AREA

2.4.1 Small Spills Area Background

The Small Spills Area is located between the Former North Cannery Building and Former South Cannery Building (**Figure 4**). During the ADEC site visit in August 2016, four small stains were noted along the northern edge of the Former South Cannery Building, located between open water skiffs that are stored there. City employees have stated that no refueling of the skiffs had taken place in between the two wings (north and south) of the former cannery, and that the source of the spills is unknown. The skiffs had previously been stored on the western side of the main cannery building south of the Leaking Drum Area, and were moved to their present location in 2015.

It is likely that the presence of the stained soil within the Small Spills Area are associated with releases from drums or small containers and that petroleum products (i.e., gasoline, diesel fuel, lube oil, glycol, and or waste oil) were the primary source of the stains. However, given the presence of liquid-type transformer carcasses within the cannery building itself, the possibility of staining from dielectric fluids from transformers was also possible. It is also unknown if the transformers contained PCBs. In a 2007 EPA Brownfield report, it was stated that the nine electrical transformers located in the Former Provision Warehouse/Building C, contained less than 1 part per billion (ppb) PCBs (HartCrowser, 2007). However, no laboratory results were located at the time of this report to support the PCB determination.

2.4.2 Small Spills Area Corrective Actions

At the time of the Corrective Action, the skiffs had been placed back into the storage area for the season. However, this did not impede the corrective action and the removal of visible stained soil. There were four distinct stained areas, as shown on Figure 4. Each of the stained areas are located on the south side of the access road dividing the shop (north) from the warehouse (south).

Four initial field screening samples were collected from the center of each of the stains prior to excavation (17PIP029SL0.5 to 17PIP032SL0.5) and had PID readings ranging from 0.6 to 2.4 ppmv.

2.4.2.1 Small Spill Area 1

Small Stain Area 1 is located nearest the west end of the alleyway. Approximately 0.75 feet deep of material was removed with the front end loader from an approximately 2.5 by 4-foot area. A total of five field screening samples were taken, one from each sidewall (17PIP033SL1.0

to 17PIP036SL1.0) and one from the center (17PIP037SL1.0), which had PID readings that ranged from 0.3 to 6.1 ppmv. No additional samples were collected from this area.

2.4.2.2 Small Spill Area 2

Small Stain Area 2 was located near the middle of the alleyway and consisted of a very small spill approximately 1-foot square. This small spill was hand shoveled to a depth of approximately 0.5 feet and had a PID reading of 2.1. There was no visible staining at that depth, nor any petroleum odor. No additional samples were collected from this area.

2.4.2.3 Small Spill Area 3

Small Stain Area 3 was located just to the east of where the warehouse building steps out towards the north by the alleyway. This stain was the most significant of all of the stains and had three distinct spills, two circular and one linear. This area was excavated by front end loader and the resulting excavation was approximately 4 feet by 2.5 feet, by 2.0 feet deep. Field screening samples were initially collected from the four sidewalls and the center at 1 foot depth (17PIP039SL1.0 to 17PIP043SL1.0) and had PID readings ranging from 0.6 to 198.0 ppmv. The 198 ppmv reading was from the center of the excavation and had a slightly sweet smell. The excavation was further excavated to a depth of 2.0 feet and an additional five field screening samples collected (17PIP046SL2.0 to 17PIP050SL2.0) which had PID readings ranging from 0.0 to 2.3 ppmv with no discernible odor. A composite sample (17PIP051SL2.0) was collected from the same five bottom field screening locations (17PIP046SL2.0 to 17PIP050SL2.0) at the 2.0 foot depth and submitted for off-site analysis. The sample was collected for the following analytes in the order presented:

- GRO by AK 101
- VOCs by EPA SW 8260C
- EDB by Low Level EPA 8011
- PAHs by EPA SW 8270D
- DRO by AK 102
- RRO by AK 103
- PCBs by EPA SW 8082A
- RCRA 8 Metals, Nickel and Vanadium by EPA SW 6020A

All analytes for composite sample 17PIP051SL2.0 from Small Stain Area 3 were either not detected or below their respective SCLs (Table 1).

2.4.2.4 Small Spills Area 4

Small Stain Area 4 was located just to the east of Small Stain Area 3 and consisted of a very small spill approximately 1-foot square. This small stained area was hand shoveled to a depth of

approximately 0.5 feet and had a PID reading of 2.3. There was no visible staining at that depth, nor any petroleum odor. No additional samples were collected from this area.

2.4.2.5 Small Spills Area Stockpile

The Small Spills Area Stockpiled soil was placed on its own 10-mil liner and located between the Existing Shop Spill Stockpile and the Leak Drums Area Stockpile. The stockpile was approximately 8 feet in length by 4 foot deep and roughly 2 feet in height at the top of the stockpile, which is approximately 1.2 cubic yards.

A total of 10 PID field screening samples (17PIP052SL0.5 to 17PIP061SL0.5) were collected from the stockpile, as shown in **Figure 5**, and ranged from 0.0 ppmv to 37.6 ppmv. Sample 17PIP058SL0.5 had the greatest PID reading from the stockpile at 37.6 ppmv and was submitted, along with 17PIP054SL0.5, which had the next highest PID reading at 18.5 ppmv, for laboratory analysis. Samples were collected and analyzed for the following in the order presented:

- GRO by AK 101
- VOCs by SW 8260C
- EDB by Low Level EPA 8011
- PAHs by EPA SW 8270D
- DRO by AK 102
- RRO by AK 103
- Polychlorinated biphenyls (PCBs) by EPA SW 8082A
- RCRA 8 Metals, Nickel and Vanadium by EPA SW 6020A

All samples were either not detected or below their respective SCLs with the exception of DRO from sample 17PIP054SL0.5, which was reported at 465 mg/kg (Table 1).

After the sampling was completed, the Small Spills Area Stockpile was covered with the yellow liner material (approximately 10-mil poly sheeting), held in place with dunnage, to allow rainfall and snowmelt to runoff and not collect. The area was secured with snow fencing and signage posted as noted in Section 2.2.2.

2.5 GROUNDWATER WELL SAMPLING

2.5.1 Groundwater Well Background

The groundwater well located at the northwest corner of the Former North Cannery Building was completed by Hefty Drilling, Inc. on July 5, 2010, to a total depth of 84 feet bgs with a casing depth to 79 feet bgs. Static water level was measured at 65 feet bgs. The water well log is available on the State of Alaska Department of Natural Resources Well Log Tracking System (WELTS) website at <https://dnr.alaska.gov/welts/public/welllog/show/logid/34005> (ADNR, 2017).

This water well was installed to be used for making ice. City staff have indicated that the well is also used for wash water (Pilot Point, 2017).

The well was most recently sampled on August 7, 2013 (SGS, 2013) and analyzed by SGS for the following parameters, the results of which and limits of quantitation are also provided below:

- Total coliform – negative.
- Arsenic – not detected (5.0 micrograms per liter [$\mu\text{g/L}$]).
- Iron – not detected (250 $\mu\text{g/L}$).
- Manganese (2.99 $\mu\text{g/L}$).
- Total nitrate/nitrite-N – not detected (0.100 milligrams per liter [mg/L]).

No other environmental samples of this water well are known to exist prior to the 2013 sampling event.

2.5.2 Groundwater Well Sampling

To address if the Leaking Drums Area impacted the groundwater well, one primary and one duplicate water sample were collected. Samples were collected directly from the well supply, before any filtration of holding tank which supplies the ice maker.

Field parameters for temperature, pH, conductivity, reductive oxidative potential were measured before and after sampling and are provided in Appendix A, Field Notes. The well pump was allowed to run for seven minutes prior to sampling, and field parameters allowed to equilibrate prior to sampling.

Samples were collected and analyzed for the following parameters in the order presented:

- GRO by AK 101
- VOCs by EPA SW 8260C
- EDB by Low Level EPA 8011
- PAHs by EPA SW 8270D
- DRO by AK 102
- RRO by AK 103
- RCRA 8 Metals, Nickel and Vanadium by EPA SW 6020A

Table 2 provides a summary of the corrective action groundwater sampling results. All sample results were below ADEC groundwater cleanup levels.

Table 1: Corrective Action Soil Sampling Results

		Sample Id:	17PIP009SL2.5	17PIP209SL2.5	17PIP017SL0.5	17PIP021SL0.75	17PIP025SL0.75	17PIP051SL2.0	17PIP054SL0.5	17PIP058SL0.5	17PIP067SL0.5	17PIP077SL0.5	17PIP079SL1.0	17PIP279SL1.0	Trip Blank	
		Lab Sample ID	1175815004	1175815005	1175815006	1175815007	1175815008	1175815009	1175815010	1175815011	1175815012	1175815013	1175815014	1175815015	1175815016	
		Matrix	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	
		Location	Shop Spill Area	Shop Spill Area	Leaking Drums Stock	Leaking Drums Area	Leaking Drums Area	Small Spills Area #3	Small Spills Stock	Small Spills Stock	Leaking Drums Stock	Shop Spill Stock	Shop Spill Stock	Shop Spill Stock	Field QC	
		Date Sampled	2017/08/15 12:42:00	2017/08/15 12:45:00	2017/08/15 13:50:00	2017/08/15 14:32:00	2017/08/15 14:36:00	2017/08/15 16:20:00	2017/08/15 16:42:00	2017/08/15 16:46:00	2017/08/15 17:05:00	2017/08/15 18:05:00	2017/08/15 18:07:00	2017/08/15 18:11:00	2017/08/15 21:00:00	
Analyte	Analysis	Unit	ADEC Table II Cleanup Level													
1-Methylnaphthalene	8270D SIM (PAH)	µg/kg	410	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	65.6	12.9 U	13.3 U	66.0 U	65.5 U	
2-Methylnaphthalene	8270D SIM (PAH)	µg/kg	1300	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	9.84 J	106	12.9 U	13.3 U	66.0 U	65.5 U	
Acenaphthene	8270D SIM (PAH)	µg/kg	3700	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Acenaphthylene	8270D SIM (PAH)	µg/kg	18000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	9.55 J	66.0 U	65.5 U	
Anthracene	8270D SIM (PAH)	µg/kg	390000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	10.9 J	66.0 U	65.5 U	
Benzo(a)Anthracene	8270D SIM (PAH)	µg/kg	280	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	19.2 J	66.0 U	65.5 U	
Benzo[a]pyrene	8270D SIM (PAH)	µg/kg	270	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Benzo[b]Fluoranthene	8270D SIM (PAH)	µg/kg	2700	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Benzo[g,h,i]perylene	8270D SIM (PAH)	µg/kg	15000000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Benzo[k]fluoranthene	8270D SIM (PAH)	µg/kg	27000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Chrysene	8270D SIM (PAH)	µg/kg	82000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	10.4 J	12.9 U	12.9 U	22.7 J	66.0 U	65.5 U	
Dibenzo[a,h]anthracene	8270D SIM (PAH)	µg/kg	870	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Fluoranthene	8270D SIM (PAH)	µg/kg	590000	10.3 J	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	34.4	66.0 U	96.0 J	
Fluorene	8270D SIM (PAH)	µg/kg	36000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Indeno[1,2,3-c,d] pyrene	8270D SIM (PAH)	µg/kg	8800	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	13.3 U	66.0 U	65.5 U	
Naphthalene	8270D SIM (PAH)	µg/kg	38	10.5 U	10.5 U	430 U	10.4 U	10.4 U	10.5 U	16.7 J	225	10.4 U	10.6 U	52.5 U	52.5 U	
Phenanthrene	8270D SIM (PAH)	µg/kg	39000	13.2 U	13.2 U	535 U	12.9 U	13.0 U	13.2 U	13.0 U	12.9 U	12.9 U	18.5 J	66.0 U	65.5 U	
Pyrene	8270D SIM (PAH)	µg/kg	87000	14.1 J	13.2 U	535 U	12.9 U	13.0 U	13.2 U	14.5 J	12.9 U	12.9 U	50.5	54.8 J	123 J	
Gasoline Range Organics	AK101	mg/kg	260	0.865 U	0.845 U	1.13 U	0.815 U	0.850 U	1.01 U	1.38	0.855 U	0.835 U	0.985 U	0.974 J	0.684 J	1.25 U
Diesel Range Organics	AK102/103	mg/kg	230	10.4 U	10.4 U	8090	169	12.1 J	10.6 U	465	40.1	23.5	437	1450	2660	
Residual Range Organics	AK102/103	mg/kg	9700	10.7 J	8.34 J	62500	1370	85.2	10.6 U	3160	243	187	2190	8680	18600	
Total Solids	SM21 2540G	%		95.1	95.0	93.0	96.3	95.9	94.4	96.3	95.1	95.1	93.4	94.3	94.6	
Arsenic	SW6020A	mg/kg	200	4.78	4.73	5.06	3.83	3.84	5.23	3.71	5.12	3.52	3.73	4.23	3.98	
Barium	SW6020A	mg/kg	2100000	27.6	18.5	52.1	54.1	82.5	24.2	54.0	75.8	52.4	51.7	49.7	53.2	

Table 1 (continued): Corrective Action Soil Sampling Results

		Sample Id:	17PIP009SL2.5	17PIP209SL2.5	17PIP017SL0.5	17PIP021SL0.75	17PIP025SL0.75	17PIP051SL2.0	17PIP054SL0.5	17PIP058SL0.5	17PIP067SL0.5	17PIP077SL0.5	17PIP079SL1.0	17PIP279SL1.0	Trip Blank	
		Lab Sample ID	1175815004	1175815005	1175815006	1175815007	1175815008	1175815009	1175815010	1175815011	1175815012	1175815013	1175815014	1175815015	1175815016	
		Matrix	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	Soil/Solid (dry weight)	
		Location	Shop Spill Area	Shop Spill Area	Leaking Drums Stock	Leaking Drums Area	Leaking Drums Area	Small Spills Area #3	Small Spills Stock	Small Spills Stock	Leaking Drums Stock	Shop Spill Stock	Shop Spill Stock	Shop Spill Stock	Field QC	
		Date Sampled	2017/08/15 12:42:00	2017/08/15 12:45:00	2017/08/15 13:50:00	2017/08/15 14:32:00	2017/08/15 14:36:00	2017/08/15 16:20:00	2017/08/15 16:42:00	2017/08/15 16:46:00	2017/08/15 17:05:00	2017/08/15 18:05:00	2017/08/15 18:07:00	2017/08/15 18:11:00	2017/08/15 21:00:00	
Analyte	Analysis	Unit	ADEC Table II Cleanup Level													
Cadmium	SW6020A	mg/kg	9100	0.103 U	0.0985 U	0.622	0.155 J	0.0623 J	0.171 J	0.150 J	0.105 U	0.144 J	0.105 U	0.0813 J	0.0958 J	
Chromium	SW6020A	mg/kg	89	9.83	9.31	14.7	11.8	17.4	7.66	11.6	10.3	11.8	11.3	11.4	12.6	
Lead	SW6020A	mg/kg	400	2.53	2.04	24.9	38.4	2.31	3.15	6.86	1.84	4.57	3.42	6.01	7.01	
Mercury	SW6020A	mg/kg	360	0.0207 U	0.0197 U	0.0204 U	0.0196 U	0.0194 U	0.0198 U	0.0281 J	0.0209 U	0.575	0.0210 U	0.0218 J	0.0143 J	
Nickel	SW6020A	mg/kg	340000	7.06	7.00	10.8	10.7	13.0	5.86	8.26	7.32	9.01	8.98	8.32	9.43	
Selenium	SW6020A	mg/kg	6900	0.515 U	0.492 U	0.510 U	0.489 U	0.487 U	0.495 U	0.505 U	0.520 U	0.479 U	0.525 U	0.498 U	0.510 U	
Silver	SW6020A	mg/kg	11000	0.103 U	0.0985 U	0.102 U	0.299	0.0975 U	0.0990 U	0.101 U	0.105 U	0.435	0.105 U			
Vanadium	SW6020A	mg/kg	1100000	51.2	49.7	48.5	46.6	60.9	37.6	43.5	40.8	44.5	46.4	43.9	47.5	
Aroclor-1016	SW8082A	µg/kg	1	NA	NA	60.0 U	25.9 U	26.1 U	26.5 U	25.6 U	26.0 U	26.3 U	26.7 U	26.1 U	26.1 U	
Aroclor-1221	SW8082A	µg/kg	1	NA	NA	240 U	104 U	104 U	106 U	102 U	104 U	105 U	107 U	104 U	105 U	
Aroclor-1232	SW8082A	µg/kg	1	NA	NA	60.0 U	25.9 U	26.1 U	26.5 U	25.6 U	26.0 U	26.3 U	26.7 U	26.1 U	26.1 U	
Aroclor-1242	SW8082A	µg/kg	1	NA	NA	60.0 U	25.9 U	26.1 U	26.5 U	25.6 U	26.0 U	26.3 U	26.7 U	26.1 U	26.1 U	
Aroclor-1248	SW8082A	µg/kg	1	NA	NA	60.0 U	25.9 U	26.1 U	26.5 U	25.6 U	26.0 U	26.3 U	26.7 U	26.1 U	26.1 U	
Aroclor-1254	SW8082A	µg/kg	1	NA	NA	60.0 U	25.9 U	26.1 U	26.5 U	25.6 U	26.0 U	26.3 U	26.7 U	26.1 U	26.1 U	
Aroclor-1260	SW8082A	µg/kg	1	NA	NA	60.0 U	25.9 U	26.1 U	26.5 U	25.6 U	26.0 U	26.3 U	26.7 U	26.1 U	26.1 U	
1,1,1,2-Tetrachloroethane	SW8260C	µg/kg	22	6.90 U	6.75 U	9.00 U	6.55 U	6.80 U	8.10 U	5.50 U	6.85 U	6.70 U	7.90 U	7.50 U	6.10 U	9.95 U
1,1,1-Trichloroethane	SW8260C	µg/kg	32000	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,1,2,2-Tetrachloroethane	SW8260C	µg/kg	3	4.32 U	4.23 U	5.65 U	4.09 U	4.26 U	5.05 U	3.44 U	4.29 U	4.18 U	4.93 U	4.68 U	3.82 U	6.25 U
1,1,2-Trichloroethane	SW8260C	µg/kg	1.4	3.46 U	3.38 U	4.51 U	3.27 U	3.41 U	4.04 U	2.75 U	3.43 U	3.35 U	3.95 U	3.75 U	3.06 U	4.99 U
1,1-Dichloroethane	SW8260C	µg/kg	92	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,1-Dichloroethene	SW8260C	µg/kg	1200	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,1-Dichloropropene	SW8260C	µg/kg	18	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,2,3-Trichlorobenzene	SW8260C	µg/kg	150	17.3 U	16.9 U	22.6 U	16.4 U	17.1 U	20.2 U	13.8 U	17.1 U	16.8 U	19.8 U	18.8 U	15.3 U	24.9 U
1,2,3-Trichloropropane	SW8260C	µg/kg	0.031	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,2,4-Trichlorobenzene	SW8260C	µg/kg	150	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,2,4-Trimethylbenzene	SW8260C	µg/kg	160	17.3 U	16.9 U	22.6 U	16.4 U	17.1 U	20.2 U	237	74.1	16.8 U	19.8 U	18.8 U	15.3 U	24.9 U
1,2-Dibromo-3-chloropropane	SW8260C	µg/kg		34.5 U	33.9 U	45.1 U	32.7 U	34.1 U	40.4 U	27.6 U	34.3 U	33.5 U	39.5 U	37.5 U	30.6 U	49.9 U
1,2-Dibromoethane	SW8260C	µg/kg	0.24	3.46 U	3.38 U	4.51 U	3.27 U	3.41 U	4.04 U	2.75 U	3.43 U	3.35 U	3.95 U	3.75 U	3.06 U	4.99 U
1,2-Dichlorobenzene	SW8260C	µg/kg	2400	8.65 U	8.45 U	11.3 U	8.15 U	8.50 U	10.1 U	6.90 U	8.55 U	8.35 U	9.85 U	9.35 U	7.65 U	12.4 U
1,2-Dichloroethane	SW8260C	µg/kg	5.5	3.46 U	3.38 U	4.51 U	3.27 U	3.41 U	4.04 U	2.75 U	3.43 U	3.35 U	3.95 U	3.75 U	3.06 U	4.99 U
1,2-Dichloropropane	SW8260C	µg/kg	16	3.46 U	3.38 U	4.51 U	3.27 U	3.41 U	4.04 U	2.75 U	3.43 U	3.35 U	3.95 U	3.75 U	3.06 U	4.99 U

CITY OF PILOT POINT FORMER ALASKA PACKERS ASSOCIATION CANNERY SITE – ADEC HAZARD ID #1028

Table 2: Drums Inventory – Formerly Leaking Drums Area

Drum	Exterior Color	Capacity (gallons)	Volume of Contents	Presumed Contents	Exterior Markings / Notes	Clor-D-Tect Field Screening
1	Black/Blue	55	Full	Glycol/Water/Oil	Waste Water	-
2	Blue	55	Full	Unknown	COPP - Bright Green Bung rusted shut and not able to be opened	-
3	Black	55	Full	Diesel/Water	Waste Water	-
4	Black	55	Full	Used oil	"100" at top edge midway between bungs	ND
5	Black	55	Full	Glycol/Water/Oil	Waste Water	-
6	Blue	55	Full	Glycol/Water/Oil	COPP- Bright Green	-
7	Black	55	Full	Used oil	Uses Oil / Diesel Fuel Mix (Red Lid)	ND
8	Blue	55	Full	Used oil	Chevron Delo 400 SAE	ND
9	Blue	55	2/3	Marine Gas (Blue)/ Water	Rusted Top	-
10	Blue	55	2/3	Diesel/Water	Chevron Delo 400 Multigrade SAE 15W-40/Water Gas	ND
11	Red	55	Full	Diesel/Water/ Solvent	10100 near top of edge	ND
12	Blue	55	Full	Diesel/Water	Chevron Delo 400 LE SAE 15W-40 / Waste Water	ND
13	Rusted	55	Full	Diesel/Water	Waste Water	-
14	Blue	55	Full	Waste Oil/Glycol	Waste Water	ND
15	Blue	55	Full	Waste Oil/Water	Antifreeze Contaminated Waste Bung rusted shut and not able to be opened	ND
16	Black	55	Full	Glycol/Water/Oil	Drum had hole on lower 1/3 - Drum is inverted to prevent leaking.	-
17	Black	55	3/4	Unknown	Component B- Urethane Contractors Supply Co. Bung rusted shut and not able to be opened	-
18	Black	55	1/6	Waste oil		ND
19	White	55	Full	Unknown	Bung rusted shut and not able to be opened.	-
20	Black	55	1/2	Marine Blue Fuel & Oil Mix	Drum is crumpled and stored on side due to hole.	-
21	Blue	55	Full	waste hydraulic oil	Waste Hydraulic Oil - From Village Loader Flush	ND
22	Blue	55	Full	waste hydraulic oil	Waste Hydraulic Oil - From Village Loader Flush	ND
23	Blue	55	Full	waste hydraulic oil	Waste Hydraulic Oil - From Village Loader Flush	ND
24	White	5	Full	Diesel/Gas/Oil		-
25	White/Blue	5	Full	Diesel/Gas/Oil		-
26	Black	5	Full	Diesel/Gas/Oil		-

Table 2 (continued): Drums Inventory – Formerly Leaking Drums Area

Drum	Exterior Color	Capacity (gallons)	Volume of Contents	Presumed Contents	Exterior Markings / Notes	Clor-D-Tect 1000 Field Screening
27	Black	5	Full	Diesel/Gas/Oil		-
28	Black	5	Full	Diesel/Gas/Oil		-
29	Blue	5	Full	Diesel/Gas/Oil		-
30	White/Blue	5	Full	Diesel/Gas/Oil		-
31	Black	5	Deminimus	Used Oil	Crank gear in 5-gallon bucket	-
32	Black	5	Full	Waste Transmission Oil		-
33	Clear	1	Full	Diesel/Water		-
34	Blue	1	1/4	2 stroke Oil and Gas		-

Key:

ND – chlorine not detected above 500 parts per million by Clor-D-Tect®
 – Not sampled due to water content, inaccessibility

CITY OF PILOT POINT FORMER ALASKA PACKERS ASSOCIATION CANNERY SITE – ADEC HAZARD ID #1028

Table 3: Groundwater Sample Results

		Sample ID		17PIP001GW	17PIP201GW	Trip Blank
		Lab Sample ID		1175815001	1175815002	1175815003
		Matrix		Groundwater	Groundwater	Groundwater
		Date Sampled		2017/08/15 10:10:00	2017/08/15 10:13:00	2017/08/15 21:00:00
Analyte	Analysis	Unit	Cleanup Level			
1-Methylnaphthalene	8270D SIM	µg/L	11	0.0245 U	0.0236 U	
2-Methylnaphthalene	8270D SIM	µg/L	36	0.0245 U	0.0236 U	
Acenaphthene	8270D SIM	µg/L	530	0.0245 U	0.0236 U	
Acenaphthylene	8270D SIM	µg/L	260	0.0245 U	0.0236 U	
Anthracene	8270D SIM	µg/L	73	0.0245 U	0.0236 U	
Benzo(a)Anthracene	8270D SIM	µg/L	0.12	0.0245 U	0.0236 U	
Benzo[a]pyrene	8270D SIM	µg/L	0.034	0.00980 U	0.00945 U	
Benzo[b]Fluoranthene	8270D SIM	µg/L	0.34	0.0245 U	0.0236 U	
Benzo[g,h,i]perylene	8270D SIM	µg/L	0.26	0.0245 U	0.0236 U	
Benzo[k]fluoranthene	8270D SIM	µg/L	0.8	0.0245 U	0.0236 U	
Chrysene	8270D SIM	µg/L	2.0	0.0245 U	0.0236 U	
Dibenzo[a,h]anthracene	8270D SIM	µg/L	0.034	0.00980 U	0.00945 U	
Fluoranthene	8270D SIM	µg/L	260	0.0245 U	0.0236 U	
Fluorene	8270D SIM	µg/L	290	0.0245 U	0.0236 U	
Indeno[1,2,3-c,d] pyrene	8270D SIM	µg/L	0.19	0.0245 U	0.0236 U	
Naphthalene	8270D SIM	µg/L	1.7	0.0490 U	0.0471 U	
Phenanthrene	8270D SIM	µg/L	170	0.0245 U	0.0236 U	
Pyrene	8270D SIM	µg/L	120	0.0245 U	0.0236 U	
Gasoline Range Organics	AK101	µg/L	2200	0.0500 U	0.0500 U	0.0500 U
Diesel Range Organics	AK102/103	µg/L	1500	0.283 U	0.782	
Residual Range Organics	AK102/103	µg/L	1100	0.236 U	0.850	
Arsenic	SW6020A	µg/L	0.52	2.52 J	2.50 U	
Barium	SW6020A	µg/L	3800	4.35	4.34	
Cadmium	SW6020A	µg/L	9.2	1.00 U	1.00 U	
Chromium	SW6020A	µg/L	22000	1.70 J	2.00 U	
Lead	SW6020A	µg/L	15	0.500 U	0.500 U	
Mercury	SW6020A	µg/L	0.52	0.100 U	0.100 U	
Nickel	SW6020A	µg/L	390	1.00 U	1.00 U	
Selenium	SW6020A	µg/L	100	10.0 U	10.0 U	
Vanadium	SW6020A	µg/L	86	10.0 U	10.0 U	

Table 3 (continued): Groundwater Sample Results

1,1,1,2-Tetrachloroethane	SW8260C	µg/L	5.7	0.250 U	0.250 U	0.250 U
1,1,1-Trichloroethane	SW8260C	µg/L	8000	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	SW8260C	µg/L	0.76	0.250 U	0.250 U	0.250 U
1,1,2-Trichloroethane	SW8260C	µg/L	0.41	0.200 U	0.200 U	0.200 U
1,1-Dichloroethane	SW8260C	µg/L	28	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	SW8260C	µg/L	280	0.500 U	0.500 U	0.500 U
1,1-Dichloropropene	SW8260C	µg/L		0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	SW8260C	µg/L	7	0.500 U	0.500 U	0.500 U
1,2,3-Trichloropropane	SW8260C	µg/L	0.0075	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	SW8260C	µg/L	4.0	0.500 U	0.500 U	0.500 U
1,2,4-Trimethylbenzene	SW8260C	µg/L	15	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	SW8260C	µg/L		5.00 U	5.00 U	5.00 U
1,2-Dibromoethane	SW8260C	µg/L	0.075	0.0375 U	0.0375 U	0.0375 U
1,2-Dichlorobenzene	SW8260C	µg/L	300	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	SW8260C	µg/L	1.7	0.250 U	0.250 U	0.250 U
1,2-Dichloropropane	SW8260C	µg/L	4.4	0.500 U	0.500 U	0.500 U
1,3,5-Trimethylbenzene	SW8260C	µg/L	120	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	SW8260C	µg/L	300	0.500 U	0.500 U	0.500 U
1,3-Dichloropropane	SW8260C	µg/L	4.7	0.250 U	0.250 U	0.250 U
1,4-Dichlorobenzene	SW8260C	µg/L	4.8	0.250 U	0.250 U	0.250 U
2,2-Dichloropropane	SW8260C	µg/L		0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	SW8260C	µg/L	5600	5.00 U	5.00 U	5.00 U
2-Chlorotoluene	SW8260C	µg/L		0.500 U	0.500 U	0.500 U
2-Hexanone	SW8260C	µg/L	38	5.00 U	5.00 U	5.00 U
4-Chlorotoluene	SW8260C	µg/L		0.500 U	0.500 U	0.500 U
4-Isopropyltoluene	SW8260C	µg/L		0.500 U	0.500 U	0.500 U
4-Methyl-2-pentanone (MIBK)	SW8260C	µg/L	6300	5.00 U	5.00 U	5.00 U
Benzene	SW8260C	µg/L	4.6	0.200 U	0.200 U	0.200 U
Bromobenzene	SW8260C	µg/L	62	0.500 U	0.500 U	0.500 U
Bromochloromethane	SW8260C	µg/L		0.500 U	0.500 U	0.500 U
Bromodichloromethane	SW8260C	µg/L	1.3	0.250 U	0.250 U	0.250 U
Bromoform	SW8260C	µg/L	33	0.500 U	0.500 U	0.500 U
Bromomethane	SW8260C	µg/L	7.5	2.50 U	2.50 U	2.50 U
Carbon disulfide	SW8260C	µg/L	810	5.00 U	5.00 U	5.00 U
Carbon tetrachloride	SW8260C	µg/L	4.6	0.500 U	0.500 U	0.500 U
Chlorobenzene	SW8260C	µg/L	78	0.250 U	0.250 U	0.250 U
Chloroethane	SW8260C	µg/L	21000	0.500 U	0.500 U	0.500 U

CITY OF PILOT POINT FORMER ALASKA PACKERS ASSOCIATION CANNERY SITE – ADEC HAZARD ID #1028

Table 3 (continued): Groundwater Sample Results

Chloroform	SW8260C	µg/L	2.2	0.500 U	0.500 U	0.500 U
Chloromethane	SW8260C	µg/L	190	0.660 J	0.680 J	0.750 J
Dibromochloromethane	SW8260C	µg/L	8.7	0.250 U	0.250 U	0.250 U
Dibromomethane	SW8260C	µg/L	0.075	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	SW8260C	µg/L	200	0.500 U	0.500 U	0.500 U
Ethylbenzene	SW8260C	µg/L	15	0.500 U	0.500 U	0.500 U
Freon-113	SW8260C	µg/L	55000	5.00 U	5.00 U	5.00 U
Hexachlorobutadiene	SW8260C	µg/L	1.4	0.500 U	0.500 U	0.500 U
Isopropylbenzene (Cumene)	SW8260C	µg/L	450	0.500 U	0.500 U	0.500 U
Methyl-t-butyl ether	SW8260C	µg/L	140	5.00 U	5.00 U	5.00 U
Methylene chloride	SW8260C	µg/L	110	2.50 U	2.50 U	2.50 U
Naphthalene	SW8260C	µg/L	1.7	0.500 U	0.500 U	0.500 U
P & M -Xylene	SW8260C	µg/L	190	1.00 U	1.00 U	1.00 U
Styrene	SW8260C	µg/L	1200	0.500 U	0.500 U	0.500 U
Tetrachloroethene	SW8260C	µg/L	41	0.500 U	0.500 U	0.500 U
Toluene	SW8260C	µg/L	1100	0.500 U	0.500 U	0.500 U
Trichloroethene	SW8260C	µg/L	2.8	0.580 J	0.380 J	0.500 U
Trichlorofluoromethane	SW8260C	µg/L	5200	0.500 U	0.500 U	0.500 U
Vinyl acetate	SW8260C	µg/L	410	5.00 U	5.00 U	5.00 U
Vinyl chloride	SW8260C	µg/L	0.19	0.0750 U	0.0750 U	0.0750 U
Xylenes (total)	SW8260C	µg/L	190	1.50 U	1.50 U	1.50 U
cis-1,2-Dichloroethene	SW8260C	µg/L	36	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	SW8260C	µg/L		0.250 U	0.250 U	0.250 U
n-Butylbenzene	SW8260C	µg/L	1000	0.500 U	0.500 U	0.500 U
n-Propylbenzene	SW8260C	µg/L	660	0.500 U	0.500 U	0.500 U
o-Xylene	SW8260C	µg/L	190	0.500 U	0.500 U	0.500 U
sec-Butylbenzene	SW8260C	µg/L	2000	0.500 U	0.500 U	0.500 U
tert-Butylbenzene	SW8260C	µg/L	690	0.500 U	0.500 U	0.500 U
trans-1,2-Dichloroethene	SW8260C	µg/L	360	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	SW8260C	µg/L		0.500 U	0.500 U	0.500 U

Key:

(*italics*) - method detection limit is above the 18 AAC 75 Table C. ADEC Groundwater Cleanup Level

µg/L - micrograms per liter

AAC - Alaska Administrative Code

ADEC - Alaska Department of Environmental Conservation

AK - Alaska Test Method

EPA - U.S. Environmental Protection Agency

J- analyte concentration estimated

SIM - selective ion monitoring

SW - EPA Solid Waste Method 846

U - analyte not detected

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Shop Spill Area Pre Excavation (Aug 2017)



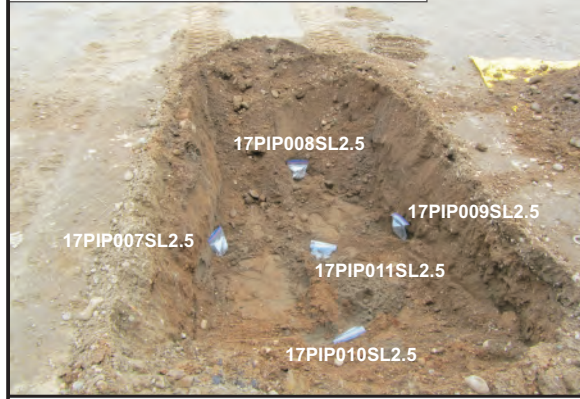
Shop Spill Area (Sep 2014)



Shop Spill Area (Sep 2014)
Post Soil Removal and Stockpiling



Shop Spill Area During Excavation (Aug 2017)



Shop Spill Area Temporary Stockpile Post Excavation (Aug 2017)



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Former Leaking Drum Area Pre Excavation (Aug 2017)



POST SOIL REMOVAL FROM CONCRETE PAD AND RELOCATION OF DRUMS TO CONTAMINATED SOIL STOCKPILE (3-31-2017)



LEAKING DRUMS AND POTABLE WATER WELL (8-29-16)

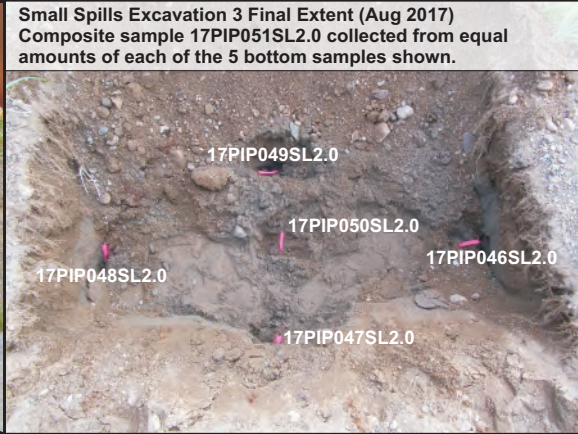
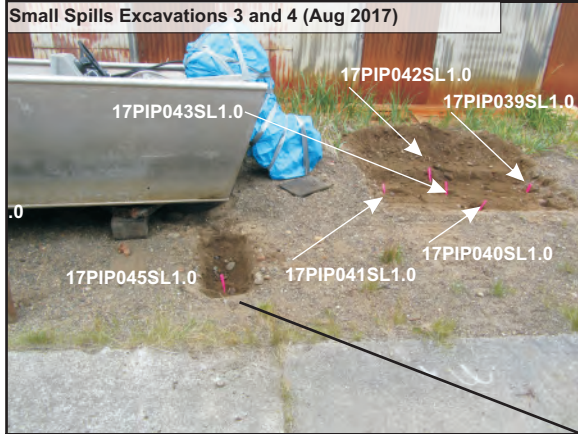
Former Leaking Drum Area During Excavation (Aug 2017)



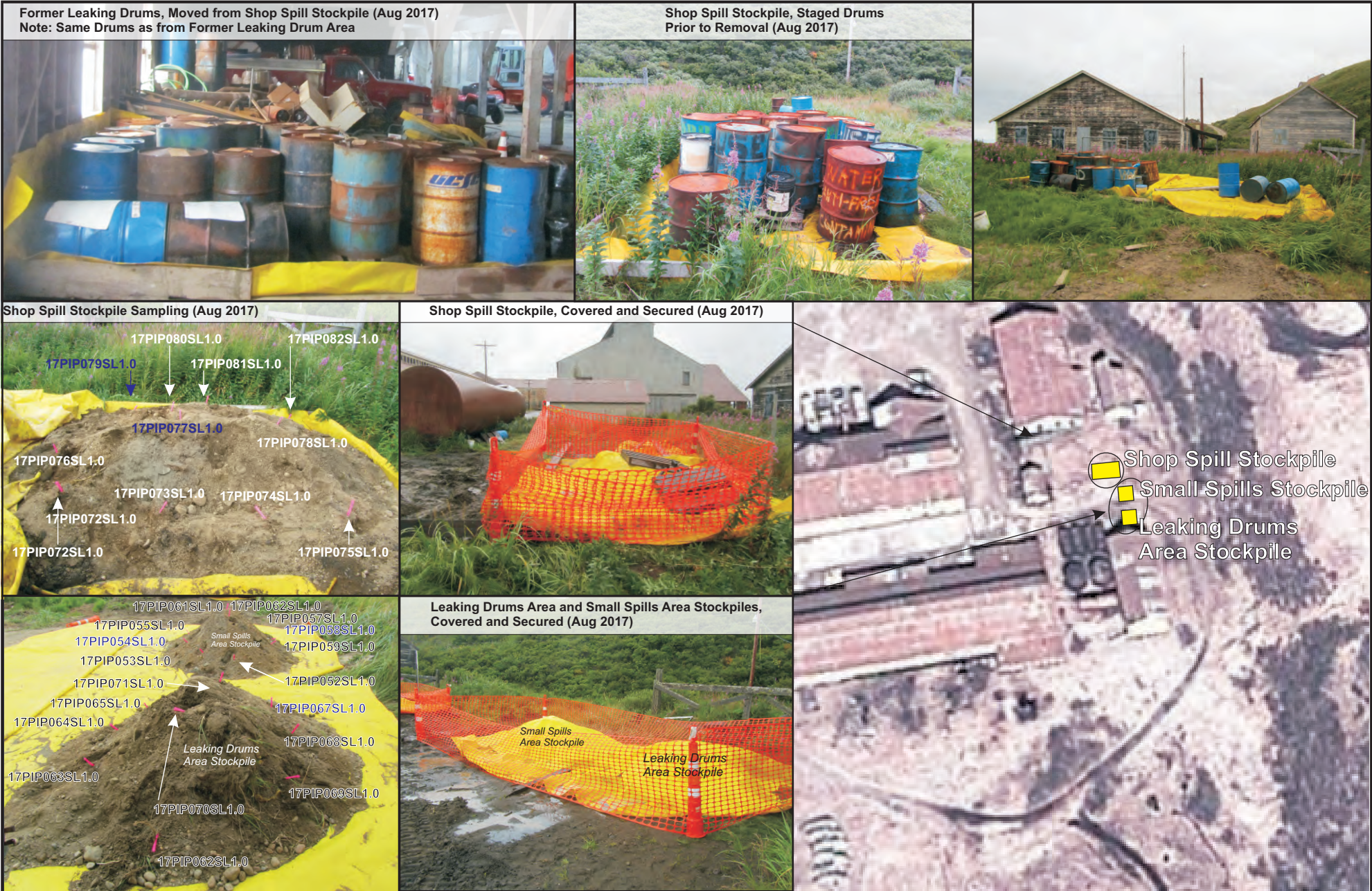
Former Leaking Drum Area Post Excavation (Aug 2017)



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3.0 RECOMMENDATIONS

3.1 SHOP SPILL AREA

Based on the results of the post excavation laboratory analysis, the Shop Spill Area should be eligible for closure. No additional corrective action at this location is recommended.

3.2 LEAKING DRUMS AREA

Based on the results of the post excavation laboratory analysis, the Leaking Drums Area should be eligible for closure. No additional corrective action at this location is recommended.

3.3 SMALL SPILLS AREA

Based on the results of the post excavation laboratory analysis, the Small Spills Area should be eligible for closure. There were no other sources of small spills present at the time of the corrective action. The presence of small skiffs presents the possibility of additional spills from engines and jerry cans being used to refuel skiff engines. No additional corrective action at this location is recommended. However, it is recommended that the City coordinate with the boat owners to ensure that any future activities in this area take necessary precautions to prevent future spills from occurring.

3.4 SHOP SPILL STOCKPILE

The Shop Spill Stockpile is not currently eligible to be deposited in the local landfill. This Stockpile should be either treated on-site with fertilizer, tilled, and rotated seasonally, and resampled until it meets the criteria for landfilling, or it could be containerized and shipped off-site for treatment by thermal desorption. The City will need to coordinate with ADEC on additional actions regarding this soil stockpile.

3.5 LEAKING DRUMS AREA STOCKPILE

The leaking drums stockpile is not currently eligible to be deposited in the local landfill, because DRO was noted at 8,090 mg/kg and RRO at 62,500 mg/kg. As there are no CERCLA contaminants present in this stockpile, or the Shop Spill Stockpile, it is recommended that the Leaking Drums Area Stockpile be combined with the Shop Spill Stockpile and managed collectively as one singular stockpile.

3.6 SMALL SPILLS AREA STOCKPILE

The Small Spills Area Stockpile had only one exceedance of SCLs (DRO at 465 mg/kg); therefore, it is eligible for deposition in the local landfill.

CITY OF PILOT POINT FORMER ALASKA PACKERS ASSOCIATION CANNERY SITE – ADEC HAZARD ID #1028

The Pilot Point Solid Waste Landfill is a Class III landfill, which may accept up to 500 cubic yards of polluted soil, that is not a regulated hazardous waste, and that was excavated during a spill response or leaking underground storage tank action to comply with an approved cleanup plan, and be used for a beneficial use, such as fill. A *Disposal of Low-Level Petroleum Polluted Soil Approval Request Form* for a Class III Landfill would need to be submitted by both the generator and the landfill owner to ADEC. The limits for low-level petroleum contaminated soil are GRO 900 mg/kg, DRO 2,000 mg/kg, and RRO 4,500 mg/kg.

4.0 REFERENCES

- Alaska Department of Environmental Conservation (ADEC). 2016a. RE: Former Alaska Packers Assn. Cannery (Pilot Point) [Letter]. September 15.
- ADEC. 2016b. ADEC Division of Spill Prevention and Response Contaminated Sites Program, Field Sampling Guidance. March.
- ADEC. 2017. 18 Alaska Administrative Code (AAC) 75. Oil and Other Hazardous Substances Pollution Control, Revised as of November 7, 2017.
- Alaska Department of Natural Resources (ADNR). 2017. ADNR Well Log Tracking System (WELTS) database, <https://dnr.alaska.gov/welts/public/wellog/show/logid/34005>.
- HartCrowser. 2007. ADEC Reuse and Redevelopment Initiative, Brownfield Assessment, Phase I Environmental Site Assessment Report, Former Alaska Packers Cannery, Pilot Point, Alaska. June 26.
- Pilot Point. 2017. Personal communication with Jerry Price, Operations and Maintenance, Pilot Point, with Stantec. March 30.
- SGS North American (SGS). 2013. Laboratory Report 1133683003, Pilot Point Village Council, Water Samples. . August 21.

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Appendix A

Field Notes



Name Douglas Quist
STANTEC

Address 725 E. Firwood Lane
Suite 200
Anchorage, AK 99503

Phone 907-266-1148

Email douglas.quist@stantec.com

Projects City of Pilot Point
Former Alaska Packers Association
Cannery Site - ADEC Hazard ID # 1028
Corrective Action
8/14/17 to 8/17/17



RiteintheRain.com

8-15-2017

Pilot Point CAP

0830 - Begin Health & Safety Moment
Jerry to fetch lines for New Stockpiles.

1000 - Collect Drinking Water Sample.

1010 17PIP001GW - Primary

1013 17PIP001GW - Duplicate

AK101/8260C / w EDB 1', 2 DCA GRO/Voc's
6020A + Ni + V LCRA & Metals

AK102/AK103 DRO/RRD

8270 & SIM PAH

PHi 410 Beckman / Cobler pH Meter Calibrated 4.01 ± 7.00
944125

	pH	mV	Temp	EC μ S	YSI 30 Salinity Conductivity Temp
First Purge	7.11	-31.8	6.1°C	199.0	
2 min	7.17	-35.7	5.7°C	193.6	
5 min	7.21	-35.3	5.4°C	196.1	99J6382
7 min	7.20	-35.8	5.4°C	189.7	
Post Collection	7.22	-36.7	5.5°C	187.1	

Place Samples in Cooler with gel ice.

8-15-2017

Pilot Point CAP

PID Calibration

Mini RAE 2000 SN 110-006756

Isobutylene 100 ppm Lot 371527

Calibration Reading 102 ppm @ 1035

1040 - Called Erin Gleason with ADEC To
Give update.

1. Shop Spill will be Excavated as one - not 5
Test Pits based on Jerry Phillips information
about original Cleanup.
2. Leaking Drum Area Soil atop Concrete had
been scraped by Jerry + Placed on Soil
West of the concrete Berm. Soil to be
Removed + Stockpiled. Samples to be Collected
from stained areas and Post Excavation
3. Drums to be relocated in Cannery Building
or Broomed lines
4. Stockpiles to be fenced w/ snow fencing
and signage placed stating Contaminated Soil
Do Not Disturb.

8/15/17

Pilot Point CAP

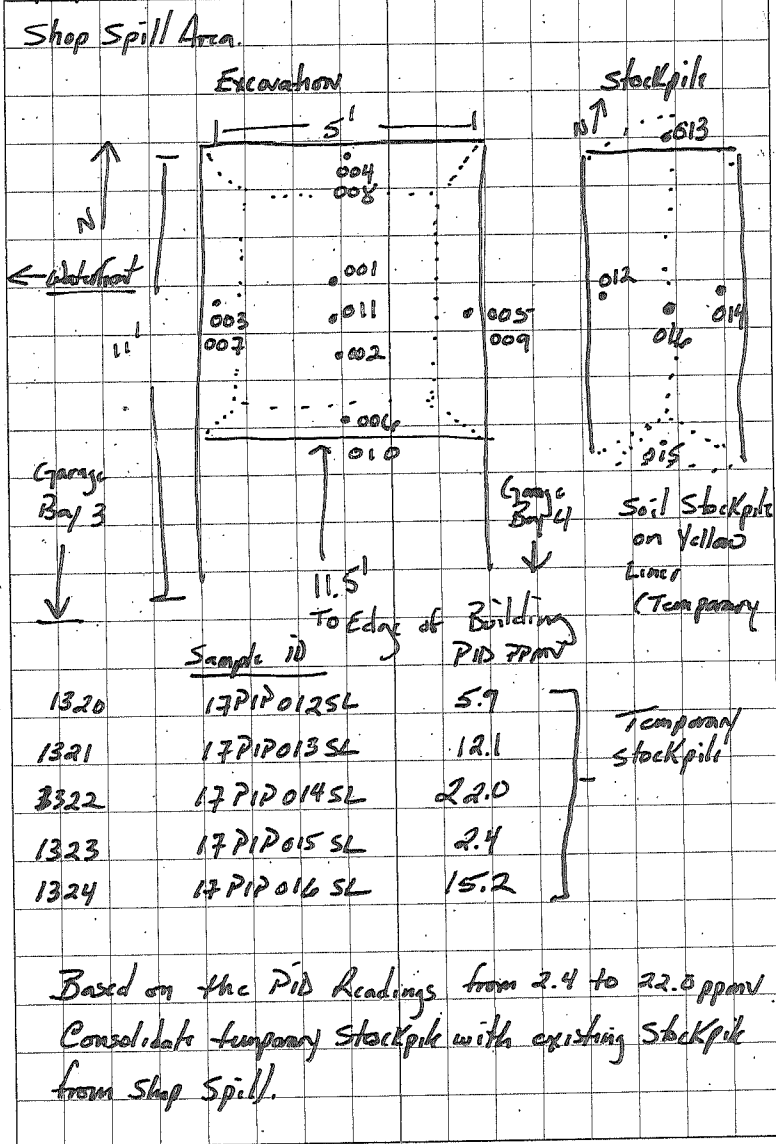
1210 - Begin Shop Spill Excavation
 Spill located Between Bays 3 & 4 ^{West to} FROM East
 New Stained Soil from Leaking Dump Truck.
 Remove Soil & add to Existing Stockpile.

Sample ID	PID PPMV	
1220	17PIP001SL 0.5	- 53.9 ppm - Moved to Stockpile
1225	17PIP001SL 0.75	- 0.00
1230	17PIP002SL 0.75	- 0.01
1231	17PIP003SL 0.75	- 0.00
1232	17PIP004SL 0.75	- 0.00
1233	17PIP005SL 0.75	- 0.03
1234	17PIP006SL 0.75	- 0.00
} Considered Clean Backfill at top former spill area		
1240	17PIP007SL 2.5	- 0.06
1241	17PIP008SL 2.5	- 1.2
1242*	17PIP007SL 2.5	- 1.3
1243	17PIP010SL 2.5	- 1.2
1244	17PIP011SL 2.5	- 0.9
} No odor No visible staining - Predominately Well Graded Sand - Native Soil.		

* Sample Submitted for lab analysis along with duplicate
 17PIP209SL 2.5 - GRG, DRG, RRO, VOCs, PAHs, EOB
 RCRA & Metals, Ni, V

8/15/17

Pilot Point CAP

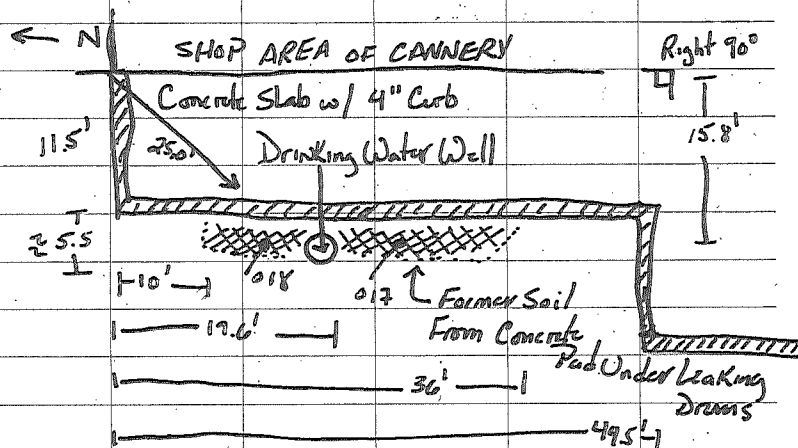


6

8/15/17

Pilot Point CAP

Former Leaking Drums Area.

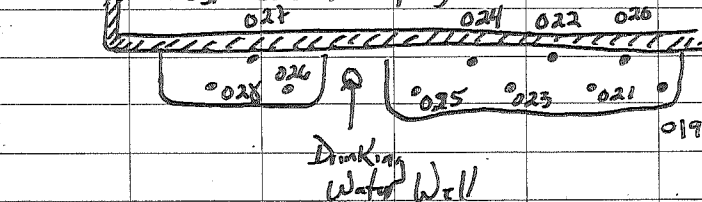


Sample id	PID PPMV	Notes
1350 17PIP017SL0.5	0.7	Most heavily stained
1355 17PIP018SL0.5	0.4	Areas -

No Odor from either 017 or 018, however both were heavily stained. - 017 submitted as one

Stockpile Sample.

Post Removal Sampling



Drinking Water Well

7

8/15/17

Pilot Point CAP.

Sample ID	PID PPMV	Depth
1430 17PIP019SL1.0	0.1	36.9' 155'
1431 17PIP020SL1.0	0.7	34.2 125'
*1432 17PIP021SL1.0	0.8	33.7'
1433 17PIP022SL1.0	0.60	30.7'
1434 17PIP023SL1.0	0.4	31.2'
1435 17PIP024SL1.0	0.3	27.2'
*1436 17PIP025SL1.0	0.9	27.8'
1437 17PIP026SL1.0	0.6	23.1'
1438 17PIP027SL1.0	0.5	20.3'
1439 17PIP028SL1.0	0.1	20.3'

*Laboratory Sample. submitted for off-site analysis.

GRO, DRG, RRO, VOCs, PAH, EDB, PCRA & Metals
Ni, V.

8

8/15/17

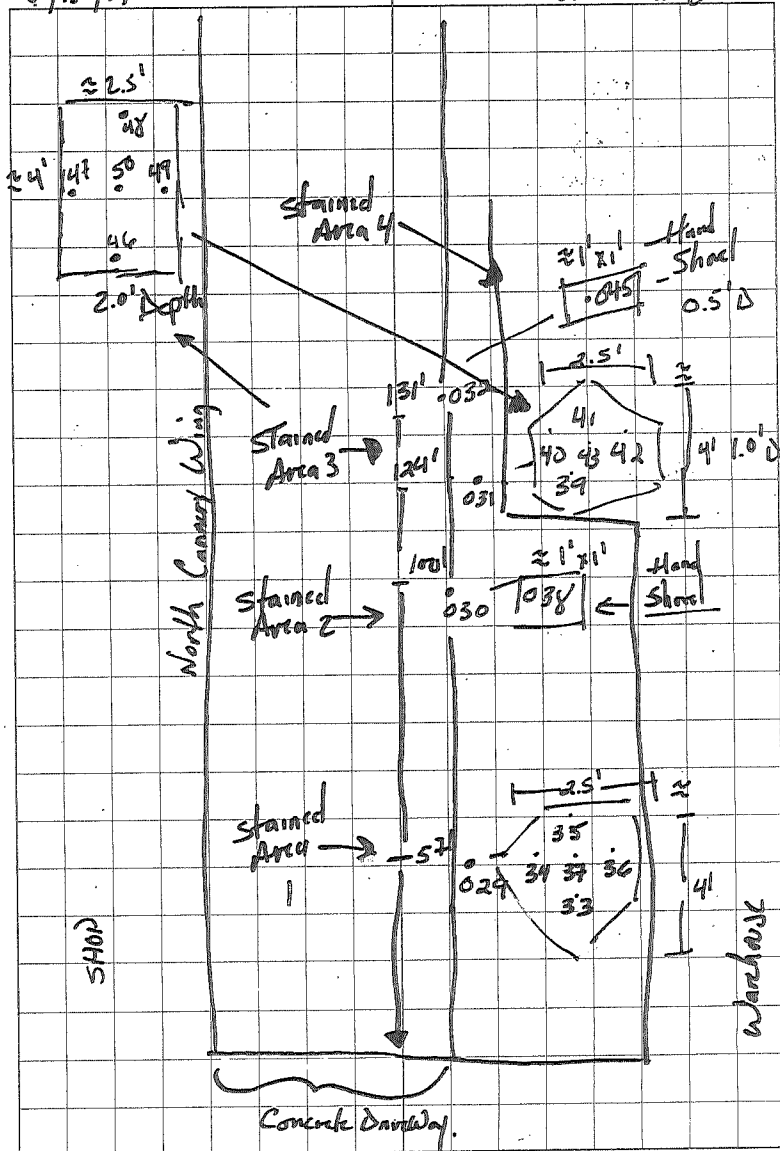
Pilot Point CAP

Small Spills Area Between Canopy Wings

	Sample ID	PID PPMV	Spill #
1500	177PID 029 SL 0.5	1.0	1
1503	030 SL 0.5	1.5	2
1505	031 SL 0.5	0.6	3
1506	032 SL 0.5	2.4	4
1515	033 SL 0.75	0.3	1
16	034 SL 0.75	1.4	1
17	035 SL 0.75	1.3	1
18	036 SL 0.75	1.4	1
19	037 SL 0.75	6.1	1
15 25	038 SL 0.5	2.1	2
27	039 SL 1.0	2.0	3
28	040 SL 1.0	0.6	3
29	041 SL 1.0	2.1	3
30	042 SL 1.0	8.1	3
31	043 SL 1.0	19.0 ← Sweet Smelling	3
32	044 SL 0.5	2.7	4 Solvent like
15 35	045 - Duplicate	2.3	4
16 00	046 SL 2.0	1.2	3
16 02	047 SL 2.0	2.3	3
16 04	048 SL 2.0	0.0	3
16 06	049 SL 2.0	1.3	3
16 08	050 SL 2.0	1.1	3

8/15/17

Pilot Point CAP



Rite in the Rain

8/15/17

Pilot Point CAP

1615 PID Bump Test = 102 ppm Isobutylene

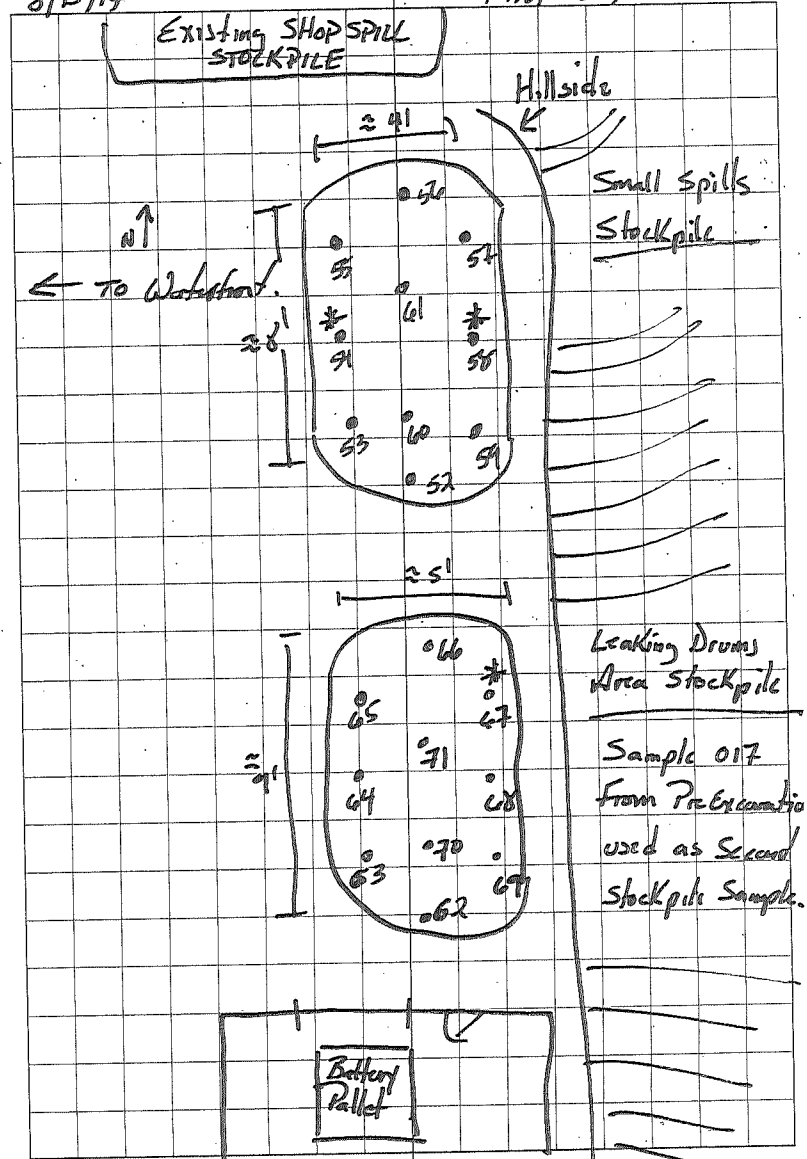
1620 17 PPOSISL2.

Composite Sample From Four Sidewalls +
Bottom of Excavation From Spill #3

	Sample ID	PID PPM
1646	17P17 052SLO.5	0.0
41	053	0.2
42 *	054	18.5
43	055	0.1
44	056	1.5
45	057	0.0
46 *	058	37.6
47	059	0.0
48	060	5.4
49	061	0.0
1700	062	0.0
01	063	0.1
02	064	0.0
03	065	0.5
04	066	0.2
05 *	067	1.7
06	068	0.0
07	069	0.0
08	070	0.1
09	071	0.0

8/15/17

Pilot Point CAP



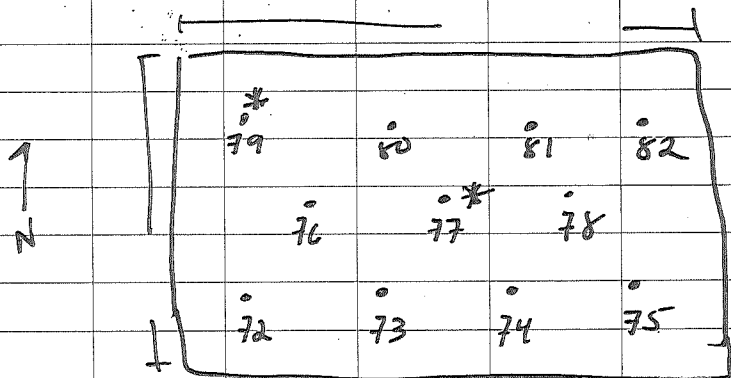
Rite in the Rain

8/15/17

Pilot Point CAP

Shop Spill Stockpile.

	Sample ID	PID PPMV
1800	17PIPO72SL	4.9
1801	073	24.6
1802	074	41.5
1803	075	34.4
1804	076	13.2
1805 *	077	67.2
1806	078	41.1
1807 *	079	81.8
1808	080	30.8
1809	081	19.4
1810	082	12.2



1817	17PIP	279SL	83.2	Duplicate
------	-------	-------	------	-----------

8/15/17

Pilot Point CAP

1830 - Recover Shop Spill Stockpile

New Leaking Drum Stockpile
andNew Small Spills Stockpiles
Have Separate Under liners Folded
back over on their respective Tiles
And share on Contiguous Second
Cover Over the Top. To be Secured
And wrapped with snow fencing
tomorrow. 8/16/17Signage Made by COPP for
all three stockpiles.

Samples Quoted 8/15/17

8/16/17

Pilot Point CAP

0835 - Health and Safety
Begin Drum Sampling

Drum #	Exterior Color	Capacity	Vol of Contents	Presumed Contents
1	Black/Blue	55g	Full	Glycol/Water/Oil
2	Blue	55g	Full	
3	Black	55g	F	Diesel/Water
4	Black	55g	Full	Used Oil
5	Black	55g	F	Glycol/Water
6	Blue	55g	F	Glycol/Water
7	Black	55g	Full	Used Oil
8	Blue	55g	Full	Used Oil
9	Blue	55g	2/3	Blue Marine Gas/Water
10	Blue	55g	2/3	Gasoline/Water
11	Red	55g	Full	Diesel/Water/Solvent?
12	Blue	55g	Full	Diesel/Water
13	Rusted	55g	Full	Diesel/Water
14	Blue	55g	Full	Waste Oil + Glycol
15	Blue	55g	Full	Waste Oil + Water
16	Black	55g	Full	Antifreeze
17	Black	55g	3/4	Unknown - Bung on Bottom
18	Black	55g	1/6	Waste Oil
19	White	55g	Full	Unknown - Bung on Bottom

8/16/17

Pilot Point CAP

Exterior Markings

Waste Water

COPP - Bright Green

Waste Water

100 at top Edge Midway Between Bungs

Waste Water

COPP - BRIGHT GREEN

USES OIL / Diesel Fuel Mix Top Red Lid

Chevron Delco 400 SAE

Rusted Top

Chevron Delco 400 Multigrade SAE 15W-40 / Water Gas

10100 Near Top Edge

Chevron Delco 400 LE SAE 15W-40 / Waste Water

Waste Water

Waste

Bung Rusted Shut / Antifreeze Contaminated Waste

Drum has hole in Side lower 1/3 - Inverted

Component B - URETHANE CONTRACTORS supply CO.

Polyurethane or Isocyanate

8/16/17

Pilot Point CA

Dam #	Color Exterior	Capacity	Vol of contents	Presumed Contents
20	Black	55g	1/2	Marine Blue Fuel & Oil Mix
21	Blue	55g	Full	
22	Blue	55g	Full	
23	Blue	55g	Full	
24	White	5g	Full	
25	Wh. & Blk	5g	Full	Mixed Diesel/Gas
26	Black	5g	Full	and Oil
27	Black	5g	Full	
28	Black	5g	Full	
29	Blue	5g	Full	
30	White/Blk	5g	Full	
31	Black	5g	Denarius	Used Oil
32	Black	5g	Full	Waste transmission Oil
33	Clear	1g	Full	Diesel/Water
34	Blue	1g	1/4	2 stroke & Gas

8/16/17

Pilot Point CA

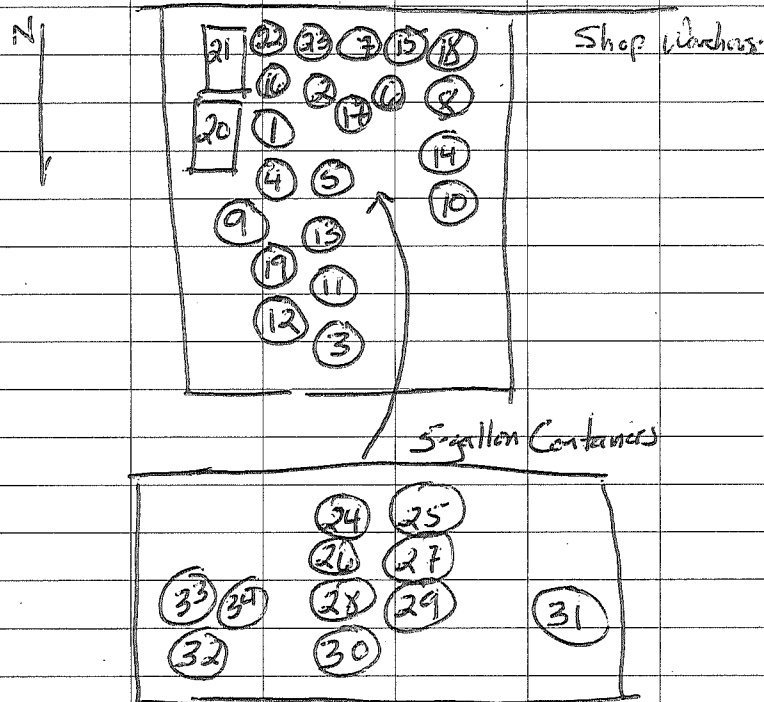
Exterior Markings

None - Drum is Crumpled and Stored on Side due to fabric.
 Waste hydraulic Oil - From Village Loader Flush
 Waste hydraulic Oil - From Village Loader Flush
 Waste hydraulic Oil - From Village Loader Flush

Jaylan Quint 8/16/17

8/16/17

Pilot Point CAP



Location of Drums in Shop Warehouse
 Note Drums 20/21 are laid on their side due to a hole in each. This is to prevent further spillage until it can be transferred to another container

Douglas D. Smith

Appendix B

Laboratory Report and

ADEC Laboratory Data Checklist



Laboratory Report of Analysis

To: Stantec Consulting Services Inc.
725 East Fireweed Lane, #200
Anchorage, AK 99503
(907)248-8883

Report Number: **1175815**

Client Project: **Pilot Point Corrective Action**

Dear Douglas Quist,

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

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

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

Sincerely,
SGS North America Inc.

Justin Nelson
Project Manager
Justin.Nelson@sgs.com

Date

Print Date: 09/14/2017 4:08:48PM

Case Narrative

SGS Client: **Stantec Consulting Services Inc.**
SGS Project: **1175815**
Project Name/Site: **Pilot Point Corrective Action**
Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

17PIP009SL2.5 (1175815004) PS

8011 - EDB by Microextract was analyzed by Test America of Denver, CO.

17PIP017SL0.5 (1175815006) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (4X) and a final extraction volume of 10 mL.

AK103 - Surrogate recovery for n-triacontane (0%) does not meet QC criteria due to sample dilution (20X) and a final extraction volume of 10 mL.

8270D SIM - PAH surrogate recovery for Fluoranthene-d10 (163%) do not meet QC criteria due to sample dilution (40X).

8082A - Surrogate recovery for decachlorobiphenyl (18%) does not meet QC criteria due to matrix interference. The sample was re-extracted and the original results were confirmed.

17PIP079SL1.0 (1175815014) PS

AK103 - Surrogate recovery for n-triacontane (0%) does not meet QC criteria due to sample dilution (40X).

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

17PIP279SL1.0 (1175815015) PS

AK103 - Surrogate recovery for n-triacontane (0%) does not meet QC criteria due to sample dilution (10X) and a final extraction volume of 5 mL.

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

8082A - Surrogate recovery for decachlorobiphenyl (59%) does not meet QC criteria due to matrix interference.

LCS for HBN 1766630 [XXX/38220 (1406884) LCS

8270D SIM - PAH LCS recovery for acenaphthene (112%) does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

LCS for HBN 1767126 [VXX/31169 (1408885) LCS

8260C - LCS recoveries for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in associated samples.

LCSD for HBN 1767126 [VXX/3116 (1408886) LCSD

8260C - LCSD recoveries for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in associated samples.

Case Narrative

SGS Client: **Stantec Consulting Services Inc.**
SGS Project: **1175815**
Project Name/Site: **Pilot Point Corrective Action**
Project Contact: **Douglas Quist**

1175742011(1407169MS) (1407170) MS

6020A - Metals MS recovery for chromium (172%) and vanadium (224%) did not meet QC criteria. The post digestion spike was successful.

1175942001(1407774MS) (1407775) MS

6020A - Metals MS recoveries for arsenic (78.9%) and barium (81.6%) do not meet QC criteria. The post digestion spike was successful.

1175541001(1408887MS) (1408888) MS

8260C - MS recoveries for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

1175825001(1407124MSD) (1407055) MSD

8260C - MSD RPD for trichlorofluoromethane (28.9%), 1,2,3-trichlorobenzene (26.3%), and vinyl acetate (24.2%) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

8260C - MSD RPD for naphthalene (24.1%) does not meet QC criteria. Result for this analyte is estimated in the parent sample.

1175806001MSD (1407063) MSD

8260C - MSD RPD for 1,2,3-Trichlorobenzene (22.1%) does not meet QC criteria. This analyte was not detected above the LOQ in the parent sample.

1175742011(1407169MSD) (1407171) MSD

6020A - Metals MSD recoveries for barium (121%), chromium (161%) and vanadium (199%) did not meet QC criteria. The post digestion spike was successful.

1175541001(1408887MSD) (1408889) MSD

8260C - MSD recoveries for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

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

Print Date: 09/14/2017 4:08:48PM

Report of Manual Integrations

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Analytical Batch</u>	<u>Analyte</u>	<u>Reason</u>
8270D SIM (PAH)				
1406589	1178218029MS	XMS10354	Benzo[k]fluoranthene	RP
1408893	CVC for HBN 1767129 [XMS/10354	XMS10354	Benzo[k]fluoranthene	RP
SW8082A				
1407195	LCS for HBN 1766707 [XXX/38234	XGC9881	Aroclor-1016	SP
1407197	1175815012MSD	XGC9881	Aroclor-1016	SP

Manual Integration Reason Code Descriptions

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

All DRO/RRO analysis are integrated per SOP.

Laboratory Qualifiers

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

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

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

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

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

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



Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
17PIP001GW	1175815001	08/15/2017	08/18/2017	Water (Surface, Eff., Ground)
17PIP201GW	1175815002	08/15/2017	08/18/2017	Water (Surface, Eff., Ground)
Trip Blank	1175815003	08/15/2017	08/18/2017	Water (Surface, Eff., Ground)
17PIP009SL2.5	1175815004	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP209SL2.5	1175815005	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP017SL0.5	1175815006	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP021SL0.75	1175815007	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP025SL0.75	1175815008	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP051SL2.0	1175815009	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP054SL0.5	1175815010	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP058SL0.5	1175815011	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP067SL0.5	1175815012	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP077SL0.5	1175815013	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP079SL1.0	1175815014	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP279SL1.0	1175815015	08/15/2017	08/18/2017	Soil/Solid (dry weight)
Trip Blank	1175815016	08/15/2017	08/18/2017	Soil/Solid (dry weight)
17PIP007SL2.5	1175815017	08/15/2017	08/18/2017	Solid/Soil (Wet Weight)
17PIP008SL2.5	1175815018	08/15/2017	08/18/2017	Solid/Soil (Wet Weight)
17PIP010SL2.5	1175815019	08/15/2017	08/18/2017	Solid/Soil (Wet Weight)
17PIP011SL2.5	1175815020	08/15/2017	08/18/2017	Solid/Soil (Wet Weight)

<u>Method</u>	<u>Method Description</u>
8270D SIM LV (PAH)	8270 PAH SIM GC/MS Liq/Liq ext. LV
8270D SIM (PAH)	8270 PAH SIM Semi-Volatiles GC/MS
AK102	Diesel/Residual Range Organics
AK103	Diesel/Residual Range Organics
AK102	DRO/RRO Low Volume Water
AK103	DRO/RRO Low Volume Water
AK101	Gasoline Range Organics (S)
AK101	Gasoline Range Organics (W)
SW6020A	Metals by ICP-MS
SW6020A	Metals by ICP-MS (S)
SM21 2540G	Percent Solids SM2540G
SW8082A	SW8082 PCB's
SW8260C	VOC 8260 (S) Field Extracted
SW8260C	Volatile Organic Compounds (W) FULL

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Detectable Results Summary

Client Sample ID: **17PIP001GW**

Lab Sample ID: 1175815001

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	2.52J	ug/L
Barium	4.35	ug/L
Chromium	1.70J	ug/L

Volatile GC/MS

Chloromethane	0.660J	ug/L
Trichloroethene	0.580J	ug/L

Client Sample ID: **17PIP201GW**

Lab Sample ID: 1175815002

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	4.34	ug/L

Semivolatile Organic Fuels

Diesel Range Organics	0.782	mg/L
Residual Range Organics	0.850	mg/L

Volatile GC/MS

Chloromethane	0.680J	ug/L
Trichloroethene	0.380J	ug/L

Client Sample ID: **Trip Blank**

Lab Sample ID: 1175815003

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Chloromethane	0.750J	ug/L

Client Sample ID: **17PIP009SL2.5**

Lab Sample ID: 1175815004

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	4.78	mg/Kg
Barium	27.6	mg/Kg
Chromium	9.83	mg/Kg
Lead	2.53	mg/Kg
Nickel	7.06	mg/Kg
Vanadium	51.2	mg/Kg

Polynuclear Aromatics GC/MS

Fluoranthene	10.3J	ug/Kg
Pyrene	14.1J	ug/Kg

Semivolatile Organic Fuels

Residual Range Organics	10.7J	mg/Kg
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Volatile GC/MS

Tetrachloroethene	5.35J	ug/Kg
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Client Sample ID: **17PIP209SL2.5**

Lab Sample ID: 1175815005

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	4.73	mg/Kg
Barium	18.5	mg/Kg
Chromium	9.31	mg/Kg
Lead	2.04	mg/Kg
Nickel	7.00	mg/Kg
Vanadium	49.7	mg/Kg

Semivolatile Organic Fuels

Residual Range Organics	8.34J	mg/Kg
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Volatile GC/MS

Tetrachloroethene	5.08J	ug/Kg
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Detectable Results Summary

Client Sample ID: **17PIP017SL0.5**

Lab Sample ID: 1175815006

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	5.06	mg/Kg
Barium	52.1	mg/Kg
Cadmium	0.622	mg/Kg
Chromium	14.7	mg/Kg
Lead	24.9	mg/Kg
Nickel	10.8	mg/Kg
Vanadium	48.5	mg/Kg

Semivolatile Organic Fuels

Diesel Range Organics	8090	mg/Kg
Residual Range Organics	62500	mg/Kg

Client Sample ID: **17PIP021SL0.75**

Lab Sample ID: 1175815007

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	3.83	mg/Kg
Barium	54.1	mg/Kg
Cadmium	0.155J	mg/Kg
Chromium	11.8	mg/Kg
Lead	38.4	mg/Kg
Nickel	10.7	mg/Kg
Silver	0.299	mg/Kg
Vanadium	46.6	mg/Kg

Semivolatile Organic Fuels

Diesel Range Organics	169	mg/Kg
Residual Range Organics	1370	mg/Kg

Client Sample ID: **17PIP025SL0.75**

Lab Sample ID: 1175815008

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	3.84	mg/Kg
Barium	82.5	mg/Kg
Cadmium	0.0623J	mg/Kg
Chromium	17.4	mg/Kg
Lead	2.31	mg/Kg
Nickel	13.0	mg/Kg
Vanadium	60.9	mg/Kg

Semivolatile Organic Fuels

Diesel Range Organics	12.1J	mg/Kg
Residual Range Organics	85.2	mg/Kg

Client Sample ID: **17PIP051SL2.0**

Lab Sample ID: 1175815009

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	5.23	mg/Kg
Barium	24.2	mg/Kg
Cadmium	0.171J	mg/Kg
Chromium	7.66	mg/Kg
Lead	3.15	mg/Kg
Nickel	5.86	mg/Kg
Vanadium	37.6	mg/Kg

Print Date: 09/14/2017 4:08:52PM

SGS North America Inc.

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Detectable Results Summary

Client Sample ID: **17PIP054SL0.5**

Lab Sample ID: 1175815010

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	3.71	mg/Kg
Barium	54.0	mg/Kg
Cadmium	0.150J	mg/Kg
Chromium	11.6	mg/Kg
Lead	6.86	mg/Kg
Mercury	0.0281J	mg/Kg
Nickel	8.26	mg/Kg
Vanadium	43.5	mg/Kg

Polynuclear Aromatics GC/MS

2-Methylnaphthalene	9.84J	ug/Kg
Chrysene	10.4J	ug/Kg
Naphthalene	16.7J	ug/Kg
Pyrene	14.5J	ug/Kg

Semivolatile Organic Fuels

Diesel Range Organics	465	mg/Kg
Residual Range Organics	3160	mg/Kg

Volatile Fuels

Volatile GC/MS

Gasoline Range Organics	1.38	mg/Kg
1,2,4-Trimethylbenzene	237	ug/Kg
1,3,5-Trimethylbenzene	78.4	ug/Kg
4-Isopropyltoluene	15.4	ug/Kg
Ethylbenzene	77.6	ug/Kg
Isopropylbenzene (Cumene)	9.51J	ug/Kg
Naphthalene	268	ug/Kg
n-Propylbenzene	64.8	ug/Kg
o-Xylene	88.5	ug/Kg
P & M -Xylene	149	ug/Kg
Toluene	9.92J	ug/Kg
Xylenes (total)	237	ug/Kg

Print Date: 09/14/2017 4:08:52PM

Detectable Results Summary

Client Sample ID: **17PIP058SL0.5**

Lab Sample ID: 1175815011

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	5.12	mg/Kg
Barium	75.8	mg/Kg
Chromium	10.3	mg/Kg
Lead	1.84	mg/Kg
Nickel	7.32	mg/Kg
Vanadium	40.8	mg/Kg

Polynuclear Aromatics GC/MS

1-Methylnaphthalene	65.6	ug/Kg
2-Methylnaphthalene	106	ug/Kg
Naphthalene	225	ug/Kg

Semivolatile Organic Fuels

Diesel Range Organics	40.1	mg/Kg
Residual Range Organics	243	mg/Kg

Volatile GC/MS

1,2,4-Trimethylbenzene	74.1	ug/Kg
1,3,5-Trimethylbenzene	17.0J	ug/Kg
4-Isopropyltoluene	7.37J	ug/Kg
Ethylbenzene	11.0J	ug/Kg
Naphthalene	563	ug/Kg
n-Propylbenzene	7.89J	ug/Kg
o-Xylene	6.17J	ug/Kg
P & M -Xylene	14.1J	ug/Kg
Toluene	7.72J	ug/Kg
Xylenes (total)	20.2J	ug/Kg

Client Sample ID: **17PIP067SL0.5**

Lab Sample ID: 1175815012

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	3.52	mg/Kg
Barium	52.4	mg/Kg
Cadmium	0.144J	mg/Kg
Chromium	11.8	mg/Kg
Lead	4.57	mg/Kg
Mercury	0.575	mg/Kg
Nickel	9.01	mg/Kg
Silver	0.435	mg/Kg
Vanadium	44.5	mg/Kg

Semivolatile Organic Fuels

Diesel Range Organics	23.5	mg/Kg
Residual Range Organics	187	mg/Kg

Volatile GC/MS

Naphthalene	13.2J	ug/Kg
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Detectable Results Summary

Client Sample ID: **17PIP077SL0.5**

Lab Sample ID: 1175815013

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	3.73	mg/Kg
Barium	51.7	mg/Kg
Chromium	11.3	mg/Kg
Lead	3.42	mg/Kg
Nickel	8.98	mg/Kg
Vanadium	46.4	mg/Kg

Polynuclear Aromatics GC/MS

Acenaphthylene	9.55J	ug/Kg
Anthracene	10.9J	ug/Kg
Benzo(a)Anthracene	19.2J	ug/Kg
Chrysene	22.7J	ug/Kg
Fluoranthene	34.4	ug/Kg
Phenanthrene	18.5J	ug/Kg
Pyrene	50.5	ug/Kg

Semivolatile Organic Fuels

Diesel Range Organics	437	mg/Kg
Residual Range Organics	2190	mg/Kg

Volatile GC/MS

Tetrachloroethene	10.3	ug/Kg
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Client Sample ID: **17PIP079SL1.0**

Lab Sample ID: 1175815014

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	4.23	mg/Kg
Barium	49.7	mg/Kg
Cadmium	0.0813J	mg/Kg
Chromium	11.4	mg/Kg
Lead	6.01	mg/Kg
Mercury	0.0218J	mg/Kg
Nickel	8.32	mg/Kg
Vanadium	43.9	mg/Kg

Polynuclear Aromatics GC/MS

Pyrene	54.8J	ug/Kg
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Semivolatile Organic Fuels

Diesel Range Organics	1450	mg/Kg
Residual Range Organics	8680	mg/Kg

Volatile Fuels

Gasoline Range Organics	0.974J	mg/Kg
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Volatile GC/MS

Tetrachloroethene	20.8	ug/Kg
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Detectable Results Summary

Client Sample ID: **17PIP279SL1.0**

Lab Sample ID: 1175815015

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	3.98	mg/Kg
Barium	53.2	mg/Kg
Cadmium	0.0958J	mg/Kg
Chromium	12.6	mg/Kg
Lead	7.01	mg/Kg
Mercury	0.0143J	mg/Kg
Nickel	9.43	mg/Kg
Vanadium	47.5	mg/Kg

Polynuclear Aromatics GC/MS

Fluoranthene	96.0J	ug/Kg
Pyrene	123J	ug/Kg

Semivolatile Organic Fuels

Diesel Range Organics	2660	mg/Kg
Residual Range Organics	18600	mg/Kg

Volatile Fuels

Gasoline Range Organics	0.684J	mg/Kg
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Volatile GC/MS

Tetrachloroethene	14.5	ug/Kg
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Results of 17PIP001GW

Client Sample ID: **17PIP001GW**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	2.52 J	5.00	1.50	ug/L	5		09/09/17 00:40
Barium	4.35	3.00	0.940	ug/L	5		09/09/17 00:40
Cadmium	1.00 U	2.00	0.620	ug/L	5		09/09/17 00:40
Chromium	1.70 J	4.00	1.30	ug/L	5		09/09/17 00:40
Lead	0.500 U	1.00	0.310	ug/L	5		09/09/17 00:40
Mercury	0.100 U	0.200	0.0620	ug/L	5		09/09/17 00:40
Nickel	1.00 U	2.00	0.620	ug/L	5		09/09/17 00:40
Selenium	10.0 U	20.0	6.20	ug/L	5		09/09/17 00:40
Silver	1.00 U	2.00	0.620	ug/L	5		09/12/17 17:49
Vanadium	10.0 U	20.0	6.20	ug/L	5		09/09/17 00:40

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:40
Container ID: 1175815001-K

Prep Batch: MXX30947
Prep Method: SW3010A
Prep Date/Time: 08/19/17 06:02
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Analytical Batch: MMS9933
Analytical Method: SW6020A
Analyst: VDL
Analytical Date/Time: 09/12/17 17:49
Container ID: 1175815001-K

Prep Batch: MXX30947
Prep Method: SW3010A
Prep Date/Time: 08/19/17 06:02
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL



Results of 17PIP001GW

Client Sample ID: 17PIP001GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate values.

Batch Information

Analytical Batch: XMS10339
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 08/24/17 23:53
Container ID: 1175815001-I

Prep Batch: XXX38217
Prep Method: SW3520C
Prep Date/Time: 08/21/17 09:31
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL



Results of 17PIP001GW

Client Sample ID: 17PIP001GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC13693
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 08/20/17 01:37
Container ID: 1175815001-G
Prep Batch: XXX38200
Prep Method: SW3520C
Prep Date/Time: 08/19/17 08:22
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC13693
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/20/17 01:37
Container ID: 1175815001-G
Prep Batch: XXX38200
Prep Method: SW3520C
Prep Date/Time: 08/19/17 08:22
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL



Results of 17PIP001GW

Client Sample ID: **17PIP001GW**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		08/21/17 16:52
Surrogates							
4-Bromofluorobenzene (surr)	80.2	50-150		%	1		08/21/17 16:52

Batch Information

Analytical Batch: VFC13829
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/21/17 16:52
Container ID: 1175815001-A

Prep Batch: VXX31127
Prep Method: SW5030B
Prep Date/Time: 08/21/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of 17PIP001GW

Client Sample ID: 17PIP001GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP001GW

Client Sample ID: 17PIP001GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds like Chloroform, Chloromethane, etc., with their respective quality and detection limits.



Results of 17PIP001GW

Client Sample ID: **17PIP001GW**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815001
Lab Project ID: 1175815

Collection Date: 08/15/17 10:10
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS17105
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 08/29/17 05:51
Container ID: 1175815001-D

Prep Batch: VXX31169
Prep Method: SW5030B
Prep Date/Time: 08/28/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17113
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 08/29/17 20:48
Container ID: 1175815001-D

Prep Batch: VXX31188
Prep Method: SW5030B
Prep Date/Time: 08/29/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of 17PIP201GW

Client Sample ID: **17PIP201GW**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815002
Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	2.50 U	5.00	1.50	ug/L	5		09/09/17 00:44
Barium	4.34	3.00	0.940	ug/L	5		09/09/17 00:44
Cadmium	1.00 U	2.00	0.620	ug/L	5		09/09/17 00:44
Chromium	2.00 U	4.00	1.30	ug/L	5		09/09/17 00:44
Lead	0.500 U	1.00	0.310	ug/L	5		09/09/17 00:44
Mercury	0.100 U	0.200	0.0620	ug/L	5		09/09/17 00:44
Nickel	1.00 U	2.00	0.620	ug/L	5		09/09/17 00:44
Selenium	10.0 U	20.0	6.20	ug/L	5		09/09/17 00:44
Silver	1.00 U	2.00	0.620	ug/L	5		09/12/17 17:54
Vanadium	10.0 U	20.0	6.20	ug/L	5		09/09/17 00:44

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:44
Container ID: 1175815002-K

Prep Batch: MXX30947
Prep Method: SW3010A
Prep Date/Time: 08/19/17 06:02
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Analytical Batch: MMS9933
Analytical Method: SW6020A
Analyst: VDL
Analytical Date/Time: 09/12/17 17:54
Container ID: 1175815002-K

Prep Batch: MXX30947
Prep Method: SW3010A
Prep Date/Time: 08/19/17 06:02
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL



Results of 17PIP201GW

Client Sample ID: 17PIP201GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815002
Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS10339
Analytical Method: 8270D SIM LV (PAH)
Analyst: DSD
Analytical Date/Time: 08/25/17 00:13
Container ID: 1175815002-I

Prep Batch: XXX38217
Prep Method: SW3520C
Prep Date/Time: 08/21/17 09:31
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL



Results of 17PIP201GW

Client Sample ID: 17PIP201GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815002
Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Diesel Range Organics and Surrogates (5a Androstane).

Batch Information

Analytical Batch: XFC13693
Analytical Method: AK102
Analyst: JMG
Analytical Date/Time: 08/20/17 03:15
Container ID: 1175815002-G
Prep Batch: XXX38202
Prep Method: SW3520C
Prep Date/Time: 08/19/17 09:23
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Residual Range Organics and Surrogates (n-Triacontane-d62).

Batch Information

Analytical Batch: XFC13693
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/20/17 03:15
Container ID: 1175815002-G
Prep Batch: XXX38202
Prep Method: SW3520C
Prep Date/Time: 08/19/17 09:23
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL



Results of 17PIP201GW

Client Sample ID: **17PIP201GW**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815002
Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		08/21/17 17:11
Surrogates							
4-Bromofluorobenzene (surr)	83.2	50-150		%	1		08/21/17 17:11

Batch Information

Analytical Batch: VFC13829
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/21/17 17:11
Container ID: 1175815002-A

Prep Batch: VXX31127
Prep Method: SW5030B
Prep Date/Time: 08/21/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of 17PIP201GW

Client Sample ID: 17PIP201GW
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815002
Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP201GW

Client Sample ID: **17PIP201GW**
 Client Project ID: **Pilot Point Corrective Action**
 Lab Sample ID: 1175815002
 Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
 Received Date: 08/18/17 09:45
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Chloromethane	0.680 J	1.00	0.310	ug/L	1		08/29/17 06:08
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		08/29/17 06:08
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		08/29/17 06:08
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Freon-113	5.00 U	10.0	3.10	ug/L	1		08/29/17 21:27
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		08/29/17 06:08
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		08/29/17 06:08
Naphthalene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
o-Xylene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		08/29/17 06:08
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Styrene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Toluene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Trichloroethene	0.380 J	1.00	0.310	ug/L	1		08/29/17 06:08
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		08/29/17 06:08
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		08/29/17 06:08
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		08/29/17 06:08
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		08/29/17 06:08
Surrogates							
1,2-Dichloroethane-D4 (surr)	94.3	81-118		%	1		08/29/17 06:08
4-Bromofluorobenzene (surr)	105	85-114		%	1		08/29/17 06:08
Toluene-d8 (surr)	104	89-112		%	1		08/29/17 06:08



Results of 17PIP201GW

Client Sample ID: **17PIP201GW**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815002
Lab Project ID: 1175815

Collection Date: 08/15/17 10:13
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS17105
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 08/29/17 06:08
Container ID: 1175815002-D

Prep Batch: VXX31169
Prep Method: SW5030B
Prep Date/Time: 08/28/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17113
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 08/29/17 21:27
Container ID: 1175815002-D

Prep Batch: VXX31188
Prep Method: SW5030B
Prep Date/Time: 08/29/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815003
Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.0500 U	0.100	0.0310	mg/L	1		08/21/17 14:19
Surrogates							
4-Bromofluorobenzene (surr)	81.1	50-150		%	1		08/21/17 14:19

Batch Information

Analytical Batch: VFC13829
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/21/17 14:19
Container ID: 1175815003-A

Prep Batch: VXX31127
Prep Method: SW5030B
Prep Date/Time: 08/21/17 08:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of Trip Blank

Client Sample ID: Trip Blank
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815003
Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **Pilot Point Corrective Action**
 Lab Sample ID: 1175815003
 Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
 Received Date: 08/18/17 09:45
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Chloromethane	0.750 J	1.00	0.310	ug/L	1		08/29/17 03:30
cis-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
cis-1,3-Dichloropropene	0.250 U	0.500	0.150	ug/L	1		08/29/17 03:30
Dibromochloromethane	0.250 U	0.500	0.150	ug/L	1		08/29/17 03:30
Dibromomethane	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Dichlorodifluoromethane	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Freon-113	5.00 U	10.0	3.10	ug/L	1		08/29/17 19:55
Hexachlorobutadiene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Isopropylbenzene (Cumene)	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Methylene chloride	2.50 U	5.00	1.00	ug/L	1		08/29/17 03:30
Methyl-t-butyl ether	5.00 U	10.0	3.10	ug/L	1		08/29/17 03:30
Naphthalene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
n-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
n-Propylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
o-Xylene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		08/29/17 03:30
sec-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Styrene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
tert-Butylbenzene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Tetrachloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Toluene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
trans-1,2-Dichloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
trans-1,3-Dichloropropene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Trichloroethene	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Trichlorofluoromethane	0.500 U	1.00	0.310	ug/L	1		08/29/17 03:30
Vinyl acetate	5.00 U	10.0	3.10	ug/L	1		08/29/17 03:30
Vinyl chloride	0.0750 U	0.150	0.0500	ug/L	1		08/29/17 03:30
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		08/29/17 03:30
Surrogates							
1,2-Dichloroethane-D4 (surr)	92.2	81-118		%	1		08/29/17 03:30
4-Bromofluorobenzene (surr)	107	85-114		%	1		08/29/17 03:30
Toluene-d8 (surr)	103	89-112		%	1		08/29/17 03:30



Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815003
Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
Received Date: 08/18/17 09:45
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS17105
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 08/29/17 03:30
Container ID: 1175815003-D

Prep Batch: VXX31169
Prep Method: SW5030B
Prep Date/Time: 08/28/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS17113
Analytical Method: SW8260C
Analyst: FDR
Analytical Date/Time: 08/29/17 19:55
Container ID: 1175815003-D

Prep Batch: VXX31188
Prep Method: SW5030B
Prep Date/Time: 08/29/17 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of 17PIP009SL2.5

Client Sample ID: **17PIP009SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	4.78	1.03	0.320	mg/Kg	10		09/08/17 22:41
Barium	27.6	0.310	0.0971	mg/Kg	10		09/08/17 22:41
Cadmium	0.103 U	0.207	0.0641	mg/Kg	10		09/08/17 22:41
Chromium	9.83	0.413	0.134	mg/Kg	10		09/08/17 22:41
Lead	2.53	0.207	0.0641	mg/Kg	10		09/08/17 22:41
Mercury	0.0207 U	0.0413	0.0124	mg/Kg	10		09/08/17 22:41
Nickel	7.06	0.207	0.0641	mg/Kg	10		09/08/17 22:41
Selenium	0.515 U	1.03	0.320	mg/Kg	10		09/08/17 22:41
Silver	0.103 U	0.207	0.0641	mg/Kg	10		09/08/17 22:41
Vanadium	51.2	3.10	0.971	mg/Kg	10		09/08/17 22:41

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 22:41
Container ID: 1175815004-A

Prep Batch: MXX30955
Prep Method: SW3050B
Prep Date/Time: 08/22/17 07:45
Prep Initial Wt./Vol.: 1.018 g
Prep Extract Vol: 50 mL



Results of 17PIP009SL2.5

Client Sample ID: 17PIP009SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS10354
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 08/28/17 21:59
Container ID: 1175815004-A

Prep Batch: XXX38197
Prep Method: SW3550C
Prep Date/Time: 08/18/17 20:32
Prep Initial Wt./Vol.: 22.531 g
Prep Extract Vol: 5 mL



Results of **17PIP009SL2.5**

Client Sample ID: **17PIP009SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.4 U	20.8	6.45	mg/Kg	1		08/21/17 21:00
Surrogates							
5a Androstane (surr)	78.3	50-150		%	1		08/21/17 21:00

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:00
Container ID: 1175815004-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.324 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	10.7 J	20.8	6.45	mg/Kg	1		08/21/17 21:00
Surrogates							
n-Triacontane-d62 (surr)	81.6	50-150		%	1		08/21/17 21:00

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 08/21/17 21:00
Container ID: 1175815004-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.324 g
Prep Extract Vol: 1 mL



Results of **17PIP009SL2.5**

Client Sample ID: **17PIP009SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.865 U	1.73	0.518	mg/Kg	1		08/19/17 22:58
Surrogates							
4-Bromofluorobenzene (surr)	65.5	50-150		%	1		08/19/17 22:58

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/19/17 22:58
Container ID: 1175815004-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 12:42
Prep Initial Wt./Vol.: 89.622 g
Prep Extract Vol: 29.4307 mL



Results of 17PIP009SL2.5

Client Sample ID: 17PIP009SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP009SL2.5

Client Sample ID: 17PIP009SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP009SL2.5**

Client Sample ID: **17PIP009SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815004
Lab Project ID: 1175815

Collection Date: 08/15/17 12:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Shop Spill Area

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 21:38
Container ID: 1175815004-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 12:42
Prep Initial Wt./Vol.: 89.622 g
Prep Extract Vol: 29.4307 mL



Results of 17PIP209SL2.5

Client Sample ID: **17PIP209SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	4.73	0.985	0.305	mg/Kg	10		09/08/17 22:45
Barium	18.5	0.295	0.0926	mg/Kg	10		09/08/17 22:45
Cadmium	0.0985 U	0.197	0.0611	mg/Kg	10		09/08/17 22:45
Chromium	9.31	0.394	0.128	mg/Kg	10		09/08/17 22:45
Lead	2.04	0.197	0.0611	mg/Kg	10		09/08/17 22:45
Mercury	0.0197 U	0.0394	0.0118	mg/Kg	10		09/08/17 22:45
Nickel	7.00	0.197	0.0611	mg/Kg	10		09/08/17 22:45
Selenium	0.492 U	0.985	0.305	mg/Kg	10		09/08/17 22:45
Silver	0.0985 U	0.197	0.0611	mg/Kg	10		09/08/17 22:45
Vanadium	49.7	2.95	0.926	mg/Kg	10		09/08/17 22:45

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 22:45
Container ID: 1175815005-A

Prep Batch: MXX30955
Prep Method: SW3050B
Prep Date/Time: 08/22/17 07:45
Prep Initial Wt./Vol.: 1.069 g
Prep Extract Vol: 50 mL



Results of 17PIP209SL2.5

Client Sample ID: 17PIP209SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS10354
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 08/28/17 22:20
Container ID: 1175815005-A

Prep Batch: XXX38197
Prep Method: SW3550C
Prep Date/Time: 08/18/17 20:32
Prep Initial Wt./Vol.: 22.514 g
Prep Extract Vol: 5 mL



Results of 17PIP209SL2.5

Client Sample ID: 17PIP209SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.4 U	20.9	6.48	mg/Kg	1		08/21/17 21:09
Surrogates							
5a Androstane (surr)	78.1	50-150		%	1		08/21/17 21:09

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:09
Container ID: 1175815005-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.202 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	8.34 J	20.9	6.48	mg/Kg	1		08/21/17 21:09
Surrogates							
n-Triacontane-d62 (surr)	82.8	50-150		%	1		08/21/17 21:09

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 08/21/17 21:09
Container ID: 1175815005-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.202 g
Prep Extract Vol: 1 mL



Results of 17PIP209SL2.5

Client Sample ID: **17PIP209SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.845 U	1.69	0.508	mg/Kg	1		08/19/17 23:17
Surrogates							
4-Bromofluorobenzene (surr)	63.3	50-150		%	1		08/19/17 23:17

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/19/17 23:17
Container ID: 1175815005-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 12:45
Prep Initial Wt./Vol.: 92.176 g
Prep Extract Vol: 29.6298 mL



Results of 17PIP209SL2.5

Client Sample ID: 17PIP209SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP209SL2.5

Client Sample ID: 17PIP209SL2.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP209SL2.5**

Client Sample ID: **17PIP209SL2.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815005
Lab Project ID: 1175815

Collection Date: 08/15/17 12:45
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.0
Location: Shop Spill Area

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 21:54
Container ID: 1175815005-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 12:45
Prep Initial Wt./Vol.: 92.176 g
Prep Extract Vol: 29.6298 mL



Results of 17PIP017SL0.5

Client Sample ID: **17PIP017SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	5.06	1.02	0.317	mg/Kg	10		09/08/17 22:50
Barium	52.1	0.307	0.0961	mg/Kg	10		09/08/17 22:50
Cadmium	0.622	0.204	0.0634	mg/Kg	10		09/08/17 22:50
Chromium	14.7	0.409	0.133	mg/Kg	10		09/08/17 22:50
Lead	24.9	0.204	0.0634	mg/Kg	10		09/08/17 22:50
Mercury	0.0204 U	0.0409	0.0123	mg/Kg	10		09/08/17 22:50
Nickel	10.8	0.204	0.0634	mg/Kg	10		09/08/17 22:50
Selenium	0.510 U	1.02	0.317	mg/Kg	10		09/08/17 22:50
Silver	0.102 U	0.204	0.0634	mg/Kg	10		09/08/17 22:50
Vanadium	48.5	3.07	0.961	mg/Kg	10		09/08/17 22:50

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 22:50
Container ID: 1175815006-A

Prep Batch: MXX30955
Prep Method: SW3050B
Prep Date/Time: 08/22/17 07:45
Prep Initial Wt./Vol.: 1.052 g
Prep Extract Vol: 50 mL



Results of 17PIP017SL0.5

Client Sample ID: **17PIP017SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	60.0 U	120	36.0	ug/Kg	1		09/01/17 15:49
Aroclor-1221	240 U	480	149	ug/Kg	1		09/01/17 15:49
Aroclor-1232	60.0 U	120	36.0	ug/Kg	1		09/01/17 15:49
Aroclor-1242	60.0 U	120	36.0	ug/Kg	1		09/01/17 15:49
Aroclor-1248	60.0 U	120	36.0	ug/Kg	1		09/01/17 15:49
Aroclor-1254	60.0 U	120	36.0	ug/Kg	1		09/01/17 15:49
Aroclor-1260	60.0 U	120	36.0	ug/Kg	1		09/01/17 15:49
Surrogates							
Decachlorobiphenyl (surr)	18 *	60-125		%	1		09/01/17 15:49

Batch Information

Analytical Batch: XGC9888
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 09/01/17 15:49
Container ID:

Prep Batch: XXX38302
Prep Method: SW3550C
Prep Date/Time: 08/30/17 22:27
Prep Initial Wt./Vol.: 10.072 g
Prep Extract Vol: 5 mL



Results of 17PIP017SL0.5

Client Sample ID: 17PIP017SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS10355
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 08/29/17 15:33
Container ID: 1175815006-A

Prep Batch: XXX38197
Prep Method: SW3550C
Prep Date/Time: 08/18/17 20:32
Prep Initial Wt./Vol.: 22.534 g
Prep Extract Vol: 5 mL



Results of 17PIP017SL0.5

Client Sample ID: 17PIP017SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Semivolatile Organic Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	8090	853	265	mg/Kg	4		08/21/17 23:35
Surrogates							
5a Androstane (surr)	0 *	50-150		%	4		08/21/17 23:35

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 23:35
Container ID: 1175815006-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.236 g
Prep Extract Vol: 10 mL

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	62500	4270	1320	mg/Kg	20		08/23/17 02:32
Surrogates							
n-Triacontane-d62 (surr)	0 *	50-150		%	20		08/23/17 02:32

Batch Information

Analytical Batch: XFC13708
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/23/17 02:32
Container ID: 1175815006-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.236 g
Prep Extract Vol: 10 mL



Results of 17PIP017SL0.5

Client Sample ID: **17PIP017SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.13 U	2.25	0.676	mg/Kg	1		08/19/17 23:36
Surrogates							
4-Bromofluorobenzene (surr)	55	50-150		%	1		08/19/17 23:36

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/19/17 23:36
Container ID: 1175815006-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 13:50
Prep Initial Wt./Vol.: 71.532 g
Prep Extract Vol: 30.0005 mL



Results of 17PIP017SL0.5

Client Sample ID: 17PIP017SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP017SL0.5

Client Sample ID: 17PIP017SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP017SL0.5**

Client Sample ID: **17PIP017SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815006
Lab Project ID: 1175815

Collection Date: 08/15/17 13:50
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.0
Location: Leaking Drums Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 22:11
Container ID: 1175815006-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 13:50
Prep Initial Wt./Vol.: 71.532 g
Prep Extract Vol: 30.0005 mL



Results of 17PIP021SL0.75

Client Sample ID: 17PIP021SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	3.83	0.978	0.303	mg/Kg	10		09/08/17 22:54
Barium	54.1	0.293	0.0919	mg/Kg	10		09/08/17 22:54
Cadmium	0.155 J	0.196	0.0606	mg/Kg	10		09/08/17 22:54
Chromium	11.8	0.391	0.127	mg/Kg	10		09/08/17 22:54
Lead	38.4	0.196	0.0606	mg/Kg	10		09/08/17 22:54
Mercury	0.0196 U	0.0391	0.0117	mg/Kg	10		09/08/17 22:54
Nickel	10.7	0.196	0.0606	mg/Kg	10		09/08/17 22:54
Selenium	0.489 U	0.978	0.303	mg/Kg	10		09/08/17 22:54
Silver	0.299	0.196	0.0606	mg/Kg	10		09/08/17 22:54
Vanadium	46.6	2.93	0.919	mg/Kg	10		09/08/17 22:54

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 22:54
Container ID: 1175815007-A

Prep Batch: MXX30955
Prep Method: SW3050B
Prep Date/Time: 08/22/17 07:45
Prep Initial Wt./Vol.: 1.062 g
Prep Extract Vol: 50 mL



Results of 17PIP021SL0.75

Client Sample ID: 17PIP021SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by Polychlorinated Biphenyls

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260, and Surrogates (Decachlorobiphenyl (surr)).

Batch Information

Analytical Batch: XGC9883
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/30/17 03:27
Container ID: 1175815007-A

Prep Batch: XXX38204
Prep Method: SW3550C
Prep Date/Time: 08/19/17 10:15
Prep Initial Wt./Vol.: 22.508 g
Prep Extract Vol: 5 mL



Results of 17PIP021SL0.75

Client Sample ID: 17PIP021SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated values and analysis dates.

Batch Information

Analytical Batch: XMS10354
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 08/28/17 23:01
Container ID: 1175815007-A

Prep Batch: XXX38197
Prep Method: SW3550C
Prep Date/Time: 08/18/17 20:32
Prep Initial Wt./Vol.: 22.591 g
Prep Extract Vol: 5 mL



Results of 17PIP021SL0.75

Client Sample ID: 17PIP021SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	169	20.6	6.38	mg/Kg	1		08/21/17 21:19
Surrogates							
5a Androstane (surr)	95.6	50-150		%	1		08/21/17 21:19

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:19
Container ID: 1175815007-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.27 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	1370	82.3	25.5	mg/Kg	4		08/23/17 01:24
Surrogates							
n-Triacontane-d62 (surr)	81.1	50-150		%	4		08/23/17 01:24

Batch Information

Analytical Batch: XFC13708
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/23/17 01:24
Container ID: 1175815007-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.27 g
Prep Extract Vol: 1 mL



Results of **17PIP021SL0.75**

Client Sample ID: **17PIP021SL0.75**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.815 U	1.63	0.490	mg/Kg	1		08/19/17 23:55
Surrogates							
4-Bromofluorobenzene (surr)	67.8	50-150		%	1		08/19/17 23:55

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/19/17 23:55
Container ID: 1175815007-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 14:32
Prep Initial Wt./Vol.: 90.004 g
Prep Extract Vol: 28.3242 mL



Results of 17PIP021SL0.75

Client Sample ID: 17PIP021SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP021SL0.75

Client Sample ID: **17PIP021SL0.75**
 Client Project ID: **Pilot Point Corrective Action**
 Lab Sample ID: 1175815007
 Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
 Received Date: 08/18/17 09:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):96.3
 Location: Leaking Drums Area

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Chloromethane	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
cis-1,2-Dichloroethene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
cis-1,3-Dichloropropene	4.09 U	8.17	2.55	ug/Kg	1		08/18/17 22:27
Dibromochloromethane	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Dibromomethane	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Dichlorodifluoromethane	16.4 U	32.7	9.80	ug/Kg	1		08/18/17 22:27
Ethylbenzene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Freon-113	32.7 U	65.4	20.3	ug/Kg	1		08/18/17 22:27
Hexachlorobutadiene	6.55 U	13.1	4.05	ug/Kg	1		08/18/17 22:27
Isopropylbenzene (Cumene)	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Methylene chloride	32.7 U	65.4	20.3	ug/Kg	1		08/18/17 22:27
Methyl-t-butyl ether	32.7 U	65.4	20.3	ug/Kg	1		08/18/17 22:27
Naphthalene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
n-Butylbenzene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
n-Propylbenzene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
o-Xylene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
P & M -Xylene	16.4 U	32.7	9.80	ug/Kg	1		08/18/17 22:27
sec-Butylbenzene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Styrene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
tert-Butylbenzene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
Tetrachloroethene	4.09 U	8.17	2.55	ug/Kg	1		08/18/17 22:27
Toluene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
trans-1,2-Dichloroethene	8.15 U	16.3	5.10	ug/Kg	1		08/18/17 22:27
trans-1,3-Dichloropropene	4.09 U	8.17	2.55	ug/Kg	1		08/18/17 22:27
Trichloroethene	3.27 U	6.54	2.03	ug/Kg	1		08/18/17 22:27
Trichlorofluoromethane	16.4 U	32.7	9.80	ug/Kg	1		08/18/17 22:27
Vinyl acetate	32.7 U	65.4	20.3	ug/Kg	1		08/18/17 22:27
Vinyl chloride	3.27 U	6.54	2.03	ug/Kg	1		08/18/17 22:27
Xylenes (total)	24.5 U	49.0	14.9	ug/Kg	1		08/18/17 22:27
Surrogates							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		08/18/17 22:27
4-Bromofluorobenzene (surr)	129	55-151		%	1		08/18/17 22:27
Toluene-d8 (surr)	98.8	85-116		%	1		08/18/17 22:27



Results of **17PIP021SL0.75**

Client Sample ID: **17PIP021SL0.75**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815007
Lab Project ID: 1175815

Collection Date: 08/15/17 14:32
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Leaking Drums Area

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 22:27
Container ID: 1175815007-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 14:32
Prep Initial Wt./Vol.: 90.004 g
Prep Extract Vol: 28.3242 mL



Results of **17PIP025SL0.75**

Client Sample ID: **17PIP025SL0.75**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by **Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	3.84	0.974	0.302	mg/Kg	10		09/08/17 22:59
Barium	82.5	0.292	0.0915	mg/Kg	10		09/08/17 22:59
Cadmium	0.0623 J	0.195	0.0604	mg/Kg	10		09/08/17 22:59
Chromium	17.4	0.389	0.127	mg/Kg	10		09/08/17 22:59
Lead	2.31	0.195	0.0604	mg/Kg	10		09/08/17 22:59
Mercury	0.0194 U	0.0389	0.0117	mg/Kg	10		09/08/17 22:59
Nickel	13.0	0.195	0.0604	mg/Kg	10		09/08/17 22:59
Selenium	0.487 U	0.974	0.302	mg/Kg	10		09/08/17 22:59
Silver	0.0975 U	0.195	0.0604	mg/Kg	10		09/08/17 22:59
Vanadium	60.9	2.92	0.915	mg/Kg	10		09/08/17 22:59

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 22:59
Container ID: 1175815008-A

Prep Batch: MXX30955
Prep Method: SW3050B
Prep Date/Time: 08/22/17 07:45
Prep Initial Wt./Vol.: 1.071 g
Prep Extract Vol: 50 mL



Results of **17PIP025SL0.75**

Client Sample ID: **17PIP025SL0.75**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.1 U	52.1	15.6	ug/Kg	1		08/30/17 03:42
Aroclor-1221	104 U	208	64.6	ug/Kg	1		08/30/17 03:42
Aroclor-1232	26.1 U	52.1	15.6	ug/Kg	1		08/30/17 03:42
Aroclor-1242	26.1 U	52.1	15.6	ug/Kg	1		08/30/17 03:42
Aroclor-1248	26.1 U	52.1	15.6	ug/Kg	1		08/30/17 03:42
Aroclor-1254	26.1 U	52.1	15.6	ug/Kg	1		08/30/17 03:42
Aroclor-1260	26.1 U	52.1	15.6	ug/Kg	1		08/30/17 03:42
Surrogates							
Decachlorobiphenyl (surr)	93	60-125		%	1		08/30/17 03:42

Batch Information

Analytical Batch: XGC9883
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/30/17 03:42
Container ID: 1175815008-A

Prep Batch: XXX38204
Prep Method: SW3550C
Prep Date/Time: 08/19/17 10:15
Prep Initial Wt./Vol.: 22.531 g
Prep Extract Vol: 5 mL



Results of 17PIP025SL0.75

Client Sample ID: 17PIP025SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate values.

Batch Information

Analytical Batch: XMS10354
Analytical Method: 8270D SIM (PAH)
Analyst: DSD
Analytical Date/Time: 08/28/17 23:21
Container ID: 1175815008-A

Prep Batch: XXX38197
Prep Method: SW3550C
Prep Date/Time: 08/18/17 20:32
Prep Initial Wt./Vol.: 22.581 g
Prep Extract Vol: 5 mL



Results of 17PIP025SL0.75

Client Sample ID: 17PIP025SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by Semivolatile Organic Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Diesel Range Organics	12.1 J	20.6	6.39	mg/Kg	1		08/21/17 21:29
Surrogates							
5a Androstane (surr)	83.2	50-150		%	1		08/21/17 21:29

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:29
Container ID: 1175815008-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.336 g
Prep Extract Vol: 1 mL

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Residual Range Organics	85.2	20.6	6.39	mg/Kg	1		08/21/17 21:29
Surrogates							
n-Triacontane-d62 (surr)	84.8	50-150		%	1		08/21/17 21:29

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 08/21/17 21:29
Container ID: 1175815008-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.336 g
Prep Extract Vol: 1 mL



Results of **17PIP025SL0.75**

Client Sample ID: **17PIP025SL0.75**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.850 U	1.70	0.511	mg/Kg	1		08/20/17 00:15
Surrogates							
4-Bromofluorobenzene (surr)	69.3	50-150		%	1		08/20/17 00:15

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 00:15
Container ID: 1175815008-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 14:36
Prep Initial Wt./Vol.: 87.372 g
Prep Extract Vol: 28.5744 mL



Results of 17PIP025SL0.75

Client Sample ID: 17PIP025SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP025SL0.75

Client Sample ID: 17PIP025SL0.75
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by Volatile GC/MS

Table with columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP025SL0.75**

Client Sample ID: **17PIP025SL0.75**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815008
Lab Project ID: 1175815

Collection Date: 08/15/17 14:36
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.9
Location: Leaking Drums Area

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 22:43
Container ID: 1175815008-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 14:36
Prep Initial Wt./Vol.: 87.372 g
Prep Extract Vol: 28.5744 mL



Results of 17PIP051SL2.0

Client Sample ID: 17PIP051SL2.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by Metals by ICP/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Silver, and Vanadium.

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 23:03
Container ID: 1175815009-A

Prep Batch: MXX30955
Prep Method: SW3050B
Prep Date/Time: 08/22/17 07:45
Prep Initial Wt./Vol.: 1.072 g
Prep Extract Vol: 50 mL



Results of 17PIP051SL2.0

Client Sample ID: **17PIP051SL2.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.5 U	53.0	15.9	ug/Kg	1		08/30/17 03:56
Aroclor-1221	106 U	212	65.7	ug/Kg	1		08/30/17 03:56
Aroclor-1232	26.5 U	53.0	15.9	ug/Kg	1		08/30/17 03:56
Aroclor-1242	26.5 U	53.0	15.9	ug/Kg	1		08/30/17 03:56
Aroclor-1248	26.5 U	53.0	15.9	ug/Kg	1		08/30/17 03:56
Aroclor-1254	26.5 U	53.0	15.9	ug/Kg	1		08/30/17 03:56
Aroclor-1260	26.5 U	53.0	15.9	ug/Kg	1		08/30/17 03:56
Surrogates							
Decachlorobiphenyl (surr)	94	60-125		%	1		08/30/17 03:56

Batch Information

Analytical Batch: XGC9883
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/30/17 03:56
Container ID: 1175815009-A

Prep Batch: XXX38204
Prep Method: SW3550C
Prep Date/Time: 08/19/17 10:15
Prep Initial Wt./Vol.: 22.513 g
Prep Extract Vol: 5 mL



Results of 17PIP051SL2.0

Client Sample ID: 17PIP051SL2.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate values.

Batch Information

Analytical Batch: XMS10330
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/22/17 01:26
Container ID: 1175815009-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.701 g
Prep Extract Vol: 5 mL



Results of 17PIP051SL2.0

Client Sample ID: 17PIP051SL2.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	10.6 U	21.1	6.53	mg/Kg	1		08/21/17 21:38
Surrogates							
5a Androstane (surr)	80	50-150		%	1		08/21/17 21:38

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:38
Container ID: 1175815009-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.205 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	10.6 U	21.1	6.53	mg/Kg	1		08/21/17 21:38
Surrogates							
n-Triacontane-d62 (surr)	83.6	50-150		%	1		08/21/17 21:38

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 08/21/17 21:38
Container ID: 1175815009-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.205 g
Prep Extract Vol: 1 mL



Results of **17PIP051SL2.0**

Client Sample ID: **17PIP051SL2.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.01 U	2.02	0.606	mg/Kg	1		08/20/17 00:53
Surrogates							
4-Bromofluorobenzene (surr)	74	50-150		%	1		08/20/17 00:53

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 00:53
Container ID: 1175815009-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 16:20
Prep Initial Wt./Vol.: 76.957 g
Prep Extract Vol: 29.3351 mL



Results of 17PIP051SL2.0

Client Sample ID: 17PIP051SL2.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP051SL2.0

Client Sample ID: 17PIP051SL2.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds like Chloroform, Benzene, and Toluene with their respective test results and limits.



Results of **17PIP051SL2.0**

Client Sample ID: **17PIP051SL2.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815009
Lab Project ID: 1175815

Collection Date: 08/15/17 16:20
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.4
Location: Small Spills Area #3

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 22:59
Container ID: 1175815009-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 16:20
Prep Initial Wt./Vol.: 76.957 g
Prep Extract Vol: 29.3351 mL



Results of 17PIP054SL0.5

Client Sample ID: **17PIP054SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	3.71	1.01	0.313	mg/Kg	10		09/08/17 23:59
Barium	54.0	0.303	0.0950	mg/Kg	10		09/08/17 23:59
Cadmium	0.150 J	0.202	0.0626	mg/Kg	10		09/08/17 23:59
Chromium	11.6	0.404	0.131	mg/Kg	10		09/08/17 23:59
Lead	6.86	0.202	0.0626	mg/Kg	10		09/08/17 23:59
Mercury	0.0281 J	0.0404	0.0121	mg/Kg	10		09/08/17 23:59
Nickel	8.26	0.202	0.0626	mg/Kg	10		09/08/17 23:59
Selenium	0.505 U	1.01	0.313	mg/Kg	10		09/08/17 23:59
Silver	0.101 U	0.202	0.0626	mg/Kg	10		09/08/17 23:59
Vanadium	43.5	3.03	0.950	mg/Kg	10		09/08/17 23:59

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/08/17 23:59
Container ID: 1175815010-A

Prep Batch: MXX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.028 g
Prep Extract Vol: 50 mL



Results of 17PIP054SL0.5

Client Sample ID: **17PIP054SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	25.6 U	51.1	15.3	ug/Kg	1		08/30/17 04:11
Aroclor-1221	102 U	204	63.4	ug/Kg	1		08/30/17 04:11
Aroclor-1232	25.6 U	51.1	15.3	ug/Kg	1		08/30/17 04:11
Aroclor-1242	25.6 U	51.1	15.3	ug/Kg	1		08/30/17 04:11
Aroclor-1248	25.6 U	51.1	15.3	ug/Kg	1		08/30/17 04:11
Aroclor-1254	25.6 U	51.1	15.3	ug/Kg	1		08/30/17 04:11
Aroclor-1260	25.6 U	51.1	15.3	ug/Kg	1		08/30/17 04:11
Surrogates							
Decachlorobiphenyl (surr)	89	60-125		%	1		08/30/17 04:11

Batch Information

Analytical Batch: XGC9883
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/30/17 04:11
Container ID: 1175815010-A

Prep Batch: XXX38204
Prep Method: SW3550C
Prep Date/Time: 08/19/17 10:15
Prep Initial Wt./Vol.: 22.863 g
Prep Extract Vol: 5 mL



Results of 17PIP054SL0.5

Client Sample ID: 17PIP054SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS10330
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/22/17 01:46
Container ID: 1175815010-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.514 g
Prep Extract Vol: 5 mL



Results of **17PIP054SL0.5**

Client Sample ID: **17PIP054SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	465	20.7	6.41	mg/Kg	1		08/21/17 21:48

Surrogates

5a Androstane (surr)	95.6	50-150		%	1		08/21/17 21:48
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Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:48
Container ID: 1175815010-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.156 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	3160	207	64.1	mg/Kg	10		08/23/17 01:34

Surrogates

n-Triacontane-d62 (surr)	79.6	50-150		%	10		08/23/17 01:34
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Batch Information

Analytical Batch: XFC13708
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/23/17 01:34
Container ID: 1175815010-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.156 g
Prep Extract Vol: 1 mL



Results of 17PIP054SL0.5

Client Sample ID: **17PIP054SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.38	1.38	0.413	mg/Kg	1		08/20/17 01:12
Surrogates							
4-Bromofluorobenzene (surr)	76.2	50-150		%	1		08/20/17 01:12

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 01:12
Container ID: 1175815010-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 16:42
Prep Initial Wt./Vol.: 109.622 g
Prep Extract Vol: 29.0893 mL



Results of 17PIP054SL0.5

Client Sample ID: 17PIP054SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP054SL0.5

Client Sample ID: 17PIP054SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP054SL0.5**

Client Sample ID: **17PIP054SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815010
Lab Project ID: 1175815

Collection Date: 08/15/17 16:42
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):96.3
Location: Small Spills Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 23:15
Container ID: 1175815010-C

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 16:42
Prep Initial Wt./Vol.: 109.622 g
Prep Extract Vol: 29.0893 mL



Results of 17PIP058SL0.5

Client Sample ID: **17PIP058SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	5.12	1.04	0.324	mg/Kg	10		09/09/17 00:03
Barium	75.8	0.313	0.0981	mg/Kg	10		09/09/17 00:03
Cadmium	0.105 U	0.209	0.0647	mg/Kg	10		09/09/17 00:03
Chromium	10.3	0.418	0.136	mg/Kg	10		09/09/17 00:03
Lead	1.84	0.209	0.0647	mg/Kg	10		09/09/17 00:03
Mercury	0.0209 U	0.0418	0.0125	mg/Kg	10		09/09/17 00:03
Nickel	7.32	0.209	0.0647	mg/Kg	10		09/09/17 00:03
Selenium	0.520 U	1.04	0.324	mg/Kg	10		09/09/17 00:03
Silver	0.105 U	0.209	0.0647	mg/Kg	10		09/09/17 00:03
Vanadium	40.8	3.13	0.981	mg/Kg	10		09/09/17 00:03

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:03
Container ID: 1175815011-A

Prep Batch: MXX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.007 g
Prep Extract Vol: 50 mL



Results of **17PIP058SL0.5**

Client Sample ID: **17PIP058SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by **Polychlorinated Biphenyls**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.0 U	52.0	15.6	ug/Kg	1		08/28/17 14:52
Aroclor-1221	104 U	208	64.4	ug/Kg	1		08/28/17 14:52
Aroclor-1232	26.0 U	52.0	15.6	ug/Kg	1		08/28/17 14:52
Aroclor-1242	26.0 U	52.0	15.6	ug/Kg	1		08/28/17 14:52
Aroclor-1248	26.0 U	52.0	15.6	ug/Kg	1		08/28/17 14:52
Aroclor-1254	26.0 U	52.0	15.6	ug/Kg	1		08/28/17 14:52
Aroclor-1260	26.0 U	52.0	15.6	ug/Kg	1		08/28/17 14:52
Surrogates							
Decachlorobiphenyl (surr)	87	60-125		%	1		08/28/17 14:52

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/28/17 14:52
Container ID: 1175815011-A

Prep Batch: XXX38234
Prep Method: SW3550C
Prep Date/Time: 08/22/17 08:28
Prep Initial Wt./Vol.: 22.756 g
Prep Extract Vol: 5 mL



Results of 17PIP058SL0.5

Client Sample ID: 17PIP058SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS10330
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/22/17 02:07
Container ID: 1175815011-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.864 g
Prep Extract Vol: 5 mL



Results of **17PIP058SL0.5**

Client Sample ID: **17PIP058SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	40.1	21.0	6.51	mg/Kg	1		08/21/17 21:58
Surrogates							
5a Androstane (surr)	87.6	50-150		%	1		08/21/17 21:58

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 21:58
Container ID: 1175815011-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.039 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	243	21.0	6.51	mg/Kg	1		08/21/17 21:58
Surrogates							
n-Triacontane-d62 (surr)	89.2	50-150		%	1		08/21/17 21:58

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 08/21/17 21:58
Container ID: 1175815011-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.039 g
Prep Extract Vol: 1 mL



Results of **17PIP058SL0.5**

Client Sample ID: **17PIP058SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.855 U	1.71	0.514	mg/Kg	1		08/20/17 01:31
Surrogates							
4-Bromofluorobenzene (surr)	66.7	50-150		%	1		08/20/17 01:31

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 01:31
Container ID: 1175815011-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 16:46
Prep Initial Wt./Vol.: 90.115 g
Prep Extract Vol: 29.3976 mL



Results of 17PIP058SL0.5

Client Sample ID: 17PIP058SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP058SL0.5

Client Sample ID: 17PIP058SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP058SL0.5**

Client Sample ID: **17PIP058SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815011
Lab Project ID: 1175815

Collection Date: 08/15/17 16:46
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Small Spills Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17080
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 22:44
Container ID: 1175815011-C

Prep Batch: VXX31122
Prep Method: SW5035A
Prep Date/Time: 08/15/17 16:46
Prep Initial Wt./Vol.: 90.115 g
Prep Extract Vol: 29.3976 mL



Results of 17PIP067SL0.5

Client Sample ID: **17PIP067SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	3.52	0.959	0.297	mg/Kg	10		09/09/17 00:12
Barium	52.4	0.288	0.0901	mg/Kg	10		09/09/17 00:12
Cadmium	0.144 J	0.192	0.0594	mg/Kg	10		09/09/17 00:12
Chromium	11.8	0.383	0.125	mg/Kg	10		09/09/17 00:12
Lead	4.57	0.192	0.0594	mg/Kg	10		09/09/17 00:12
Mercury	0.575	0.0383	0.0115	mg/Kg	10		09/09/17 00:12
Nickel	9.01	0.192	0.0594	mg/Kg	10		09/09/17 00:12
Selenium	0.479 U	0.959	0.297	mg/Kg	10		09/09/17 00:12
Silver	0.435	0.192	0.0594	mg/Kg	10		09/09/17 00:12
Vanadium	44.5	2.88	0.901	mg/Kg	10		09/09/17 00:12

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:12
Container ID: 1175815012-A

Prep Batch: MXX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.097 g
Prep Extract Vol: 50 mL



Results of 17PIP067SL0.5

Client Sample ID: **17PIP067SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.3 U	52.6	15.8	ug/Kg	1		08/28/17 15:06
Aroclor-1221	105 U	210	65.2	ug/Kg	1		08/28/17 15:06
Aroclor-1232	26.3 U	52.6	15.8	ug/Kg	1		08/28/17 15:06
Aroclor-1242	26.3 U	52.6	15.8	ug/Kg	1		08/28/17 15:06
Aroclor-1248	26.3 U	52.6	15.8	ug/Kg	1		08/28/17 15:06
Aroclor-1254	26.3 U	52.6	15.8	ug/Kg	1		08/28/17 15:06
Aroclor-1260	26.3 U	52.6	15.8	ug/Kg	1		08/28/17 15:06
Surrogates							
Decachlorobiphenyl (surr)	83	60-125		%	1		08/28/17 15:06

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/28/17 15:06
Container ID: 1175815012-A

Prep Batch: XXX38234
Prep Method: SW3550C
Prep Date/Time: 08/22/17 08:28
Prep Initial Wt./Vol.: 22.511 g
Prep Extract Vol: 5 mL



Results of 17PIP067SL0.5

Client Sample ID: 17PIP067SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS10330
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/22/17 02:27
Container ID: 1175815012-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.841 g
Prep Extract Vol: 5 mL



Results of **17PIP067SL0.5**

Client Sample ID: **17PIP067SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	23.5	20.9	6.49	mg/Kg	1		08/21/17 22:08
Surrogates							
5a Androstane (surr)	85.7	50-150		%	1		08/21/17 22:08

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 22:08
Container ID: 1175815012-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.149 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	187	20.9	6.49	mg/Kg	1		08/21/17 22:08
Surrogates							
n-Triacontane-d62 (surr)	86.2	50-150		%	1		08/21/17 22:08

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Analyst: KMD
Analytical Date/Time: 08/21/17 22:08
Container ID: 1175815012-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.149 g
Prep Extract Vol: 1 mL



Results of 17PIP067SL0.5

Client Sample ID: **17PIP067SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.835 U	1.67	0.502	mg/Kg	1		08/20/17 01:50
Surrogates							
4-Bromofluorobenzene (surr)	69.8	50-150		%	1		08/20/17 01:50

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 01:50
Container ID: 1175815012-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 17:05
Prep Initial Wt./Vol.: 92.875 g
Prep Extract Vol: 29.5628 mL



Results of 17PIP067SL0.5

Client Sample ID: 17PIP067SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP067SL0.5

Client Sample ID: 17PIP067SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP067SL0.5**

Client Sample ID: **17PIP067SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815012
Lab Project ID: 1175815

Collection Date: 08/15/17 17:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):95.1
Location: Leaking Drums Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17080
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 23:01
Container ID: 1175815012-C

Prep Batch: VXX31122
Prep Method: SW5035A
Prep Date/Time: 08/15/17 17:05
Prep Initial Wt./Vol.: 92.875 g
Prep Extract Vol: 29.5628 mL



Results of 17PIP077SL0.5

Client Sample ID: **17PIP077SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	3.73	1.05	0.326	mg/Kg	10		09/09/17 00:17
Barium	51.7	0.315	0.0989	mg/Kg	10		09/09/17 00:17
Cadmium	0.105 U	0.210	0.0652	mg/Kg	10		09/09/17 00:17
Chromium	11.3	0.421	0.137	mg/Kg	10		09/09/17 00:17
Lead	3.42	0.210	0.0652	mg/Kg	10		09/09/17 00:17
Mercury	0.0210 U	0.0421	0.0126	mg/Kg	10		09/09/17 00:17
Nickel	8.98	0.210	0.0652	mg/Kg	10		09/09/17 00:17
Selenium	0.525 U	1.05	0.326	mg/Kg	10		09/09/17 00:17
Silver	0.105 U	0.210	0.0652	mg/Kg	10		09/09/17 00:17
Vanadium	46.4	3.15	0.989	mg/Kg	10		09/09/17 00:17

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:17
Container ID: 1175815013-A

Prep Batch: MXX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.018 g
Prep Extract Vol: 50 mL



Results of 17PIP077SL0.5

Client Sample ID: **17PIP077SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.7 U	53.4	16.0	ug/Kg	1		08/28/17 15:50
Aroclor-1221	107 U	213	66.2	ug/Kg	1		08/28/17 15:50
Aroclor-1232	26.7 U	53.4	16.0	ug/Kg	1		08/28/17 15:50
Aroclor-1242	26.7 U	53.4	16.0	ug/Kg	1		08/28/17 15:50
Aroclor-1248	26.7 U	53.4	16.0	ug/Kg	1		08/28/17 15:50
Aroclor-1254	26.7 U	53.4	16.0	ug/Kg	1		08/28/17 15:50
Aroclor-1260	26.7 U	53.4	16.0	ug/Kg	1		08/28/17 15:50
Surrogates							
Decachlorobiphenyl (surr)	82	60-125		%	1		08/28/17 15:50

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/28/17 15:50
Container ID: 1175815013-A

Prep Batch: XXX38234
Prep Method: SW3550C
Prep Date/Time: 08/22/17 08:28
Prep Initial Wt./Vol.: 22.569 g
Prep Extract Vol: 5 mL



Results of 17PIP077SL0.5

Client Sample ID: 17PIP077SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate standards with associated quality and detection data.

Batch Information

Analytical Batch: XMS10330
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/22/17 02:48
Container ID: 1175815013-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.712 g
Prep Extract Vol: 5 mL



Results of **17PIP077SL0.5**

Client Sample ID: **17PIP077SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by **Semivolatile Organic Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	437	21.1	6.55	mg/Kg	1		08/21/17 22:17

Surrogates

5a Androstane (surr)	98	50-150		%	1		08/21/17 22:17
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Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 22:17
Container ID: 1175815013-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.379 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	2190	211	65.5	mg/Kg	10		08/23/17 01:43

Surrogates

n-Triacontane-d62 (surr)	73.3	50-150		%	10		08/23/17 01:43
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Batch Information

Analytical Batch: XFC13708
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/23/17 01:43
Container ID: 1175815013-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.379 g
Prep Extract Vol: 1 mL



Results of **17PIP077SL0.5**

Client Sample ID: **17PIP077SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.985 U	1.97	0.592	mg/Kg	1		08/20/17 02:09
Surrogates							
4-Bromofluorobenzene (surr)	70.8	50-150		%	1		08/20/17 02:09

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 02:09
Container ID: 1175815013-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 18:05
Prep Initial Wt./Vol.: 82.505 g
Prep Extract Vol: 30.436 mL



Results of 17PIP077SL0.5

Client Sample ID: 17PIP077SL0.5
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP077SL0.5

Client Sample ID: **17PIP077SL0.5**
 Client Project ID: **Pilot Point Corrective Action**
 Lab Sample ID: 1175815013
 Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
 Received Date: 08/18/17 09:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):93.4
 Location: Shop Spill Stock

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Chloromethane	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
cis-1,2-Dichloroethene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
cis-1,3-Dichloropropene	4.93 U	9.87	3.08	ug/Kg	1		08/18/17 23:19
Dibromochloromethane	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Dibromomethane	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Dichlorodifluoromethane	19.8 U	39.5	11.8	ug/Kg	1		08/18/17 23:19
Ethylbenzene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Freon-113	39.5 U	79.0	24.5	ug/Kg	1		08/18/17 23:19
Hexachlorobutadiene	7.90 U	15.8	4.90	ug/Kg	1		08/18/17 23:19
Isopropylbenzene (Cumene)	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Methylene chloride	39.5 U	79.0	24.5	ug/Kg	1		08/18/17 23:19
Methyl-t-butyl ether	39.5 U	79.0	24.5	ug/Kg	1		08/18/17 23:19
Naphthalene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
n-Butylbenzene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
n-Propylbenzene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
o-Xylene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
P & M -Xylene	19.8 U	39.5	11.8	ug/Kg	1		08/18/17 23:19
sec-Butylbenzene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Styrene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
tert-Butylbenzene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
Tetrachloroethene	10.3	9.87	3.08	ug/Kg	1		08/18/17 23:19
Toluene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
trans-1,2-Dichloroethene	9.85 U	19.7	6.16	ug/Kg	1		08/18/17 23:19
trans-1,3-Dichloropropene	4.93 U	9.87	3.08	ug/Kg	1		08/18/17 23:19
Trichloroethene	3.95 U	7.90	2.45	ug/Kg	1		08/18/17 23:19
Trichlorofluoromethane	19.8 U	39.5	11.8	ug/Kg	1		08/18/17 23:19
Vinyl acetate	39.5 U	79.0	24.5	ug/Kg	1		08/18/17 23:19
Vinyl chloride	3.95 U	7.90	2.45	ug/Kg	1		08/18/17 23:19
Xylenes (total)	29.6 U	59.2	18.0	ug/Kg	1		08/18/17 23:19
Surrogates							
1,2-Dichloroethane-D4 (surr)	99.9	71-136		%	1		08/18/17 23:19
4-Bromofluorobenzene (surr)	106	55-151		%	1		08/18/17 23:19
Toluene-d8 (surr)	98.7	85-116		%	1		08/18/17 23:19



Results of **17PIP077SL0.5**

Client Sample ID: **17PIP077SL0.5**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815013
Lab Project ID: 1175815

Collection Date: 08/15/17 18:05
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):93.4
Location: Shop Spill Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17080
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 23:19
Container ID: 1175815013-C

Prep Batch: VXX31122
Prep Method: SW5035A
Prep Date/Time: 08/15/17 18:05
Prep Initial Wt./Vol.: 82.505 g
Prep Extract Vol: 30.436 mL



Results of 17PIP079SL1.0

Client Sample ID: 17PIP079SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by Metals by ICP/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Nickel, Selenium, Silver, Vanadium.

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:31
Container ID: 1175815014-A

Prep Batch: MX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.065 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS9933
Analytical Method: SW6020A
Analyst: VDL
Analytical Date/Time: 09/12/17 17:58
Container ID: 1175815014-A

Prep Batch: MX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.065 g
Prep Extract Vol: 50 mL



Results of 17PIP079SL1.0

Client Sample ID: **17PIP079SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.1 U	52.1	15.6	ug/Kg	1		08/28/17 16:04
Aroclor-1221	104 U	208	64.6	ug/Kg	1		08/28/17 16:04
Aroclor-1232	26.1 U	52.1	15.6	ug/Kg	1		08/28/17 16:04
Aroclor-1242	26.1 U	52.1	15.6	ug/Kg	1		08/28/17 16:04
Aroclor-1248	26.1 U	52.1	15.6	ug/Kg	1		08/28/17 16:04
Aroclor-1254	26.1 U	52.1	15.6	ug/Kg	1		08/28/17 16:04
Aroclor-1260	26.1 U	52.1	15.6	ug/Kg	1		08/28/17 16:04
Surrogates							
Decachlorobiphenyl (surr)	64	60-125		%	1		08/28/17 16:04

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/28/17 16:04
Container ID: 1175815014-A

Prep Batch: XXX38234
Prep Method: SW3550C
Prep Date/Time: 08/22/17 08:28
Prep Initial Wt./Vol.: 22.898 g
Prep Extract Vol: 5 mL



Results of 17PIP079SL1.0

Client Sample ID: 17PIP079SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS10333
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/23/17 00:58
Container ID: 1175815014-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.669 g
Prep Extract Vol: 5 mL



Results of 17PIP079SL1.0

Client Sample ID: 17PIP079SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by Semivolatile Organic Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Diesel Range Organics	1450	84.0	26.0	mg/Kg	4		08/21/17 23:25
Surrogates							
5a Androstane (surr)	100	50-150		%	4		08/21/17 23:25

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 23:25
Container ID: 1175815014-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.29 g
Prep Extract Vol: 1 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Residual Range Organics	8680	840	260	mg/Kg	40		08/23/17 02:22
Surrogates							
n-Triacontane-d62 (surr)	0 *	50-150		%	40		08/23/17 02:22

Batch Information

Analytical Batch: XFC13708
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/23/17 02:22
Container ID: 1175815014-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.29 g
Prep Extract Vol: 1 mL



Results of **17PIP079SL1.0**

Client Sample ID: **17PIP079SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.974 J	1.87	0.562	mg/Kg	1		08/20/17 02:28
Surrogates							
4-Bromofluorobenzene (surr)	66.8	50-150		%	1		08/20/17 02:28

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 02:28
Container ID: 1175815014-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 18:07
Prep Initial Wt./Vol.: 84.276 g
Prep Extract Vol: 29.7779 mL



Results of 17PIP079SL1.0

Client Sample ID: 17PIP079SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP079SL1.0

Client Sample ID: 17PIP079SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by Volatile GC/MS

Table with columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP079SL1.0**

Client Sample ID: **17PIP079SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815014
Lab Project ID: 1175815

Collection Date: 08/15/17 18:07
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.3
Location: Shop Spill Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17080
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 23:37
Container ID: 1175815014-C

Prep Batch: VXX31122
Prep Method: SW5035A
Prep Date/Time: 08/15/17 18:07
Prep Initial Wt./Vol.: 84.276 g
Prep Extract Vol: 29.7779 mL



Results of 17PIP279SL1.0

Client Sample ID: **17PIP279SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Arsenic	3.98	1.02	0.317	mg/Kg	10		09/09/17 00:35
Barium	53.2	0.307	0.0961	mg/Kg	10		09/09/17 00:35
Cadmium	0.0958 J	0.204	0.0634	mg/Kg	10		09/09/17 00:35
Chromium	12.6	0.409	0.133	mg/Kg	10		09/09/17 00:35
Lead	7.01	0.204	0.0634	mg/Kg	10		09/09/17 00:35
Mercury	0.0143 J	0.0409	0.0123	mg/Kg	10		09/09/17 00:35
Nickel	9.43	0.204	0.0634	mg/Kg	10		09/09/17 00:35
Selenium	0.510 U	1.02	0.317	mg/Kg	10		09/09/17 00:35
Silver	0.102 U	0.204	0.0634	mg/Kg	10		09/12/17 18:03
Vanadium	47.5	3.07	0.961	mg/Kg	10		09/09/17 00:35

Batch Information

Analytical Batch: MMS9929
Analytical Method: SW6020A
Analyst: ACF
Analytical Date/Time: 09/09/17 00:35
Container ID: 1175815015-A

Prep Batch: MX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.035 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS9933
Analytical Method: SW6020A
Analyst: VDL
Analytical Date/Time: 09/12/17 18:03
Container ID: 1175815015-A

Prep Batch: MX30964
Prep Method: SW3050B
Prep Date/Time: 08/24/17 08:03
Prep Initial Wt./Vol.: 1.035 g
Prep Extract Vol: 50 mL



Results of 17PIP279SL1.0

Client Sample ID: **17PIP279SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by Polychlorinated Biphenyls

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aroclor-1016	26.1 U	52.3	15.7	ug/Kg	1		08/28/17 16:19
Aroclor-1221	105 U	209	64.8	ug/Kg	1		08/28/17 16:19
Aroclor-1232	26.1 U	52.3	15.7	ug/Kg	1		08/28/17 16:19
Aroclor-1242	26.1 U	52.3	15.7	ug/Kg	1		08/28/17 16:19
Aroclor-1248	26.1 U	52.3	15.7	ug/Kg	1		08/28/17 16:19
Aroclor-1254	26.1 U	52.3	15.7	ug/Kg	1		08/28/17 16:19
Aroclor-1260	26.1 U	52.3	15.7	ug/Kg	1		08/28/17 16:19
Surrogates							
Decachlorobiphenyl (surr)	59 *	60-125		%	1		08/28/17 16:19

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Analyst: BMZ
Analytical Date/Time: 08/28/17 16:19
Container ID: 1175815015-A

Prep Batch: XXX38234
Prep Method: SW3550C
Prep Date/Time: 08/22/17 08:28
Prep Initial Wt./Vol.: 22.758 g
Prep Extract Vol: 5 mL



Results of 17PIP279SL1.0

Client Sample ID: 17PIP279SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS10333
Analytical Method: 8270D SIM (PAH)
Analyst: NRB
Analytical Date/Time: 08/23/17 01:19
Container ID: 1175815015-A

Prep Batch: XXX38220
Prep Method: SW3550C
Prep Date/Time: 08/21/17 10:41
Prep Initial Wt./Vol.: 22.642 g
Prep Extract Vol: 5 mL



Results of 17PIP279SL1.0

Client Sample ID: 17PIP279SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by Semivolatile Organic Fuels

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Diesel Range Organics, 2660, 102, 31.7, mg/Kg, 1, 08/21/17 22:27

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: 5a Androstane (surr), 78.8, 50-150, %, 1, 08/21/17 22:27

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK102
Analyst: KMD
Analytical Date/Time: 08/21/17 22:27
Container ID: 1175815015-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.999 g
Prep Extract Vol: 5 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Residual Range Organics, 18600, 1020, 317, mg/Kg, 10, 08/23/17 01:53

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: n-Triacontane-d62 (surr), 0, 50-150, %, 10, 08/23/17 01:53

Batch Information

Analytical Batch: XFC13708
Analytical Method: AK103
Analyst: JMG
Analytical Date/Time: 08/23/17 01:53
Container ID: 1175815015-A

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 08/19/17 08:46
Prep Initial Wt./Vol.: 30.999 g
Prep Extract Vol: 5 mL



Results of **17PIP279SL1.0**

Client Sample ID: **17PIP279SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by **Volatile Fuels**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	0.684 J	1.53	0.459	mg/Kg	1		08/20/17 02:47
Surrogates							
4-Bromofluorobenzene (surr)	69.1	50-150		%	1		08/20/17 02:47

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/20/17 02:47
Container ID: 1175815015-C

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 18:11
Prep Initial Wt./Vol.: 106.57 g
Prep Extract Vol: 30.8059 mL



Results of 17PIP279SL1.0

Client Sample ID: 17PIP279SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of 17PIP279SL1.0

Client Sample ID: 17PIP279SL1.0
Client Project ID: Pilot Point Corrective Action
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various chemical compounds and their detection results.



Results of **17PIP279SL1.0**

Client Sample ID: **17PIP279SL1.0**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815015
Lab Project ID: 1175815

Collection Date: 08/15/17 18:11
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):94.6
Location: Shop Spill Stock

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS17080
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 23:54
Container ID: 1175815015-C

Prep Batch: VXX31122
Prep Method: SW5035A
Prep Date/Time: 08/15/17 18:11
Prep Initial Wt./Vol.: 106.57 g
Prep Extract Vol: 30.8059 mL



Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815016
Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):
Location: Shop Spill Stock

Results by Volatile Fuels

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Gasoline Range Organics	1.25 U	2.49	0.748	mg/Kg	1		08/19/17 21:42
Surrogates							
4-Bromofluorobenzene (surr)	62.5	50-150		%	1		08/19/17 21:42

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Analyst: ST
Analytical Date/Time: 08/19/17 21:42
Container ID: 1175815016-A

Prep Batch: VXX31115
Prep Method: SW5035A
Prep Date/Time: 08/15/17 21:00
Prep Initial Wt./Vol.: 50.145 g
Prep Extract Vol: 25 mL



Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **Pilot Point Corrective Action**
 Lab Sample ID: 1175815016
 Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
 Received Date: 08/18/17 09:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location: Shop Spill Stock

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
1,1,2-Trichloroethane	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
1,1-Dichloroethene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,2,3-Trichlorobenzene	24.9 U	49.9	15.0	ug/Kg	1		08/18/17 19:46
1,2,4-Trichlorobenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,2-Dibromo-3-chloropropane	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
1,2-Dichlorobenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,2-Dichloropropane	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
1,3-Dichlorobenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,4-Dichlorobenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
2-Butanone (MEK)	125 U	249	77.8	ug/Kg	1		08/18/17 19:46
2-Hexanone	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
Bromodichloromethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,2,3-Trichloropropane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,2,4-Trimethylbenzene	24.9 U	49.9	15.0	ug/Kg	1		08/18/17 19:46
1,2-Dibromoethane	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
1,1,2,2-Tetrachloroethane	6.25 U	12.5	3.89	ug/Kg	1		08/18/17 19:46
4-Chlorotoluene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,2-Dichloroethane	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
4-Isopropyltoluene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,3,5-Trimethylbenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
4-Methyl-2-pentanone (MIBK)	125 U	249	77.8	ug/Kg	1		08/18/17 19:46
1,3-Dichloropropane	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
Benzene	6.25 U	12.5	3.89	ug/Kg	1		08/18/17 19:46
2,2-Dichloropropane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Bromobenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,1-Dichloroethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
2-Chlorotoluene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,1-Dichloropropene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Bromochloromethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
1,1,1,2-Tetrachloroethane	9.95 U	19.9	6.18	ug/Kg	1		08/18/17 19:46
1,1,1-Trichloroethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Bromoform	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Bromomethane	99.5 U	199	61.8	ug/Kg	1		08/18/17 19:46
Carbon disulfide	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
Carbon tetrachloride	6.25 U	12.5	3.89	ug/Kg	1		08/18/17 19:46
Chlorobenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Chloroethane	99.5 U	199	61.8	ug/Kg	1		08/18/17 19:46

Print Date: 09/14/2017 4:08:54PM

J flagging is activated



Results of Trip Blank

Client Sample ID: **Trip Blank**
 Client Project ID: **Pilot Point Corrective Action**
 Lab Sample ID: 1175815016
 Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
 Received Date: 08/18/17 09:45
 Matrix: Soil/Solid (dry weight)
 Solids (%):
 Location: Shop Spill Stock

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Chloroform	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Chloromethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
cis-1,2-Dichloroethene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
cis-1,3-Dichloropropene	6.25 U	12.5	3.89	ug/Kg	1		08/18/17 19:46
Dibromochloromethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Dibromomethane	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Dichlorodifluoromethane	24.9 U	49.9	15.0	ug/Kg	1		08/18/17 19:46
Ethylbenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Freon-113	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
Hexachlorobutadiene	9.95 U	19.9	6.18	ug/Kg	1		08/18/17 19:46
Isopropylbenzene (Cumene)	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Methylene chloride	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
Methyl-t-butyl ether	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
Naphthalene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
n-Butylbenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
n-Propylbenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
o-Xylene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
P & M -Xylene	24.9 U	49.9	15.0	ug/Kg	1		08/18/17 19:46
sec-Butylbenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Styrene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
tert-Butylbenzene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
Tetrachloroethene	6.25 U	12.5	3.89	ug/Kg	1		08/18/17 19:46
Toluene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
trans-1,2-Dichloroethene	12.4 U	24.9	7.78	ug/Kg	1		08/18/17 19:46
trans-1,3-Dichloropropene	6.25 U	12.5	3.89	ug/Kg	1		08/18/17 19:46
Trichloroethene	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
Trichlorofluoromethane	24.9 U	49.9	15.0	ug/Kg	1		08/18/17 19:46
Vinyl acetate	49.9 U	99.7	30.9	ug/Kg	1		08/18/17 19:46
Vinyl chloride	4.99 U	9.97	3.09	ug/Kg	1		08/18/17 19:46
Xylenes (total)	37.4 U	74.8	22.7	ug/Kg	1		08/18/17 19:46
Surrogates							
1,2-Dichloroethane-D4 (surr)	107	71-136		%	1		08/18/17 19:46
4-Bromofluorobenzene (surr)	122	55-151		%	1		08/18/17 19:46
Toluene-d8 (surr)	94.6	85-116		%	1		08/18/17 19:46

Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **Pilot Point Corrective Action**
Lab Sample ID: 1175815016
Lab Project ID: 1175815

Collection Date: 08/15/17 21:00
Received Date: 08/18/17 09:45
Matrix: Soil/Solid (dry weight)
Solids (%):
Location: Shop Spill Stock

Results by Volatile GC/MS

Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Analyst: NRO
Analytical Date/Time: 08/18/17 19:46
Container ID: 1175815016-A

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 08/15/17 21:00
Prep Initial Wt./Vol.: 50.145 g
Prep Extract Vol: 25 mL

Method Blank

Blank ID: MB for HBN 1766417 [MXX/30947]
 Blank Lab ID: 1406610

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1175815001, 1175815002

Results by SW6020A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Arsenic	2.50U	5.00	1.50	ug/L
Barium	1.50U	3.00	0.940	ug/L
Cadmium	1.00U	2.00	0.620	ug/L
Chromium	2.00U	4.00	1.30	ug/L
Lead	0.500U	1.00	0.310	ug/L
Mercury	0.100U	0.200	0.0620	ug/L
Nickel	1.00U	2.00	0.620	ug/L
Selenium	10.0U	20.0	6.20	ug/L
Silver	1.00U	2.00	0.620	ug/L
Vanadium	10.0U	20.0	6.20	ug/L

Batch Information

Analytical Batch: MMS9904
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 8/20/2017 1:17:34PM

Prep Batch: MXX30947
 Prep Method: SW3010A
 Prep Date/Time: 8/19/2017 6:02:47AM
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Analytical Batch: MMS9933
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 9/12/2017 4:37:41PM

Prep Batch: MXX30947
 Prep Method: SW3010A
 Prep Date/Time: 8/19/2017 6:02:47AM
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [MXX30947]
Blank Spike Lab ID: 1406611
Date Analyzed: 08/20/2017 13:22

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002

Results by SW6020A

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Arsenic	1000	976	98	(84-116)
Barium	1000	974	97	(86-114)
Cadmium	100	97.4	97	(87-115)
Lead	1000	1020	102	(88-115)
Mercury	10	10.2	102	(70-124)
Nickel	1000	1030	103	(85-117)
Selenium	1000	1000	100	(80-120)
Silver	100	104	104	(85-116)
Vanadium	200	218	109	(86-115)
Chromium	400	405	101	(85-116)

Batch Information

Analytical Batch: **MMS9904**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexlon P5**
Analyst: **VDL**

Prep Batch: **MXX30947**
Prep Method: **SW3010A**
Prep Date/Time: **08/19/2017 06:02**
Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

Analytical Batch: **MMS9933**
Analytical Method: **SW6020A**
Instrument: **Perkin Elmer Nexlon P5**
Analyst: **VDL**

Prep Batch: **MXX30947**
Prep Method: **SW3010A**
Prep Date/Time: **08/19/2017 06:02**
Spike Init Wt./Vol.: 400 ug/L Extract Vol: 25 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/14/2017 4:09:04PM

Matrix Spike Summary

Original Sample ID: 1406612
 MS Sample ID: 1406613 MS
 MSD Sample ID: 1406614 MSD

Analysis Date: 08/20/2017 13:26
 Analysis Date: 08/20/2017 13:31
 Analysis Date: 08/20/2017 13:35
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002

Results by SW6020A

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Arsenic	2.50U	1000	1000	100	1000	993	99	84-116	0.74	(< 20)
Barium	126	1000	1150	103	1000	1130	101	86-114	1.68	(< 20)
Cadmium	1.00U	100	100	100	100	99.7	100	87-115	0.63	(< 20)
Lead	0.505J	1000	1040	104	1000	1050	105	88-115	1.16	(< 20)
Mercury	0.0768J	10.0	10.8	107	10.0	10.4	104	70-124	3.26	(< 20)
Nickel	4.58	1000	1020	102	1000	1010	100	85-117	1.20	(< 20)
Selenium	10.0U	1000	1010	101	1000	1000	100	80-120	1.39	(< 20)
Silver	1.00U	100	111	111	100	107	107	85-116	3.84	(< 20)
Vanadium	10.0U	200	217	108	200	216	108	86-115	0.14	(< 20)
Chromium	2.00U	400	400	100	400	405	101	85-116	1.43	(< 20)

Batch Information

Analytical Batch: MMS9904
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 8/20/2017 1:31:06PM

Prep Batch: MXX30947
 Prep Method: 3010 H2O Digest for Metals ICP-MS
 Prep Date/Time: 8/19/2017 6:02:47AM
 Prep Initial Wt./Vol.: 25.00mL
 Prep Extract Vol: 25.00mL

Analytical Batch: MMS9933
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 9/12/2017 4:08:34PM

Prep Batch: MXX30947
 Prep Method: 3010 H2O Digest for Metals ICP-MS
 Prep Date/Time: 8/19/2017 6:02:47AM
 Prep Initial Wt./Vol.: 25.00mL
 Prep Extract Vol: 25.00mL

Bench Spike Summary

Original Sample ID: 1406612
 MS Sample ID: 1406615 BND
 MSD Sample ID:

Analysis Date: 09/12/2017 16:04
 Analysis Date: 09/12/2017 16:17
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002

Results by SW6020A

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chromium	2.00U	1250	1250	100				80-120		

Batch Information

Analytical Batch: MMS9933
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 9/12/2017 4:17:34PM

Prep Batch: MXX30947
 Prep Method: 3010 H2O Digest for Metals ICP-MS
 Prep Date/Time: 8/19/2017 6:02:47AM
 Prep Initial Wt./Vol.: 25.00mL
 Prep Extract Vol: 25.00mL

Print Date: 09/14/2017 4:09:05PM

Method Blank

Blank ID: MB for HBN 1766702 [MXX/30955]
 Blank Lab ID: 1407166

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009

Results by SW6020A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Arsenic	0.500U	1.00	0.310	mg/Kg
Barium	0.150U	0.300	0.0940	mg/Kg
Cadmium	0.100U	0.200	0.0620	mg/Kg
Chromium	0.160J	0.400	0.130	mg/Kg
Lead	0.100U	0.200	0.0620	mg/Kg
Mercury	0.0200U	0.0400	0.0120	mg/Kg
Nickel	0.100U	0.200	0.0620	mg/Kg
Selenium	0.500U	1.00	0.310	mg/Kg
Silver	0.100U	0.200	0.0620	mg/Kg
Vanadium	1.50U	3.00	0.940	mg/Kg

Batch Information

Analytical Batch: MMS9929
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: ACF
 Analytical Date/Time: 9/8/2017 8:48:03PM

Prep Batch: MXX30955
 Prep Method: SW3050B
 Prep Date/Time: 8/22/2017 7:45:19AM
 Prep Initial Wt./Vol.: 1 g
 Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [MXX30955]
 Blank Spike Lab ID: 1407167
 Date Analyzed: 09/08/2017 20:52

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009

Results by SW6020A

Parameter	Blank Spike (mg/Kg)			CL
	Spike	Result	Rec (%)	
Arsenic	50	52.8	106	(82-118)
Barium	50	51.2	102	(86-116)
Cadmium	5	5.19	104	(84-116)
Chromium	20	21.9	109	(83-119)
Lead	50	52.4	105	(84-118)
Mercury	0.5	0.532	106	(74-126)
Nickel	50	51.7	103	(84-119)
Selenium	50	52.4	105	(80-119)
Silver	5	4.87	98	(83-118)
Vanadium	10	10.7	107	(82-116)

Batch Information

Analytical Batch: **MMS9929**
 Analytical Method: **SW6020A**
 Instrument: **Perkin Elmer Nexlon P5**
 Analyst: **ACF**

Prep Batch: **MXX30955**
 Prep Method: **SW3050B**
 Prep Date/Time: **08/22/2017 07:45**
 Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL
 Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1407169
 MS Sample ID: 1407170 MS
 MSD Sample ID: 1407171 MSD

Analysis Date: 09/08/2017 20:57
 Analysis Date: 09/08/2017 21:01
 Analysis Date: 09/08/2017 21:06
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009

Results by SW6020A

Parameter	Sample	Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Arsenic	5.91	49.6	57.8	105	48.0	56.6	106	82-118	2.15	(< 20)
Barium	33.6	49.6	89.8	114	48.0	91.6	121 *	86-116	1.95	(< 20)
Cadmium	0.100U	4.96	5.13	104	4.80	5.06	105	84-116	1.37	(< 20)
Chromium	21.0	19.8	55.1	172 *	19.2	51.9	161 *	83-119	5.89	(< 20)
Lead	4.18	49.6	53.8	100	48.0	51.8	99	84-118	3.72	(< 20)
Mercury	0.0245J	0.496	.534	103	0.480	0.545	109	74-126	2.20	(< 20)
Nickel	16.9	49.6	72.2	111	48.0	71.2	113	84-119	1.31	(< 20)
Selenium	0.500U	49.6	50.3	102	48.0	49.0	102	80-119	2.77	(< 20)
Silver	0.100U	4.96	4.77	96	4.80	4.53	95	83-118	4.99	(< 20)
Vanadium	39.9	9.91	62.1	224 *	9.60	59.0	199 *	82-116	5.10	(< 20)

Batch Information

Analytical Batch: MMS9929
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: ACF
 Analytical Date/Time: 9/8/2017 9:01:52PM

Prep Batch: MX30955
 Prep Method: Soils/Solids Digest for Metals by ICP-MS
 Prep Date/Time: 8/22/2017 7:45:19AM
 Prep Initial Wt./Vol.: 1.01g
 Prep Extract Vol: 50.00mL

Bench Spike Summary

Original Sample ID: 1407169
 MS Sample ID: 1407172 BND
 MSD Sample ID:

Analysis Date: 09/08/2017 20:57
 Analysis Date: 09/08/2017 21:15
 Analysis Date:
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009

Results by SW6020A

Parameter	Sample	Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Barium	33.6	250	298	106				80-120		
Chromium	21.0	125	152	105				80-120		
Vanadium	39.9	125	174	107				80-120		

Batch Information

Analytical Batch: MMS9929
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: ACF
 Analytical Date/Time: 9/8/2017 9:15:23PM

Prep Batch: MXX30955
 Prep Method: Soils/Solids Digest for Metals by ICP-MS
 Prep Date/Time: 8/22/2017 7:45:19AM
 Prep Initial Wt./Vol.: 1.00g
 Prep Extract Vol: 50.00mL

Print Date: 09/14/2017 4:09:08PM



Method Blank

Blank ID: MB for HBN 1766840 [MXX/30964]
Blank Lab ID: 1407772

Matrix: Soil/Solid (dry weight)

QC for Samples:
1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW6020A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Arsenic	0.500U	1.00	0.310	mg/Kg
Barium	0.150U	0.300	0.0940	mg/Kg
Cadmium	0.100U	0.200	0.0620	mg/Kg
Chromium	0.198J	0.400	0.130	mg/Kg
Lead	0.100U	0.200	0.0620	mg/Kg
Mercury	0.0200U	0.0400	0.0120	mg/Kg
Nickel	0.100U	0.200	0.0620	mg/Kg
Selenium	0.500U	1.00	0.310	mg/Kg
Silver	0.100U	0.200	0.0620	mg/Kg
Vanadium	1.50U	3.00	0.940	mg/Kg

Batch Information

Analytical Batch: MMS9909
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: VDL
Analytical Date/Time: 8/24/2017 11:16:59AM

Prep Batch: MXX30964
Prep Method: SW3050B
Prep Date/Time: 8/24/2017 8:03:52AM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Analytical Batch: MMS9921
Analytical Method: SW6020A
Instrument: Perkin Elmer Nexlon P5
Analyst: VDL
Analytical Date/Time: 9/1/2017 4:35:09PM

Prep Batch: MXX30964
Prep Method: SW3050B
Prep Date/Time: 8/24/2017 8:03:52AM
Prep Initial Wt./Vol.: 1 g
Prep Extract Vol: 50 mL

Print Date: 09/14/2017 4:09:09PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [MXX30964]

Blank Spike Lab ID: 1407773

Date Analyzed: 08/24/2017 11:21

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW6020A

Parameter	Blank Spike (mg/Kg)			CL
	Spike	Result	Rec (%)	
Arsenic	50	50.3	101	(82-118)
Cadmium	5	5.40	108	(84-116)
Chromium	20	21.0	105	(83-119)
Lead	50	51.8	104	(84-118)
Nickel	50	51.4	103	(84-119)
Selenium	50	50.9	102	(80-119)
Silver	5	5.02	100	(83-118)
Vanadium	10	10.3	103	(82-116)
Barium	50	47.5	95	(86-116)
Mercury	0.5	0.489	98	(74-126)

Batch Information

Analytical Batch: **MMS9909**

Analytical Method: **SW6020A**

Instrument: **Perkin Elmer Nexlon P5**

Analyst: **VDL**

Prep Batch: **MXX30964**

Prep Method: **SW3050B**

Prep Date/Time: **08/24/2017 08:03**

Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

Analytical Batch: **MMS9921**

Analytical Method: **SW6020A**

Instrument: **Perkin Elmer Nexlon P5**

Analyst: **VDL**

Prep Batch: **MXX30964**

Prep Method: **SW3050B**

Prep Date/Time: **08/24/2017 08:03**

Spike Init Wt./Vol.: 50 mg/Kg Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1407774
 MS Sample ID: 1407775 MS
 MSD Sample ID: 1407776 MSD

Analysis Date: 08/24/2017 11:25
 Analysis Date: 08/24/2017 11:30
 Analysis Date: 08/24/2017 11:34
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW6020A

Parameter	Sample	Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Arsenic	2.45U	46.7	36.8	79 *	49.5	41.6	84	82-118	12.20	(< 20)
Cadmium	0.472J	4.67	4.91	95	4.95	5.19	95	84-116	5.71	(< 20)
Chromium	18.4	18.7	38	105	19.8	40.8	113	83-119	7.02	(< 20)
Lead	20.2	46.7	66.3	99	49.5	65.2	91	84-118	1.65	(< 20)
Nickel	5.53	46.7	52.5	101	49.5	56.2	102	84-119	6.77	(< 20)
Selenium	2.39J	46.7	43	87	49.5	46.5	89	80-119	7.78	(< 20)
Silver	0.490U	4.67	4.18	90	4.95	4.47	90	83-118	6.56	(< 20)
Vanadium	76.5	9.34	88.5	128 *	9.90	91.3	150 *	82-116	3.20	(< 20)
Barium	28.1	46.7	66.2	82 *	49.5	73.0	91	86-116	9.73	(< 20)
Mercury	0.0657	0.467	.507	94	0.495	0.570	102	74-126	11.70	(< 20)

Batch Information

Analytical Batch: MMS9909
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 8/24/2017 11:30:29AM

Prep Batch: MX30964
 Prep Method: Soils/Solids Digest for Metals by ICP-MS
 Prep Date/Time: 8/24/2017 8:03:52AM
 Prep Initial Wt./Vol.: 1.07g
 Prep Extract Vol: 50.00mL

Analytical Batch: MMS9921
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 9/1/2017 4:48:38PM

Prep Batch: MX30964
 Prep Method: Soils/Solids Digest for Metals by ICP-MS
 Prep Date/Time: 8/24/2017 8:03:52AM
 Prep Initial Wt./Vol.: 1.07g
 Prep Extract Vol: 50.00mL

Bench Spike Summary

Original Sample ID: 1407774
 MS Sample ID: 1407777 BND
 MSD Sample ID:

Analysis Date: 08/24/2017 11:25
 Analysis Date: 08/24/2017 11:39
 Analysis Date:
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW6020A

Parameter	Sample	Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Arsenic	2.45U	61.3	65.6	107				80-120		
Barium	28.1	245	270	99				80-120		

Batch Information

Analytical Batch: MMS9909
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 8/24/2017 11:39:30AM

Prep Batch: MXX30964
 Prep Method: Soils/Solids Digest for Metals by ICP-MS
 Prep Date/Time: 8/24/2017 8:03:52AM
 Prep Initial Wt./Vol.: 1.02g
 Prep Extract Vol: 50.00mL

Analytical Batch: MMS9921
 Analytical Method: SW6020A
 Instrument: Perkin Elmer Nexlon P5
 Analyst: VDL
 Analytical Date/Time: 9/1/2017 4:57:38PM

Prep Batch: MXX30964
 Prep Method: Soils/Solids Digest for Metals by ICP-MS
 Prep Date/Time: 8/24/2017 8:03:52AM
 Prep Initial Wt./Vol.: 1.02g
 Prep Extract Vol: 50.00mL

Print Date: 09/14/2017 4:09:12PM



Method Blank

Blank ID: MB for HBN 1766424 [SPT/10272]
Blank Lab ID: 1406636

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SM21 2540G

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

Batch Information

Analytical Batch: SPT10272
Analytical Method: SM21 2540G
Instrument:
Analyst: NIC
Analytical Date/Time: 8/18/2017 6:02:00PM

Print Date: 09/14/2017 4:09:14PM

Duplicate Sample Summary

Original Sample ID: 1175761002

Duplicate Sample ID: 1406637

QC for Samples:

1175815004

Analysis Date: 08/18/2017 18:02

Matrix: Soil/Solid (dry weight)

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	93.2	92.3	%	1.00	(< 15)

Batch Information

Analytical Batch: SPT10272

Analytical Method: SM21 2540G

Instrument:

Analyst: NIC

Print Date: 09/14/2017 4:09:15PM

Duplicate Sample Summary

Original Sample ID: 1175815004

Analysis Date: 08/18/2017 18:02

Duplicate Sample ID: 1406638

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	95.1	94.9	%	0.18	(< 15)

Batch Information

Analytical Batch: SPT10272

Analytical Method: SM21 2540G

Instrument:

Analyst: NIC

Print Date: 09/14/2017 4:09:15PM

Duplicate Sample Summary

Original Sample ID: 1175815015

Analysis Date: 08/18/2017 18:02

Duplicate Sample ID: 1406639

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	94.6	94.8	%	0.26	(< 15)

Batch Information

Analytical Batch: SPT10272

Analytical Method: SM21 2540G

Instrument:

Analyst: NIC

Print Date: 09/14/2017 4:09:15PM

Method Blank

Blank ID: MB for HBN 1766522 [VXX/31115]
 Blank Lab ID: 1406713

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015, 1175815016

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	1.25U	2.50	0.750	mg/Kg
Surrogates				
4-Bromofluorobenzene (surr)	75.1	50-150		%

Batch Information

Analytical Batch: VFC13825
 Analytical Method: AK101
 Instrument: Agilent 7890 PID/FID
 Analyst: ST
 Analytical Date/Time: 8/19/2017 9:23:00PM

Prep Batch: VXX31115
 Prep Method: SW5035A
 Prep Date/Time: 8/19/2017 8:00:00AM
 Prep Initial Wt./Vol.: 50 g
 Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31115]
 Blank Spike Lab ID: 1406714
 Date Analyzed: 08/19/2017 20:26

Spike Duplicate ID: LCSD for HBN 1175815 [VXX31115]
 Spike Duplicate Lab ID: 1406715
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015, 1175815016

Results by AK101

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	12.5	12.2	98	12.5	12.2	98	(60-120)	0.12	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	1.25	78.3	78	1.25	75.9	76	(50-150)	3.10	
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Batch Information

Analytical Batch: **VFC13825**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX31115**
 Prep Method: **SW5035A**
 Prep Date/Time: **08/19/2017 08:00**
 Spike Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 12.5 mg/Kg Extract Vol: 25 mL



Matrix Spike Summary

Original Sample ID: 1175664068
MS Sample ID: 1406881 MS
MSD Sample ID: 1406882 MSD

Analysis Date: 08/19/2017 22:01
Analysis Date: 08/19/2017 22:20
Analysis Date: 08/19/2017 22:39
Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015, 1175815016

Results by AK101

Parameter	Sample	Matrix Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	10.1	13.9	21.0	79	13.9	21.1	79	60-120	0.53	(< 20)
Surrogates										
4-Bromofluorobenzene (surr)		1.39	1.26	91	1.39	1.25	90	50-150	0.31	

Batch Information

Analytical Batch: VFC13825
Analytical Method: AK101
Instrument: Agilent 7890 PID/FID
Analyst: ST
Analytical Date/Time: 8/19/2017 10:20:00PM

Prep Batch: VXX31115
Prep Method: AK101 Extraction (S)
Prep Date/Time: 8/19/2017 8:00:00AM
Prep Initial Wt./Vol.: 50.73g
Prep Extract Vol: 25.00mL

Print Date: 09/14/2017 4:09:20PM



Method Blank

Blank ID: MB for HBN 1766668 [VXX/31120]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1407052

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	ug/Kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1,2,2-Tetrachloroethane	6.25U	12.5	3.90	ug/Kg
1,1,2-Trichloroethane	5.00U	10.0	3.10	ug/Kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/Kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/Kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/Kg
1,2,3-Trichloropropane	12.5U	25.0	7.80	ug/Kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/Kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/Kg
1,2-Dibromoethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
2-Butanone (MEK)	125U	250	78.0	ug/Kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
2-Hexanone	50.0U	100	31.0	ug/Kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
4-Isopropyltoluene	12.5U	25.0	7.80	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Benzene	6.25U	12.5	3.90	ug/Kg
Bromobenzene	12.5U	25.0	7.80	ug/Kg
Bromochloromethane	12.5U	25.0	7.80	ug/Kg
Bromodichloromethane	12.5U	25.0	7.80	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	100U	200	62.0	ug/Kg
Carbon disulfide	50.0U	100	31.0	ug/Kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/Kg
Chlorobenzene	12.5U	25.0	7.80	ug/Kg
Chloroethane	100U	200	62.0	ug/Kg
Chloroform	12.5U	25.0	7.80	ug/Kg

Print Date: 09/14/2017 4:09:20PM

Method Blank

Blank ID: MB for HBN 1766668 [VXX/31120]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1407052

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	12.5U	25.0	7.80	ug/Kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Dibromochloromethane	12.5U	25.0	7.80	ug/Kg
Dibromomethane	12.5U	25.0	7.80	ug/Kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
Freon-113	50.0U	100	31.0	ug/Kg
Hexachlorobutadiene	10.0U	20.0	6.20	ug/Kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/Kg
Methylene chloride	50.0U	100	31.0	ug/Kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/Kg
Naphthalene	12.5U	25.0	7.80	ug/Kg
n-Butylbenzene	12.5U	25.0	7.80	ug/Kg
n-Propylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Styrene	12.5U	25.0	7.80	ug/Kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Tetrachloroethene	6.25U	12.5	3.90	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Trichloroethene	5.00U	10.0	3.10	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	106	71-136		%
4-Bromofluorobenzene (surr)	92.4	55-151		%
Toluene-d8 (surr)	96.5	85-116		%

Print Date: 09/14/2017 4:09:20PM



Method Blank

Blank ID: MB for HBN 1766668 [VXX/31120]
Blank Lab ID: 1407052

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS17079
Analytical Method: SW8260C
Instrument: VQA 7890/5975 GC/MS
Analyst: NRO
Analytical Date/Time: 8/18/2017 5:05:00PM

Prep Batch: VXX31120
Prep Method: SW5035A
Prep Date/Time: 8/18/2017 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 09/14/2017 4:09:20PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31120]

Blank Spike Lab ID: 1407053

Date Analyzed: 08/18/2017 17:21

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
1,1,1,2-Tetrachloroethane	750	798	106	(78-125)
1,1,1-Trichloroethane	750	764	102	(73-130)
1,1,2,2-Tetrachloroethane	750	771	103	(70-124)
1,1,2-Trichloroethane	750	795	106	(78-121)
1,1-Dichloroethane	750	710	95	(76-125)
1,1-Dichloroethene	750	724	97	(70-131)
1,1-Dichloropropene	750	769	103	(76-125)
1,2,3-Trichlorobenzene	750	737	98	(66-130)
1,2,3-Trichloropropane	750	753	100	(73-125)
1,2,4-Trichlorobenzene	750	739	99	(67-129)
1,2,4-Trimethylbenzene	750	706	94	(75-123)
1,2-Dibromo-3-chloropropane	750	797	106	(61-132)
1,2-Dibromoethane	750	809	108	(78-122)
1,2-Dichlorobenzene	750	740	99	(78-121)
1,2-Dichloroethane	750	705	94	(73-128)
1,2-Dichloropropane	750	760	101	(76-123)
1,3,5-Trimethylbenzene	750	710	95	(73-124)
1,3-Dichlorobenzene	750	722	96	(77-121)
1,3-Dichloropropane	750	792	106	(77-121)
1,4-Dichlorobenzene	750	742	99	(75-120)
2,2-Dichloropropane	750	792	106	(67-133)
2-Butanone (MEK)	2250	2290	102	(51-148)
2-Chlorotoluene	750	736	98	(75-122)
2-Hexanone	2250	2340	104	(53-145)
4-Chlorotoluene	750	750	100	(72-124)
4-Isopropyltoluene	750	726	97	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2180	97	(65-135)
Benzene	750	742	99	(77-121)
Bromobenzene	750	735	98	(78-121)
Bromochloromethane	750	738	98	(78-125)
Bromodichloromethane	750	760	101	(75-127)
Bromoform	750	826	110	(67-132)
Bromomethane	750	717	96	(53-143)
Carbon disulfide	1130	1050	93	(63-132)

Print Date: 09/14/2017 4:09:22PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31120]

Blank Spike Lab ID: 1407053

Date Analyzed: 08/18/2017 17:21

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Carbon tetrachloride	750	775	103	(70-135)
Chlorobenzene	750	751	100	(79-120)
Chloroethane	750	730	97	(59-139)
Chloroform	750	731	98	(78-123)
Chloromethane	750	720	96	(50-136)
cis-1,2-Dichloroethene	750	712	95	(77-123)
cis-1,3-Dichloropropene	750	799	107	(74-126)
Dibromochloromethane	750	812	108	(74-126)
Dibromomethane	750	718	96	(78-125)
Dichlorodifluoromethane	750	732	98	(29-149)
Ethylbenzene	750	748	100	(76-122)
Freon-113	1130	1140	101	(66-136)
Hexachlorobutadiene	750	739	99	(61-135)
Isopropylbenzene (Cumene)	750	756	101	(68-134)
Methylene chloride	750	689	92	(70-128)
Methyl-t-butyl ether	1130	1150	102	(73-125)
Naphthalene	750	763	102	(62-129)
n-Butylbenzene	750	724	97	(70-128)
n-Propylbenzene	750	762	102	(73-125)
o-Xylene	750	762	102	(77-123)
P & M -Xylene	1500	1510	101	(77-124)
sec-Butylbenzene	750	733	98	(73-126)
Styrene	750	779	104	(76-124)
tert-Butylbenzene	750	743	99	(73-125)
Tetrachloroethene	750	789	105	(73-128)
Toluene	750	742	99	(77-121)
trans-1,2-Dichloroethene	750	722	96	(74-125)
trans-1,3-Dichloropropene	750	851	114	(71-130)
Trichloroethene	750	762	102	(77-123)
Trichlorofluoromethane	750	782	104	(62-140)
Vinyl acetate	750	799	107	(50-151)
Vinyl chloride	750	743	99	(56-135)
Xylenes (total)	2250	2270	101	(78-124)

Print Date: 09/14/2017 4:09:22PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31120]

Blank Spike Lab ID: 1407053

Date Analyzed: 08/18/2017 17:21

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

Parameter	Blank Spike (%)			CL
	Spike	Result	Rec (%)	
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	98.2	98	(71-136)
4-Bromofluorobenzene (surr)	750	90.5	91	(55-151)
Toluene-d8 (surr)	750	101	101	(85-116)

Batch Information

Analytical Batch: **VMS17079**

Analytical Method: **SW8260C**

Instrument: **VQA 7890/5975 GC/MS**

Analyst: **NRO**

Prep Batch: **VXX31120**

Prep Method: **SW5035A**

Prep Date/Time: **08/18/2017 06:00**

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1407124
 MS Sample ID: 1407054 MS
 MSD Sample ID: 1407055 MSD

Analysis Date: 08/18/2017 20:34
 Analysis Date: 08/18/2017 18:42
 Analysis Date: 08/18/2017 18:58
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	6.75U	503	548	109	503	566	113	78-125	3.40	(< 20)
1,1,1-Trichloroethane	8.40U	503	509	101	503	498	99	73-130	2.20	(< 20)
1,1,2,2-Tetrachloroethane	4.21U	503	533	106	503	508	101	70-124	4.90	(< 20)
1,1,2-Trichloroethane	3.37U	503	512	102	503	554	110	78-121	7.90	(< 20)
1,1-Dichloroethane	8.40U	503	483	96	503	481	96	76-125	0.45	(< 20)
1,1-Dichloroethene	8.40U	503	497	99	503	481	96	70-131	3.40	(< 20)
1,1-Dichloropropene	8.40U	503	511	102	503	499	99	76-125	2.40	(< 20)
1,2,3-Trichlorobenzene	16.9U	503	388	77	503	506	101	66-130	26.30	* (< 20)
1,2,3-Trichloropropane	8.40U	503	517	103	503	496	99	73-125	4.10	(< 20)
1,2,4-Trichlorobenzene	8.40U	503	420	84	503	503	100	67-129	18.10	(< 20)
1,2,4-Trimethylbenzene	16.9U	503	469	93	503	476	95	75-123	1.50	(< 20)
1,2-Dibromo-3-chloropropane	33.6U	503	477	95	503	527	105	61-132	9.90	(< 20)
1,2-Dibromoethane	3.37U	503	531	106	503	562	112	78-122	5.60	(< 20)
1,2-Dichlorobenzene	8.40U	503	480	96	503	500	99	78-121	4.10	(< 20)
1,2-Dichloroethane	3.37U	503	479	95	503	477	95	73-128	0.53	(< 20)
1,2-Dichloropropane	3.37U	503	513	102	503	511	102	76-123	0.36	(< 20)
1,3,5-Trimethylbenzene	8.40U	503	464	92	503	471	94	73-124	1.50	(< 20)
1,3-Dichlorobenzene	8.40U	503	472	94	503	489	97	77-121	3.40	(< 20)
1,3-Dichloropropane	3.37U	503	517	103	503	553	110	77-121	6.70	(< 20)
1,4-Dichlorobenzene	8.40U	503	490	97	503	504	100	75-120	2.90	(< 20)
2,2-Dichloropropane	8.40U	503	541	108	503	516	103	67-133	4.70	(< 20)
2-Butanone (MEK)	84.0U	1510	1440	96	1510	1490	99	51-148	3.40	(< 20)
2-Chlorotoluene	8.40U	503	482	96	503	506	101	75-122	4.90	(< 20)
2-Hexanone	33.6U	1510	1430	95	1510	1590	105	53-145	10.50	(< 20)
4-Chlorotoluene	8.40U	503	492	98	503	501	100	72-124	1.80	(< 20)
4-Isopropyltoluene	8.40U	503	469	93	503	477	95	73-127	1.70	(< 20)
4-Methyl-2-pentanone (MIBK)	84.0U	1510	1440	95	1510	1450	96	65-135	0.79	(< 20)
Benzene	4.21U	503	501	100	503	499	99	77-121	0.44	(< 20)
Bromobenzene	8.40U	503	503	100	503	506	101	78-121	0.60	(< 20)
Bromochloromethane	8.40U	503	524	104	503	501	100	78-125	4.40	(< 20)
Bromodichloromethane	8.40U	503	525	104	503	518	103	75-127	1.50	(< 20)
Bromoform	8.40U	503	555	110	503	572	114	67-132	3.10	(< 20)
Bromomethane	67.5U	503	502	100	503	482	96	53-143	4.10	(< 20)
Carbon disulfide	33.6U	754	745	99	754	710	94	63-132	4.70	(< 20)
Carbon tetrachloride	4.21U	503	519	103	503	502	100	70-135	3.20	(< 20)
Chlorobenzene	8.40U	503	498	99	503	509	101	79-120	2.20	(< 20)
Chloroethane	67.5U	503	504	100	503	487	97	59-139	3.50	(< 20)

Print Date: 09/14/2017 4:09:23PM

Matrix Spike Summary

Original Sample ID: 1407124
 MS Sample ID: 1407054 MS
 MSD Sample ID: 1407055 MSD

Analysis Date: 08/18/2017 20:34
 Analysis Date: 08/18/2017 18:42
 Analysis Date: 08/18/2017 18:58
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	8.40U	503	500	99	503	496	99	78-123	0.78	(< 20)
Chloromethane	8.40U	503	498	99	503	483	96	50-136	3.00	(< 20)
cis-1,2-Dichloroethene	8.40U	503	492	98	503	490	97	77-123	0.41	(< 20)
cis-1,3-Dichloropropene	4.21U	503	553	110	503	542	108	74-126	1.90	(< 20)
Dibromochloromethane	8.40U	503	541	108	503	567	113	74-126	4.70	(< 20)
Dibromomethane	8.40U	503	490	98	503	486	97	78-125	0.79	(< 20)
Dichlorodifluoromethane	16.9U	503	477	95	503	459	91	29-149	3.90	(< 20)
Ethylbenzene	8.40U	503	484	96	503	511	102	76-122	5.30	(< 20)
Freon-113	33.6U	754	746	99	754	722	96	66-136	3.30	(< 20)
Hexachlorobutadiene	6.75U	503	614	122	503	643	128	61-135	4.70	(< 20)
Isopropylbenzene (Cumene)	8.40U	503	478	95	503	515	102	68-134	7.40	(< 20)
Methylene chloride	33.6U	503	482	96	503	479	95	70-128	0.70	(< 20)
Methyl-t-butyl ether	33.6U	754	777	103	754	772	102	73-125	0.70	(< 20)
Naphthalene	22.6	503	397	74	503	506	96	62-129	24.10	* (< 20)
n-Butylbenzene	8.40U	503	495	99	503	494	98	70-128	0.27	(< 20)
n-Propylbenzene	8.40U	503	489	97	503	503	100	73-125	2.70	(< 20)
o-Xylene	8.40U	503	489	97	503	532	106	77-123	8.50	(< 20)
P & M -Xylene	16.9U	1010	977	97	1010	1060	105	77-124	8.00	(< 20)
sec-Butylbenzene	8.40U	503	478	95	503	485	97	73-126	1.60	(< 20)
Styrene	8.40U	503	502	100	503	544	108	76-124	8.10	(< 20)
tert-Butylbenzene	8.40U	503	476	95	503	487	97	73-125	2.20	(< 20)
Tetrachloroethene	4.21U	503	519	103	503	531	106	73-128	2.40	(< 20)
Toluene	8.40U	503	495	98	503	506	101	77-121	2.30	(< 20)
trans-1,2-Dichloroethene	8.40U	503	497	99	503	488	97	74-125	1.70	(< 20)
trans-1,3-Dichloropropene	4.21U	503	548	109	503	578	115	71-130	5.30	(< 20)
Trichloroethene	3.37U	503	509	101	503	507	101	77-123	0.33	(< 20)
Trichlorofluoromethane	16.9U	503	680	135	503	508	101	62-140	28.90	* (< 20)
Vinyl acetate	33.6U	503	638	127	503	500	100	50-151	24.20	* (< 20)
Vinyl chloride	3.37U	503	497	99	503	482	96	56-135	3.00	(< 20)
Xylenes (total)	25.3U	1510	1470	97	1510	1590	105	78-124	8.20	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		503	502	100	503	487	97	71-136	3.10	
4-Bromofluorobenzene (surr)		661	789	119	661	809	122	55-151	2.50	
Toluene-d8 (surr)		503	513	102	503	510	101	85-116	0.69	

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Matrix Spike Summary

Original Sample ID: 1407124
 MS Sample ID: 1407054 MS
 MSD Sample ID: 1407055 MSD

Analysis Date:
 Analysis Date: 08/18/2017 18:42
 Analysis Date: 08/18/2017 18:58
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815016

Results by SW8260C

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS17079
 Analytical Method: SW8260C
 Instrument: VQA 7890/5975 GC/MS
 Analyst: NRO
 Analytical Date/Time: 8/18/2017 6:42:00PM

Prep Batch: VXX31120
 Prep Method: Vol. Extraction SW8260 Field Extracted L
 Prep Date/Time: 8/18/2017 6:00:00AM
 Prep Initial Wt./Vol.: 94.48g
 Prep Extract Vol: 31.81mL

Print Date: 09/14/2017 4:09:23PM

Method Blank

Blank ID: MB for HBN 1766670 [VXX/31122]

Blank Lab ID: 1407060

QC for Samples:

1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Matrix: Soil/Solid (dry weight)

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	10.0U	20.0	6.20	ug/Kg
1,1,1-Trichloroethane	12.5U	25.0	7.80	ug/Kg
1,1,2,2-Tetrachloroethane	6.25U	12.5	3.90	ug/Kg
1,1,2-Trichloroethane	5.00U	10.0	3.10	ug/Kg
1,1-Dichloroethane	12.5U	25.0	7.80	ug/Kg
1,1-Dichloroethene	12.5U	25.0	7.80	ug/Kg
1,1-Dichloropropene	12.5U	25.0	7.80	ug/Kg
1,2,3-Trichlorobenzene	25.0U	50.0	15.0	ug/Kg
1,2,3-Trichloropropane	12.5U	25.0	7.80	ug/Kg
1,2,4-Trichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2,4-Trimethylbenzene	25.0U	50.0	15.0	ug/Kg
1,2-Dibromo-3-chloropropane	50.0U	100	31.0	ug/Kg
1,2-Dibromoethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,2-Dichloroethane	5.00U	10.0	3.10	ug/Kg
1,2-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,3,5-Trimethylbenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
1,3-Dichloropropane	5.00U	10.0	3.10	ug/Kg
1,4-Dichlorobenzene	12.5U	25.0	7.80	ug/Kg
2,2-Dichloropropane	12.5U	25.0	7.80	ug/Kg
2-Butanone (MEK)	125U	250	78.0	ug/Kg
2-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
2-Hexanone	50.0U	100	31.0	ug/Kg
4-Chlorotoluene	12.5U	25.0	7.80	ug/Kg
4-Isopropyltoluene	12.5U	25.0	7.80	ug/Kg
4-Methyl-2-pentanone (MIBK)	125U	250	78.0	ug/Kg
Benzene	6.25U	12.5	3.90	ug/Kg
Bromobenzene	12.5U	25.0	7.80	ug/Kg
Bromochloromethane	12.5U	25.0	7.80	ug/Kg
Bromodichloromethane	12.5U	25.0	7.80	ug/Kg
Bromoform	12.5U	25.0	7.80	ug/Kg
Bromomethane	100U	200	62.0	ug/Kg
Carbon disulfide	50.0U	100	31.0	ug/Kg
Carbon tetrachloride	6.25U	12.5	3.90	ug/Kg
Chlorobenzene	12.5U	25.0	7.80	ug/Kg
Chloroethane	100U	200	62.0	ug/Kg
Chloroform	12.5U	25.0	7.80	ug/Kg

Print Date: 09/14/2017 4:09:24PM

Method Blank

Blank ID: MB for HBN 1766670 [VXX/31122]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1407060

QC for Samples:

1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	12.5U	25.0	7.80	ug/Kg
cis-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
cis-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Dibromochloromethane	12.5U	25.0	7.80	ug/Kg
Dibromomethane	12.5U	25.0	7.80	ug/Kg
Dichlorodifluoromethane	25.0U	50.0	15.0	ug/Kg
Ethylbenzene	12.5U	25.0	7.80	ug/Kg
Freon-113	50.0U	100	31.0	ug/Kg
Hexachlorobutadiene	10.0U	20.0	6.20	ug/Kg
Isopropylbenzene (Cumene)	12.5U	25.0	7.80	ug/Kg
Methylene chloride	50.0U	100	31.0	ug/Kg
Methyl-t-butyl ether	50.0U	100	31.0	ug/Kg
Naphthalene	12.5U	25.0	7.80	ug/Kg
n-Butylbenzene	12.5U	25.0	7.80	ug/Kg
n-Propylbenzene	12.5U	25.0	7.80	ug/Kg
o-Xylene	12.5U	25.0	7.80	ug/Kg
P & M -Xylene	25.0U	50.0	15.0	ug/Kg
sec-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Styrene	12.5U	25.0	7.80	ug/Kg
tert-Butylbenzene	12.5U	25.0	7.80	ug/Kg
Tetrachloroethene	6.25U	12.5	3.90	ug/Kg
Toluene	12.5U	25.0	7.80	ug/Kg
trans-1,2-Dichloroethene	12.5U	25.0	7.80	ug/Kg
trans-1,3-Dichloropropene	6.25U	12.5	3.90	ug/Kg
Trichloroethene	5.00U	10.0	3.10	ug/Kg
Trichlorofluoromethane	25.0U	50.0	15.0	ug/Kg
Vinyl acetate	50.0U	100	31.0	ug/Kg
Vinyl chloride	5.00U	10.0	3.10	ug/Kg
Xylenes (total)	37.5U	75.0	22.8	ug/Kg
Surrogates				
1,2-Dichloroethane-D4 (surr)	102	71-136		%
4-Bromofluorobenzene (surr)	100	55-151		%
Toluene-d8 (surr)	97.6	85-116		%



Method Blank

Blank ID: MB for HBN 1766670 [VXX/31122]
Blank Lab ID: 1407060

Matrix: Soil/Solid (dry weight)

QC for Samples:
1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS17080
Analytical Method: SW8260C
Instrument: VRA Agilent GC/MS 7890B/5977A
Analyst: NRO
Analytical Date/Time: 8/18/2017 5:06:00PM

Prep Batch: VXX31122
Prep Method: SW5035A
Prep Date/Time: 8/18/2017 6:00:00AM
Prep Initial Wt./Vol.: 50 g
Prep Extract Vol: 25 mL

Print Date: 09/14/2017 4:09:24PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31122]

Blank Spike Lab ID: 1407061

Date Analyzed: 08/18/2017 17:24

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
1,1,1,2-Tetrachloroethane	750	766	102	(78-125)
1,1,1-Trichloroethane	750	749	100	(73-130)
1,1,2,2-Tetrachloroethane	750	769	103	(70-124)
1,1,2-Trichloroethane	750	766	102	(78-121)
1,1-Dichloroethane	750	732	98	(76-125)
1,1-Dichloroethene	750	740	99	(70-131)
1,1-Dichloropropene	750	739	99	(76-125)
1,2,3-Trichlorobenzene	750	722	96	(66-130)
1,2,3-Trichloropropane	750	722	96	(73-125)
1,2,4-Trichlorobenzene	750	725	97	(67-129)
1,2,4-Trimethylbenzene	750	703	94	(75-123)
1,2-Dibromo-3-chloropropane	750	816	109	(61-132)
1,2-Dibromoethane	750	771	103	(78-122)
1,2-Dichlorobenzene	750	697	93	(78-121)
1,2-Dichloroethane	750	736	98	(73-128)
1,2-Dichloropropane	750	750	100	(76-123)
1,3,5-Trimethylbenzene	750	702	94	(73-124)
1,3-Dichlorobenzene	750	720	96	(77-121)
1,3-Dichloropropane	750	753	100	(77-121)
1,4-Dichlorobenzene	750	740	99	(75-120)
2,2-Dichloropropane	750	782	104	(67-133)
2-Butanone (MEK)	2250	2230	99	(51-148)
2-Chlorotoluene	750	731	98	(75-122)
2-Hexanone	2250	2340	104	(53-145)
4-Chlorotoluene	750	701	94	(72-124)
4-Isopropyltoluene	750	696	93	(73-127)
4-Methyl-2-pentanone (MIBK)	2250	2280	101	(65-135)
Benzene	750	742	99	(77-121)
Bromobenzene	750	718	96	(78-121)
Bromochloromethane	750	742	99	(78-125)
Bromodichloromethane	750	771	103	(75-127)
Bromoform	750	840	112	(67-132)
Bromomethane	750	799	106	(53-143)
Carbon disulfide	1130	1160	103	(63-132)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31122]

Blank Spike Lab ID: 1407061

Date Analyzed: 08/18/2017 17:24

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Carbon tetrachloride	750	786	105	(70-135)
Chlorobenzene	750	742	99	(79-120)
Chloroethane	750	751	100	(59-139)
Chloroform	750	703	94	(78-123)
Chloromethane	750	714	95	(50-136)
cis-1,2-Dichloroethene	750	733	98	(77-123)
cis-1,3-Dichloropropene	750	794	106	(74-126)
Dibromochloromethane	750	821	109	(74-126)
Dibromomethane	750	767	102	(78-125)
Dichlorodifluoromethane	750	686	91	(29-149)
Ethylbenzene	750	735	98	(76-122)
Freon-113	1130	1110	99	(66-136)
Hexachlorobutadiene	750	672	90	(61-135)
Isopropylbenzene (Cumene)	750	733	98	(68-134)
Methylene chloride	750	703	94	(70-128)
Methyl-t-butyl ether	1130	1140	101	(73-125)
Naphthalene	750	756	101	(62-129)
n-Butylbenzene	750	686	92	(70-128)
n-Propylbenzene	750	711	95	(73-125)
o-Xylene	750	735	98	(77-123)
P & M -Xylene	1500	1450	97	(77-124)
sec-Butylbenzene	750	684	91	(73-126)
Styrene	750	756	101	(76-124)
tert-Butylbenzene	750	699	93	(73-125)
Tetrachloroethene	750	724	97	(73-128)
Toluene	750	725	97	(77-121)
trans-1,2-Dichloroethene	750	764	102	(74-125)
trans-1,3-Dichloropropene	750	808	108	(71-130)
Trichloroethene	750	740	99	(77-123)
Trichlorofluoromethane	750	737	98	(62-140)
Vinyl acetate	750	846	113	(50-151)
Vinyl chloride	750	778	104	(56-135)
Xylenes (total)	2250	2190	97	(78-124)

Print Date: 09/14/2017 4:09:25PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31122]

Blank Spike Lab ID: 1407061

Date Analyzed: 08/18/2017 17:24

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

Parameter	Blank Spike (%)			CL
	Spike	Result	Rec (%)	
Surrogates				
1,2-Dichloroethane-D4 (surr)	750	98.3	98	(71-136)
4-Bromofluorobenzene (surr)	750	95.1	95	(55-151)
Toluene-d8 (surr)	750	99.9	100	(85-116)

Batch Information

Analytical Batch: **VMS17080**

Analytical Method: **SW8260C**

Instrument: **VRA Agilent GC/MS 7890B/5977A**

Analyst: **NRO**

Prep Batch: **VXX31122**

Prep Method: **SW5035A**

Prep Date/Time: **08/18/2017 06:00**

Spike Init Wt./Vol.: 750 ug/Kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1175806001
 MS Sample ID: 1407062 MS
 MSD Sample ID: 1407063 MSD

Analysis Date: 08/18/2017 20:23
 Analysis Date: 08/18/2017 18:37
 Analysis Date: 08/18/2017 18:54
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	11.5U	858	904	105	858	905	105	78-125	0.16	(< 20)
1,1,1-Trichloroethane	14.4U	858	899	105	858	890	104	73-130	1.10	(< 20)
1,1,2,2-Tetrachloroethane	7.20U	858	918	107	858	922	107	70-124	0.44	(< 20)
1,1,2-Trichloroethane	5.75U	858	872	102	858	890	104	78-121	2.00	(< 20)
1,1-Dichloroethane	14.4U	858	875	102	858	877	102	76-125	0.30	(< 20)
1,1-Dichloroethene	14.4U	858	922	107	858	877	102	70-131	4.90	(< 20)
1,1-Dichloropropene	14.4U	858	893	104	858	874	102	76-125	2.10	(< 20)
1,2,3-Trichlorobenzene	28.8U	858	687	80	858	858	100	66-130	22.10	* (< 20)
1,2,3-Trichloropropane	14.4U	858	892	104	858	904	105	73-125	1.30	(< 20)
1,2,4-Trichlorobenzene	14.4U	858	777	90	858	866	101	67-129	11.00	(< 20)
1,2,4-Trimethylbenzene	28.8U	858	897	105	858	874	102	75-123	2.60	(< 20)
1,2-Dibromo-3-chloropropane	57.5U	858	903	105	858	958	112	61-132	5.90	(< 20)
1,2-Dibromoethane	5.75U	858	879	102	858	903	105	78-122	2.70	(< 20)
1,2-Dichlorobenzene	14.4U	858	896	104	858	873	102	78-121	2.60	(< 20)
1,2-Dichloroethane	5.75U	858	855	100	858	881	103	73-128	3.00	(< 20)
1,2-Dichloropropane	5.75U	858	877	102	858	893	104	76-123	1.80	(< 20)
1,3,5-Trimethylbenzene	14.4U	858	891	104	858	871	101	73-124	2.30	(< 20)
1,3-Dichlorobenzene	14.4U	858	887	103	858	873	102	77-121	1.50	(< 20)
1,3-Dichloropropane	5.75U	858	871	101	858	891	104	77-121	2.40	(< 20)
1,4-Dichlorobenzene	14.4U	858	899	105	858	879	102	75-120	2.40	(< 20)
2,2-Dichloropropane	14.4U	858	968	113	858	935	109	67-133	3.50	(< 20)
2-Butanone (MEK)	144U	2577	2325	90	2577	2577	100	51-148	10.30	(< 20)
2-Chlorotoluene	14.4U	858	910	106	858	869	101	75-122	4.50	(< 20)
2-Hexanone	57.5U	2577	2566	100	2577	2669	104	53-145	3.80	(< 20)
4-Chlorotoluene	14.4U	858	931	108	858	879	102	72-124	5.80	(< 20)
4-Isopropyltoluene	14.4U	858	872	102	858	850	99	73-127	2.40	(< 20)
4-Methyl-2-pentanone (MIBK)	144U	2577	2451	95	2577	2669	104	65-135	8.40	(< 20)
Benzene	7.20U	858	868	101	858	881	103	77-121	1.40	(< 20)
Bromobenzene	14.4U	858	900	105	858	867	101	78-121	3.80	(< 20)
Bromochloromethane	14.4U	858	906	106	858	889	104	78-125	2.00	(< 20)
Bromodichloromethane	14.4U	858	910	106	858	928	108	75-127	1.90	(< 20)
Bromoform	14.4U	858	943	110	858	991	115	67-132	4.90	(< 20)
Bromomethane	115U	858	1081	126	858	1044	122	53-143	3.60	(< 20)
Carbon disulfide	57.5U	1283	1546	120	1283	1420	111	63-132	7.90	(< 20)
Carbon tetrachloride	7.20U	858	959	112	858	937	109	70-135	2.20	(< 20)
Chlorobenzene	14.4U	858	867	101	858	873	102	79-120	0.69	(< 20)
Chloroethane	115U	858	952	111	858	901	105	59-139	5.50	(< 20)

Print Date: 09/14/2017 4:09:26PM



Matrix Spike Summary

Original Sample ID: 1175806001
 MS Sample ID: 1407062 MS
 MSD Sample ID: 1407063 MSD

Analysis Date: 08/18/2017 20:23
 Analysis Date: 08/18/2017 18:37
 Analysis Date: 08/18/2017 18:54
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloroform	14.4U	858	838	98	858	844	98	78-123	0.68	(< 20)
Chloromethane	14.4U	858	805	94	858	837	98	50-136	3.90	(< 20)
cis-1,2-Dichloroethene	14.4U	858	876	102	858	879	102	77-123	0.20	(< 20)
cis-1,3-Dichloropropene	7.20U	858	932	109	858	953	111	74-126	2.30	(< 20)
Dibromochloromethane	14.4U	858	944	110	858	959	112	74-126	1.60	(< 20)
Dibromomethane	14.4U	858	885	103	858	911	106	78-125	2.80	(< 20)
Dichlorodifluoromethane	28.8U	858	818	95	858	780	91	29-149	4.70	(< 20)
Ethylbenzene	14.4U	858	864	101	858	860	100	76-122	0.37	(< 20)
Freon-113	57.5U	1283	1363	106	1283	1306	101	66-136	4.00	(< 20)
Hexachlorobutadiene	11.5U	858	1009	118	858	924	108	61-135	8.70	(< 20)
Isopropylbenzene (Cumene)	14.4U	858	847	99	858	866	101	68-134	2.30	(< 20)
Methylene chloride	57.5U	858	850	99	858	841	98	70-128	1.20	(< 20)
Methyl-t-butyl ether	57.5U	1283	1294	101	1283	1340	104	73-125	2.90	(< 20)
Naphthalene	14.4U	858	758	88	858	899	105	62-129	17.10	(< 20)
n-Butylbenzene	14.4U	858	860	100	858	833	97	70-128	3.30	(< 20)
n-Propylbenzene	14.4U	858	892	104	858	863	100	73-125	3.40	(< 20)
o-Xylene	14.4U	858	847	99	858	859	100	77-123	1.50	(< 20)
P & M -Xylene	28.8U	1718	1707	99	1718	1730	101	77-124	1.40	(< 20)
sec-Butylbenzene	14.4U	858	851	99	858	832	97	73-126	2.40	(< 20)
Styrene	14.4U	858	863	101	858	882	103	76-124	2.20	(< 20)
tert-Butylbenzene	14.4U	858	850	99	858	844	98	73-125	0.78	(< 20)
Tetrachloroethene	7.20U	858	898	105	858	884	103	73-128	1.60	(< 20)
Toluene	14.4U	858	865	101	858	864	101	77-121	0.13	(< 20)
trans-1,2-Dichloroethene	14.4U	858	975	114	858	946	110	74-125	2.90	(< 20)
trans-1,3-Dichloropropene	7.20U	858	945	110	858	959	112	71-130	1.50	(< 20)
Trichloroethene	4.31J	858	891	103	858	889	103	77-123	0.23	(< 20)
Trichlorofluoromethane	28.8U	858	1029	120	858	920	107	62-140	11.20	(< 20)
Vinyl acetate	57.5U	858	961	112	858	998	116	50-151	3.80	(< 20)
Vinyl chloride	5.75U	858	940	110	858	910	106	56-135	3.30	(< 20)
Xylenes (total)	43.1U	2577	2554	99	2577	2589	101	78-124	1.40	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		858	827	96	858	856	100	71-136	3.30	
4-Bromofluorobenzene (surr)		1073	1074	100	1073	1034	96	55-151	3.80	
Toluene-d8 (surr)		858	858	100	858	850	99	85-116	0.94	

Print Date: 09/14/2017 4:09:26PM

Matrix Spike Summary

Original Sample ID: 1175806001
 MS Sample ID: 1407062 MS
 MSD Sample ID: 1407063 MSD

Analysis Date:
 Analysis Date: 08/18/2017 18:37
 Analysis Date: 08/18/2017 18:54
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8260C

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS17080
 Analytical Method: SW8260C
 Instrument: VRA Agilent GC/MS 7890B/5977A
 Analyst: NRO
 Analytical Date/Time: 8/18/2017 6:37:00PM

Prep Batch: VXX31122
 Prep Method: Vol. Extraction SW8260 Field Extracted L
 Prep Date/Time: 8/18/2017 6:00:00AM
 Prep Initial Wt./Vol.: 66.73g
 Prep Extract Vol: 33.48mL

Print Date: 09/14/2017 4:09:26PM

Method Blank

Blank ID: MB for HBN 1766717 [VXX/31127]

Blank Lab ID: 1407265

QC for Samples:

1175815001, 1175815002, 1175815003

Matrix: Water (Surface, Eff., Ground)

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0500U	0.100	0.0310	mg/L
Surrogates				
4-Bromofluorobenzene (surr)	80.4	50-150		%

Batch Information

Analytical Batch: VFC13829

Analytical Method: AK101

Instrument: Agilent 7890 PID/FID

Analyst: ST

Analytical Date/Time: 8/21/2017 12:25:00PM

Prep Batch: VXX31127

Prep Method: SW5030B

Prep Date/Time: 8/21/2017 8:00:00AM

Prep Initial Wt./Vol.: 5 mL

Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31127]
 Blank Spike Lab ID: 1407268
 Date Analyzed: 08/21/2017 13:22

Spike Duplicate ID: LCSD for HBN 1175815 [VXX31127]
 Spike Duplicate Lab ID: 1407269
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	0.983	98	1.00	0.971	97	(60-120)	1.30	(< 20)

Surrogates

4-Bromofluorobenzene (surr)	0.0500	89	89	0.0500	89.4	89	(50-150)	0.47	
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Batch Information

Analytical Batch: **VFC13829**
 Analytical Method: **AK101**
 Instrument: **Agilent 7890 PID/FID**
 Analyst: **ST**

Prep Batch: **VXX31127**
 Prep Method: **SW5030B**
 Prep Date/Time: **08/21/2017 08:00**
 Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 09/14/2017 4:09:28PM

Method Blank

Blank ID: MB for HBN 1767126 [VXX/31169]

Blank Lab ID: 1408884

QC for Samples:

1175815001, 1175815002, 1175815003

Matrix: Water (Surface, Eff., Ground)

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	2.50U	5.00	1.50	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L
Chloromethane	0.450J	1.00	0.310	ug/L

Print Date: 09/14/2017 4:09:30PM

Method Blank

Blank ID: MB for HBN 1767126 [VXX/31169]

Blank Lab ID: 1408884

QC for Samples:

1175815001, 1175815002, 1175815003

Matrix: Water (Surface, Eff., Ground)

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	2.50U	5.00	1.00	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	93.8	81-118		%
4-Bromofluorobenzene (surr)	104	85-114		%
Toluene-d8 (surr)	103	89-112		%



Method Blank

Blank ID: MB for HBN 1767126 [VXX/31169]
Blank Lab ID: 1408884

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1175815001, 1175815002, 1175815003

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS17105
Analytical Method: SW8260C
Instrument: VPA 780/5975 GC/MS
Analyst: FDR
Analytical Date/Time: 8/29/2017 12:29:00AM

Prep Batch: VXX31169
Prep Method: SW5030B
Prep Date/Time: 8/28/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 09/14/2017 4:09:30PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31169]
 Blank Spike Lab ID: 1408885
 Date Analyzed: 08/29/2017 01:45

Spike Duplicate ID: LCSD for HBN 1175815 [VXX31169]
 Spike Duplicate Lab ID: 1408886
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	30.9	103	30	30.7	102	(78-124)	0.81	(< 20)
1,1,1-Trichloroethane	30	28.8	96	30	27.9	93	(74-131)	3.20	(< 20)
1,1,2,2-Tetrachloroethane	30	37.3	124	* 30	38.0	127	* (71-121)	1.70	(< 20)
1,1,2-Trichloroethane	30	34.7	116	30	34.3	114	(80-119)	1.30	(< 20)
1,1-Dichloroethane	30	33.0	110	30	32.1	107	(77-125)	2.90	(< 20)
1,1-Dichloroethene	30	25.0	83	30	24.7	82	(71-131)	1.30	(< 20)
1,1-Dichloropropene	30	34.0	113	30	32.9	110	(79-125)	3.40	(< 20)
1,2,3-Trichlorobenzene	30	33.9	113	30	35.5	118	(69-129)	4.60	(< 20)
1,2,3-Trichloropropane	30	34.7	116	30	35.0	117	(73-122)	0.77	(< 20)
1,2,4-Trichlorobenzene	30	33.8	113	30	35.0	117	(69-130)	3.60	(< 20)
1,2,4-Trimethylbenzene	30	36.9	123	30	37.1	124	(79-124)	0.54	(< 20)
1,2-Dibromo-3-chloropropane	30	32.5	108	30	34.8	116	(62-128)	6.70	(< 20)
1,2-Dibromoethane	30	33.6	112	30	33.4	111	(77-121)	0.42	(< 20)
1,2-Dichlorobenzene	30	33.0	110	30	33.2	111	(80-119)	0.51	(< 20)
1,2-Dichloroethane	30	28.5	95	30	28.2	94	(73-128)	1.00	(< 20)
1,2-Dichloropropane	30	34.8	116	30	34.3	114	(78-122)	1.50	(< 20)
1,3,5-Trimethylbenzene	30	37.2	124	30	36.6	122	(75-124)	1.60	(< 20)
1,3-Dichlorobenzene	30	33.3	111	30	33.4	111	(80-119)	0.39	(< 20)
1,3-Dichloropropane	30	35.5	118	30	35.3	118	(80-119)	0.59	(< 20)
1,4-Dichlorobenzene	30	33.8	113	30	33.7	112	(79-118)	0.27	(< 20)
2,2-Dichloropropane	30	31.1	104	30	30.1	100	(60-139)	3.40	(< 20)
2-Butanone (MEK)	90	104	116	90	106	118	(56-143)	2.00	(< 20)
2-Chlorotoluene	30	37.4	125	* 30	37.0	123	* (79-122)	0.97	(< 20)
2-Hexanone	90	118	132	90	120	134	(57-139)	1.40	(< 20)
4-Chlorotoluene	30	37.1	124	* 30	37.1	124	* (78-122)	0.22	(< 20)
4-Isopropyltoluene	30	36.3	121	30	36.2	121	(77-127)	0.36	(< 20)
4-Methyl-2-pentanone (MIBK)	90	103	114	90	105	117	(67-130)	2.40	(< 20)
Benzene	30	33.9	113	30	33.4	111	(79-120)	1.40	(< 20)
Bromobenzene	30	33.6	112	30	33.6	112	(80-120)	0.03	(< 20)
Bromochloromethane	30	31.2	104	30	30.4	101	(78-123)	2.50	(< 20)
Bromodichloromethane	30	29.9	100	30	29.4	98	(79-125)	1.90	(< 20)
Bromoform	30	30.3	101	30	30.7	102	(66-130)	1.30	(< 20)
Bromomethane	30	25.6	85	30	24.9	83	(53-141)	2.70	(< 20)
Carbon tetrachloride	30	28.0	93	30	26.9	90	(72-136)	3.90	(< 20)

Print Date: 09/14/2017 4:09:31PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31169]
 Blank Spike Lab ID: 1408885
 Date Analyzed: 08/29/2017 01:45

Spike Duplicate ID: LCSD for HBN 1175815 [VXX31169]
 Spike Duplicate Lab ID: 1408886
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chlorobenzene	30	31.8	106	30	31.2	104	(82-118)	2.20	(< 20)
Chloroethane	30	28.1	94	30	24.6	82	(60-138)	13.40	(< 20)
Chloroform	30	28.8	96	30	28.1	94	(79-124)	2.50	(< 20)
Chloromethane	30	51.3	171	* 30	52.3	174	* (50-139)	2.00	(< 20)
cis-1,2-Dichloroethene	30	30.5	102	30	30.5	102	(78-123)	0.26	(< 20)
cis-1,3-Dichloropropene	30	29.8	99	30	29.2	98	(75-124)	1.70	(< 20)
Dibromochloromethane	30	31.0	103	30	30.9	103	(74-126)	0.39	(< 20)
Dibromomethane	30	28.4	95	30	28.3	94	(79-123)	0.18	(< 20)
Dichlorodifluoromethane	30	54.6	182	* 30	51.9	173	* (32-152)	5.10	(< 20)
Ethylbenzene	30	35.0	117	30	33.9	113	(79-121)	3.30	(< 20)
Hexachlorobutadiene	30	30.0	100	30	30.9	103	(66-134)	3.00	(< 20)
Isopropylbenzene (Cumene)	30	34.2	114	30	33.5	112	(72-131)	2.20	(< 20)
Methylene chloride	30	30.4	101	30	29.7	99	(74-124)	2.20	(< 20)
Methyl-t-butyl ether	45	41.2	92	45	41.0	91	(71-124)	0.44	(< 20)
Naphthalene	30	38.5	128	30	40.9	136	* (61-128)	5.90	(< 20)
n-Butylbenzene	30	40.4	135	* 30	40.0	133	* (75-128)	0.85	(< 20)
n-Propylbenzene	30	37.6	125	30	37.1	124	(76-126)	1.40	(< 20)
o-Xylene	30	35.5	118	30	34.6	115	(78-122)	2.50	(< 20)
P & M -Xylene	60	69.4	116	60	67.6	113	(80-121)	2.60	(< 20)
sec-Butylbenzene	30	36.7	122	30	36.3	121	(77-126)	1.00	(< 20)
Styrene	30	35.3	118	30	34.2	114	(78-123)	3.20	(< 20)
tert-Butylbenzene	30	36.5	122	30	36.0	120	(78-124)	1.30	(< 20)
Tetrachloroethene	30	32.4	108	30	31.3	104	(74-129)	3.50	(< 20)
Toluene	30	34.0	113	30	33.0	110	(80-121)	3.00	(< 20)
trans-1,2-Dichloroethene	30	30.7	102	30	29.8	99	(75-124)	3.10	(< 20)
trans-1,3-Dichloropropene	30	31.0	103	30	30.7	102	(73-127)	0.91	(< 20)
Trichloroethene	30	31.1	104	30	30.1	100	(79-123)	3.20	(< 20)
Trichlorofluoromethane	30	25.6	85	30	24.0	80	(65-141)	6.70	(< 20)
Vinyl acetate	30	39.3	131	30	39.3	131	(54-146)	0.00	(< 20)
Vinyl chloride	30	33.7	112	30	32.6	109	(58-137)	3.20	(< 20)
Xylenes (total)	90	105	117	90	102	114	(79-121)	2.60	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	89.9	90	30	89.8	90	(81-118)	0.07	

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31169]
 Blank Spike Lab ID: 1408885
 Date Analyzed: 08/29/2017 01:45

Spike Duplicate ID: LCSD for HBN 1175815 [VXX31169]
 Spike Duplicate Lab ID: 1408886
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
4-Bromofluorobenzene (surr)	30	105	105	30	107	107	(85-114)	2.20	
Toluene-d8 (surr)	30	103	103	30	104	104	(89-112)	0.23	

Batch Information

Analytical Batch: **VMS17105**
 Analytical Method: **SW8260C**
 Instrument: **VPA 780/5975 GC/MS**
 Analyst: **FDR**

Prep Batch: **VXX31169**
 Prep Method: **SW5030B**
 Prep Date/Time: **08/28/2017 06:00**
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Matrix Spike Summary

Original Sample ID: 1408887
 MS Sample ID: 1408888 MS
 MSD Sample ID: 1408889 MSD

Analysis Date: 08/29/2017 6:43
 Analysis Date: 08/29/2017 7:01
 Analysis Date: 08/29/2017 7:19
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	12.5U	1500	1580	105	1500	1530	102	78-124	2.60	(< 20)
1,1,1-Trichloroethane	25.0U	1500	1460	97	1500	1450	97	74-131	0.21	(< 20)
1,1,2,2-Tetrachloroethane	12.5U	1500	1850	123 *	1500	1820	121	71-121	1.80	(< 20)
1,1,2-Trichloroethane	10.0U	1500	1730	115	1500	1670	111	80-119	3.60	(< 20)
1,1-Dichloroethane	25.0U	1500	1640	110	1500	1600	107	77-125	2.90	(< 20)
1,1-Dichloroethene	25.0U	1500	1300	86	1500	1330	89	71-131	2.90	(< 20)
1,1-Dichloropropene	25.0U	1500	1680	112	1500	1640	109	79-125	2.50	(< 20)
1,2,3-Trichlorobenzene	25.0U	1500	1670	111	1500	1700	114	69-129	2.20	(< 20)
1,2,3-Trichloropropane	25.0U	1500	1730	116	1500	1730	116	73-122	0.00	(< 20)
1,2,4-Trichlorobenzene	25.0U	1500	1680	112	1500	1680	112	69-130	0.15	(< 20)
1,2,4-Trimethylbenzene	25.0U	1500	1830	122	1500	1780	119	79-124	2.40	(< 20)
1,2-Dibromo-3-chloropropane	250U	1500	1690	112	1500	1600	107	62-128	5.00	(< 20)
1,2-Dibromoethane	1.88U	1500	1690	112	1500	1660	111	77-121	1.50	(< 20)
1,2-Dichlorobenzene	25.0U	1500	1650	110	1500	1630	109	80-119	1.10	(< 20)
1,2-Dichloroethane	12.5U	1500	1470	98	1500	1470	98	73-128	0.10	(< 20)
1,2-Dichloropropane	25.0U	1500	1760	117	1500	1720	115	78-122	2.40	(< 20)
1,3,5-Trimethylbenzene	25.0U	1500	1830	122	1500	1780	119	75-124	2.80	(< 20)
1,3-Dichlorobenzene	25.0U	1500	1660	110	1500	1650	110	80-119	0.24	(< 20)
1,3-Dichloropropane	12.5U	1500	1770	118	1500	1730	115	80-119	2.50	(< 20)
1,4-Dichlorobenzene	12.5U	1500	1660	111	1500	1670	111	79-118	0.45	(< 20)
2,2-Dichloropropane	25.0U	1500	1400	94	1500	1390	93	60-139	0.79	(< 20)
2-Butanone (MEK)	250U	4500	5360	119	4500	5000	111	56-143	7.10	(< 20)
2-Chlorotoluene	25.0U	1500	1810	121	1500	1790	119	79-122	1.60	(< 20)
2-Hexanone	250U	4500	6010	133	4500	5680	126	57-139	5.60	(< 20)
4-Chlorotoluene	25.0U	1500	1830	122	1500	1800	120	78-122	2.00	(< 20)
4-Isopropyltoluene	25.0U	1500	1800	120	1500	1740	116	77-127	3.30	(< 20)
4-Methyl-2-pentanone (MIBK)	250U	4500	5250	117	4500	5050	112	67-130	3.90	(< 20)
Benzene	7.00J	1500	1730	115	1500	1670	111	79-120	3.10	(< 20)
Bromobenzene	25.0U	1500	1680	112	1500	1660	111	80-120	1.20	(< 20)
Bromochloromethane	25.0U	1500	1400	93	1500	1420	95	78-123	1.50	(< 20)
Bromodichloromethane	12.5U	1500	1530	102	1500	1510	101	79-125	1.40	(< 20)
Bromoform	25.0U	1500	1540	103	1500	1500	100	66-130	2.70	(< 20)
Bromomethane	125U	1500	1270	85	1500	1410	94	53-141	10.20	(< 20)
Carbon tetrachloride	25.0U	1500	1400	94	1500	1390	93	72-136	0.75	(< 20)
Chlorobenzene	12.5U	1500	1610	107	1500	1550	103	82-118	3.90	(< 20)
Chloroethane	25.0U	1500	1370	91	1500	1450	96	60-138	5.40	(< 20)
Chloroform	25.0U	1500	1470	98	1500	1440	96	79-124	1.60	(< 20)

Print Date: 09/14/2017 4:09:32PM

Matrix Spike Summary

Original Sample ID: 1408887
 MS Sample ID: 1408888 MS
 MSD Sample ID: 1408889 MSD

Analysis Date: 08/29/2017 6:43
 Analysis Date: 08/29/2017 7:01
 Analysis Date: 08/29/2017 7:19
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Chloromethane	26.5J	1500	2620	173 *	1500	2480	163 *	50-139	5.70	(< 20)
cis-1,2-Dichloroethene	25.0U	1500	1600	107	1500	1560	104	78-123	2.60	(< 20)
cis-1,3-Dichloropropene	12.5U	1500	1470	98	1500	1450	97	75-124	1.50	(< 20)
Dibromochloromethane	12.5U	1500	1560	104	1500	1530	102	74-126	2.00	(< 20)
Dibromomethane	25.0U	1500	1460	97	1500	1510	101	79-123	3.30	(< 20)
Dichlorodifluoromethane	25.0U	1500	2720	181 *	1500	2730	182 *	32-152	0.50	(< 20)
Ethylbenzene	25.0U	1500	1730	115	1500	1690	113	79-121	2.50	(< 20)
Hexachlorobutadiene	25.0U	1500	1530	102	1500	1490	100	66-134	2.20	(< 20)
Isopropylbenzene (Cumene)	25.0U	1500	1720	115	1500	1650	110	72-131	4.70	(< 20)
Methylene chloride	125U	1500	1580	105	1500	1520	101	74-124	3.80	(< 20)
Methyl-t-butyl ether	250U	2250	2060	91	2250	2050	91	71-124	0.54	(< 20)
Naphthalene	25.0U	1500	1900	127	1500	1930	129 *	61-128	1.30	(< 20)
n-Butylbenzene	25.0U	1500	1950	130 *	1500	1830	122	75-128	6.30	(< 20)
n-Propylbenzene	25.0U	1500	1850	123	1500	1800	120	76-126	2.90	(< 20)
o-Xylene	17.0J	1500	1790	118	1500	1710	113	78-122	4.30	(< 20)
P & M -Xylene	34.5J	3000	3480	115	3000	3410	112	80-121	2.00	(< 20)
sec-Butylbenzene	25.0U	1500	1820	122	1500	1750	117	77-126	4.00	(< 20)
Styrene	25.0U	1500	1740	116	1500	1700	113	78-123	2.80	(< 20)
tert-Butylbenzene	25.0U	1500	1820	121	1500	1770	118	78-124	2.30	(< 20)
Tetrachloroethene	25.0U	1500	1600	107	1500	1550	103	74-129	3.10	(< 20)
Toluene	61.5	1500	1730	111	1500	1680	108	80-121	3.30	(< 20)
trans-1,2-Dichloroethene	25.0U	1500	1500	100	1500	1480	99	75-124	1.20	(< 20)
trans-1,3-Dichloropropene	25.0U	1500	1530	102	1500	1490	99	73-127	2.50	(< 20)
Trichloroethene	25.0U	1500	1580	105	1500	1540	103	79-123	2.40	(< 20)
Trichlorofluoromethane	25.0U	1500	1260	84	1500	1230	82	65-141	2.00	(< 20)
Vinyl acetate	250U	1500	1850	123	1500	1800	120	54-146	2.50	(< 20)
Vinyl chloride	3.75U	1500	2180	145 *	1500	2250	150 *	58-137	3.30	(< 20)
Xylenes (total)	51.5J	4500	5270	116	4500	5120	113	79-121	2.80	(< 20)
Surrogates										
1,2-Dichloroethane-D4 (surr)		1500	1380	92	1500	1400	93	81-118	1.30	
4-Bromofluorobenzene (surr)		1500	1550	103	1500	1550	104	85-114	0.42	
Toluene-d8 (surr)		1500	1520	102	1500	1520	101	89-112	0.39	

Print Date: 09/14/2017 4:09:32PM

Matrix Spike Summary

Original Sample ID: 1408887
 MS Sample ID: 1408888 MS
 MSD Sample ID: 1408889 MSD

Analysis Date:
 Analysis Date: 08/29/2017 7:01
 Analysis Date: 08/29/2017 7:19
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

Batch Information

Analytical Batch: VMS17105
 Analytical Method: SW8260C
 Instrument: VPA 780/5975 GC/MS
 Analyst: FDR
 Analytical Date/Time: 8/29/2017 7:01:00AM

Prep Batch: VXX31169
 Prep Method: Volatiles Extraction 8240/8260 FULL
 Prep Date/Time: 8/28/2017 6:00:00AM
 Prep Initial Wt./Vol.: 5.00mL
 Prep Extract Vol: 5.00mL

Print Date: 09/14/2017 4:09:32PM



Method Blank

Blank ID: MB for HBN 1767279 [VXX/31188]
Blank Lab ID: 1409550

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1175815001, 1175815002, 1175815003

Results by SW8260C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Carbon disulfide	5.00U	10.0	3.10	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	94.9	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	102	89-112		%

Batch Information

Analytical Batch: VMS17113
Analytical Method: SW8260C
Instrument: VPA 780/5975 GC/MS
Analyst: FDR
Analytical Date/Time: 8/29/2017 4:42:00PM

Prep Batch: VXX31188
Prep Method: SW5030B
Prep Date/Time: 8/29/2017 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 09/14/2017 4:09:34PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [VXX31188]
 Blank Spike Lab ID: 1409567
 Date Analyzed: 08/29/2017 17:19

Spike Duplicate ID: LCSD for HBN 1175815 [VXX31188]
 Spike Duplicate Lab ID: 1409570
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002, 1175815003

Results by SW8260C

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon disulfide	45	38.9	87	45	32.6	73	(64-133)	17.70	(< 20)
Freon-113	45	38.4	85	45	32.7	73	(70-136)	16.10	(< 20)
Surrogates									
1,2-Dichloroethane-D4 (surr)	30	92.3	92	30	91.6	92	(81-118)	0.79	
4-Bromofluorobenzene (surr)	30	104	104	30	103	103	(85-114)	1.80	
Toluene-d8 (surr)	30	105	105	30	105	105	(89-112)	0.03	

Batch Information

Analytical Batch: VMS17113
 Analytical Method: SW8260C
 Instrument: VPA 780/5975 GC/MS
 Analyst: FDR

Prep Batch: VXX31188
 Prep Method: SW5030B
 Prep Date/Time: 08/29/2017 06:00
 Spike Init Wt./Vol.: 45 ug/L Extract Vol: 5 mL
 Dupe Init Wt./Vol.: 45 ug/L Extract Vol: 5 mL

Method Blank

Blank ID: MB for HBN 1766412 [XXX/38197]
 Blank Lab ID: 1406587

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1175815004, 1175815005, 1175815006, 1175815007, 1175815008

Results by 8270D SIM (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	12.5U	25.0	7.50	ug/Kg
2-Methylnaphthalene	12.5U	25.0	7.50	ug/Kg
Acenaphthene	12.5U	25.0	7.50	ug/Kg
Acenaphthylene	12.5U	25.0	7.50	ug/Kg
Anthracene	12.5U	25.0	7.50	ug/Kg
Benzo(a)Anthracene	12.5U	25.0	7.50	ug/Kg
Benzo[a]pyrene	12.5U	25.0	7.50	ug/Kg
Benzo[b]Fluoranthene	12.5U	25.0	7.50	ug/Kg
Benzo[g,h,i]perylene	12.5U	25.0	7.50	ug/Kg
Benzo[k]fluoranthene	12.5U	25.0	7.50	ug/Kg
Chrysene	12.5U	25.0	7.50	ug/Kg
Dibenzo[a,h]anthracene	12.5U	25.0	7.50	ug/Kg
Fluoranthene	12.5U	25.0	7.50	ug/Kg
Fluorene	12.5U	25.0	7.50	ug/Kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	7.50	ug/Kg
Naphthalene	10.0U	20.0	6.00	ug/Kg
Phenanthrene	12.5U	25.0	7.50	ug/Kg
Pyrene	12.5U	25.0	7.50	ug/Kg
Surrogates				
2-Methylnaphthalene-d10 (surr)	89.4	50-150		%
Fluoranthene-d10 (surr)	93.9	50-150		%

Batch Information

Analytical Batch: XMS10354
 Analytical Method: 8270D SIM (PAH)
 Instrument: Agilent GC 7890B/5977A SWA
 Analyst: DSD
 Analytical Date/Time: 8/28/2017 3:30:00PM

Prep Batch: XXX38197
 Prep Method: SW3550C
 Prep Date/Time: 8/18/2017 8:32:22PM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38197]

Blank Spike Lab ID: 1406588

Date Analyzed: 08/28/2017 15:50

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008

Results by 8270D SIM (PAH)

Blank Spike (ug/Kg)

Parameter	Spike	Result	Rec (%)	CL
1-Methylnaphthalene	111	98.9	89	(43-111)
2-Methylnaphthalene	111	90.8	82	(39-114)
Acenaphthene	111	115	104	(44-111)
Acenaphthylene	111	96.3	87	(39-116)
Anthracene	111	94.2	85	(50-114)
Benzo(a)Anthracene	111	95.8	86	(54-122)
Benzo[a]pyrene	111	92.9	84	(50-125)
Benzo[b]Fluoranthene	111	94.7	85	(53-128)
Benzo[g,h,i]perylene	111	88.8	80	(49-127)
Benzo[k]fluoranthene	111	94.7	85	(56-123)
Chrysene	111	98.8	89	(57-118)
Dibenzo[a,h]anthracene	111	96.1	87	(50-129)
Fluoranthene	111	98.6	89	(55-119)
Fluorene	111	94.6	85	(47-114)
Indeno[1,2,3-c,d] pyrene	111	92.5	83	(49-130)
Naphthalene	111	94.3	85	(38-111)
Phenanthrene	111	91.1	82	(49-113)
Pyrene	111	104	93	(55-117)

Surrogates

2-Methylnaphthalene-d10 (surr)	111	91.1	91	(50-150)
Fluoranthene-d10 (surr)	111	91.7	92	(50-150)

Batch Information

Analytical Batch: XMS10354

Analytical Method: 8270D SIM (PAH)

Instrument: Agilent GC 7890B/5977A SWA

Analyst: DSD

Prep Batch: XXX38197

Prep Method: SW3550C

Prep Date/Time: 08/18/2017 20:32

Spike Init Wt./Vol.: 111 ug/Kg Extract Vol: 5 mL

Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1178218029
 MS Sample ID: 1406589 MS
 MSD Sample ID: 1406590 MSD

Analysis Date: 08/28/2017 18:55
 Analysis Date: 08/28/2017 19:15
 Analysis Date: 08/28/2017 19:36
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008

Results by 8270D SIM (PAH)

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	16.4U	143	145	102	144	131	91	43-111	10.40	(< 20)
2-Methylnaphthalene	16.4U	143	134	93	144	120	83	39-114	11.00	(< 20)
Acenaphthene	16.4U	143	160	111	144	149	103	44-111	6.70	(< 20)
Acenaphthylene	16.4U	143	136	95	144	127	88	39-116	7.10	(< 20)
Anthracene	16.4U	143	131	92	144	118	82	50-114	10.60	(< 20)
Benzo(a)Anthracene	16.4U	143	135	94	144	121	84	54-122	10.90	(< 20)
Benzo(a)pyrene	16.4U	143	132	92	144	118	82	50-125	11.50	(< 20)
Benzo(b)Fluoranthene	16.4U	143	130	91	144	117	81	53-128	10.20	(< 20)
Benzo(g,h,i)perylene	16.4U	143	113	79	144	96.9	67	49-127	15.50	(< 20)
Benzo(k)fluoranthene	16.4U	143	122	85	144	112	78	56-123	8.00	(< 20)
Chrysene	16.4U	143	132	92	144	118	82	57-118	11.30	(< 20)
Dibenzo(a,h)anthracene	16.4U	143	125	87	144	110	76	50-129	13.20	(< 20)
Fluoranthene	16.4U	143	134	93	144	122	85	55-119	9.10	(< 20)
Fluorene	16.4U	143	132	92	144	120	83	47-114	9.70	(< 20)
Indeno[1,2,3-c,d] pyrene	16.4U	143	120	84	144	104	72	49-130	14.30	(< 20)
Naphthalene	13.1U	143	136	95	144	123	85	38-111	10.50	(< 20)
Phenanthrene	16.4U	143	126	88	144	115	80	49-113	9.30	(< 20)
Pyrene	16.4U	143	143	99	144	128	89	55-117	10.60	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		143	135	94	144	125	86	50-150	8.00	
Fluoranthene-d10 (surr)		143	136	95	144	123	85	50-150	10.60	

Batch Information

Analytical Batch: XMS10354
 Analytical Method: 8270D SIM (PAH)
 Instrument: Agilent GC 7890B/5977A SWA
 Analyst: DSD
 Analytical Date/Time: 8/28/2017 7:15:00PM

Prep Batch: XXX38197
 Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
 Prep Date/Time: 8/18/2017 8:32:22PM
 Prep Initial Wt./Vol.: 22.84g
 Prep Extract Vol: 5.00mL

Print Date: 09/14/2017 4:09:37PM



Method Blank

Blank ID: MB for HBN 1766420 [XXX/38200]
Blank Lab ID: 1406624

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1175815001

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	78.5	60-120		%

Batch Information

Analytical Batch: XFC13693
Analytical Method: AK102
Instrument: Agilent 7890B F
Analyst: JMG
Analytical Date/Time: 8/19/2017 9:44:00PM

Prep Batch: XXX38200
Prep Method: SW3520C
Prep Date/Time: 8/19/2017 8:22:07AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:38PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38200]
 Blank Spike Lab ID: 1406625
 Date Analyzed: 08/19/2017 21:54

Spike Duplicate ID: LCSD for HBN 1175815 [XXX38200]
 Spike Duplicate Lab ID: 1406626
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001

Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	20	17.5	87	20	17.5	88	(75-125)	0.25	(< 20)
Surrogates									
5a Androstane (surr)	0.4	87.7	88	0.4	87.9	88	(60-120)	0.28	

Batch Information

Analytical Batch: **XFC13693**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B F**
 Analyst: **JMG**

Prep Batch: **XXX38200**
 Prep Method: **SW3520C**
 Prep Date/Time: **08/19/2017 08:22**
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:39PM

Method Blank

Blank ID: MB for HBN 1766420 [XXX/38200]
Blank Lab ID: 1406624

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1175815001

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	0.250U	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	78.8	60-120		%

Batch Information

Analytical Batch: XFC13693
Analytical Method: AK103
Instrument: Agilent 7890B F
Analyst: JMG
Analytical Date/Time: 8/19/2017 9:44:00PM

Prep Batch: XXX38200
Prep Method: SW3520C
Prep Date/Time: 8/19/2017 8:22:07AM
Prep Initial Wt./Vol.: 250 mL
Prep Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:40PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38200]
 Blank Spike Lab ID: 1406625
 Date Analyzed: 08/19/2017 21:54

Spike Duplicate ID: LCSD for HBN 1175815
 [XXX38200]
 Spike Duplicate Lab ID: 1406626
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001

Results by AK103

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	20	18.7	94	20	18.7	94	(60-120)	0.23	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	84	84	0.4	88.1	88	(60-120)	4.80	

Batch Information

Analytical Batch: **XFC13693**
 Analytical Method: **AK103**
 Instrument: **Agilent 7890B F**
 Analyst: **JMG**

Prep Batch: **XXX38200**
 Prep Method: **SW3520C**
 Prep Date/Time: **08/19/2017 08:22**
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1766422 [XXX/38202]

Blank Lab ID: 1406630

QC for Samples:

1175815002

Matrix: Water (Surface, Eff., Ground)

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.300U	0.600	0.180	mg/L
Surrogates				
5a Androstane (surr)	73.1	60-120		%

Batch Information

Analytical Batch: XFC13693

Analytical Method: AK102

Instrument: Agilent 7890B F

Analyst: JMG

Analytical Date/Time: 8/20/2017 2:07:00AM

Prep Batch: XXX38202

Prep Method: SW3520C

Prep Date/Time: 8/19/2017 9:23:11AM

Prep Initial Wt./Vol.: 250 mL

Prep Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:45PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38202]
 Blank Spike Lab ID: 1406631
 Date Analyzed: 08/20/2017 02:16

Spike Duplicate ID: LCSD for HBN 1175815 [XXX38202]
 Spike Duplicate Lab ID: 1406632
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815002

Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	20	16.6	83	20	17.5	87	(75-125)	5.30	(< 20)
Surrogates									
5a Androstane (surr)	0.4	86.9	87	0.4	88.8	89	(60-120)	2.10	

Batch Information

Analytical Batch: **XFC13693**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B F**
 Analyst: **JMG**

Prep Batch: **XXX38202**
 Prep Method: **SW3520C**
 Prep Date/Time: **08/19/2017 09:23**
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:46PM

Method Blank

Blank ID: MB for HBN 1766422 [XXX/38202]

Blank Lab ID: 1406630

QC for Samples:

1175815002

Matrix: Water (Surface, Eff., Ground)

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	0.250U	0.500	0.150	mg/L
Surrogates				
n-Triacontane-d62 (surr)	76.7	60-120		%

Batch Information

Analytical Batch: XFC13693

Analytical Method: AK103

Instrument: Agilent 7890B F

Analyst: JMG

Analytical Date/Time: 8/20/2017 2:07:00AM

Prep Batch: XXX38202

Prep Method: SW3520C

Prep Date/Time: 8/19/2017 9:23:11AM

Prep Initial Wt./Vol.: 250 mL

Prep Extract Vol: 1 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38202]
 Blank Spike Lab ID: 1406631
 Date Analyzed: 08/20/2017 02:16

Spike Duplicate ID: LCSD for HBN 1175815 [XXX38202]
 Spike Duplicate Lab ID: 1406632
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815002

Results by AK103

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	20	17.9	90	20	18.5	93	(60-120)	3.20	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	0.4	87.3	87	0.4	90.8	91	(60-120)	3.90	

Batch Information

Analytical Batch: **XFC13693**
 Analytical Method: **AK103**
 Instrument: **Agilent 7890B F**
 Analyst: **JMG**

Prep Batch: **XXX38202**
 Prep Method: **SW3520C**
 Prep Date/Time: **08/19/2017 09:23**
 Spike Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 20 mg/L Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:49PM

Method Blank

Blank ID: MB for HBN 1766423 [XXX/38203]
 Blank Lab ID: 1406633

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	10.0U	20.0	6.20	mg/Kg
Surrogates				
5a Androstane (surr)	85.8	60-120		%

Batch Information

Analytical Batch: XFC13705
 Analytical Method: AK102
 Instrument: Agilent 7890B F
 Analyst: KMD
 Analytical Date/Time: 8/21/2017 8:21:00PM

Prep Batch: XXX38203
 Prep Method: SW3550C
 Prep Date/Time: 8/19/2017 8:46:50AM
 Prep Initial Wt./Vol.: 30 g
 Prep Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:50PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38203]
 Blank Spike Lab ID: 1406634
 Date Analyzed: 08/21/2017 20:30

Spike Duplicate ID: LCSD for HBN 1175815 [XXX38203]
 Spike Duplicate Lab ID: 1406635
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by AK102

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL	
	Spike	Result	Rec (%)	Spike	Result	Rec (%)				
Diesel Range Organics	167	161	96	167	156	94	(75-125)	2.70	(< 20)	
Surrogates										
5a Androstane (surr)	3.33	94.2	94	3.33	91.9	92	(60-120)	2.40		

Batch Information

Analytical Batch: **XFC13705**
 Analytical Method: **AK102**
 Instrument: **Agilent 7890B F**
 Analyst: **KMD**

Prep Batch: **XXX38203**
 Prep Method: **SW3550C**
 Prep Date/Time: **08/19/2017 08:46**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL



Method Blank

Blank ID: MB for HBN 1766423 [XXX/38203]
Blank Lab ID: 1406633

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by AK103

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Residual Range Organics	8.33J	20.0	6.20	mg/Kg
Surrogates				
n-Triacontane-d62 (surr)	93.3	60-120		%

Batch Information

Analytical Batch: XFC13705
Analytical Method: AK103
Instrument: Agilent 7890B F
Analyst: KMD
Analytical Date/Time: 8/21/2017 8:21:00PM

Prep Batch: XXX38203
Prep Method: SW3550C
Prep Date/Time: 8/19/2017 8:46:50AM
Prep Initial Wt./Vol.: 30 g
Prep Extract Vol: 1 mL

Print Date: 09/14/2017 4:09:54PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38203]
 Blank Spike Lab ID: 1406634
 Date Analyzed: 08/21/2017 20:30

Spike Duplicate ID: LCSD for HBN 1175815 [XXX38203]
 Spike Duplicate Lab ID: 1406635
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815004, 1175815005, 1175815006, 1175815007, 1175815008, 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by AK103

Parameter	Blank Spike (mg/Kg)			Spike Duplicate (mg/Kg)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Residual Range Organics	167	172	103	167	168	101	(60-120)	2.50	(< 20)
Surrogates									
n-Triacontane-d62 (surr)	3.33	101	101	3.33	90.4	90	(60-120)	11.30	

Batch Information

Analytical Batch: **XFC13705**
 Analytical Method: **AK103**
 Instrument: **Agilent 7890B F**
 Analyst: **KMD**

Prep Batch: **XXX38203**
 Prep Method: **SW3550C**
 Prep Date/Time: **08/19/2017 08:46**
 Spike Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 167 mg/Kg Extract Vol: 1 mL

Method Blank

Blank ID: MB for HBN 1766425 [XXX/38204]
 Blank Lab ID: 1406641

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1175815007, 1175815008, 1175815009, 1175815010

Results by SW8082A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aroclor-1016	25.0U	50.0	15.0	ug/Kg
Aroclor-1221	100U	200	62.0	ug/Kg
Aroclor-1232	25.0U	50.0	15.0	ug/Kg
Aroclor-1242	25.0U	50.0	15.0	ug/Kg
Aroclor-1248	25.0U	50.0	15.0	ug/Kg
Aroclor-1254	25.0U	50.0	15.0	ug/Kg
Aroclor-1260	25.0U	50.0	15.0	ug/Kg
Surrogates				
Decachlorobiphenyl (surr)	98	60-125		%

Batch Information

Analytical Batch: XGC9883
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV L R
 Analyst: BMZ
 Analytical Date/Time: 8/29/2017 10:10:00PM

Prep Batch: XXX38204
 Prep Method: SW3550C
 Prep Date/Time: 8/19/2017 10:15:37AM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38204]
 Blank Spike Lab ID: 1406642
 Date Analyzed: 08/29/2017 22:24

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815007, 1175815008, 1175815009, 1175815010

Results by SW8082A

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Aroclor-1016	222	122	55	(47-134)
Aroclor-1260	222	193	87	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	91	91	(60-125)

Batch Information

Analytical Batch: **XGC9883**
 Analytical Method: **SW8082A**
 Instrument: **HP 6890 Series II ECD SV L R**
 Analyst: **BMZ**

Prep Batch: **XXX38204**
 Prep Method: **SW3550C**
 Prep Date/Time: **08/19/2017 10:15**
 Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
 Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1175742011
 MS Sample ID: 1406643 MS
 MSD Sample ID: 1406644 MSD

Analysis Date: 08/30/2017 1:17
 Analysis Date: 08/30/2017 1:32
 Analysis Date: 08/30/2017 1:46
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815007, 1175815008, 1175815009, 1175815010

Results by SW8082A

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aroclor-1016	27.1U	241	185	77	238	196	82	47-134	5.71	(< 30)
Aroclor-1260	27.1U	241	217	90	238	222	93	53-140	2.70	(< 30)
Surrogates										
Decachlorobiphenyl (surr)		241	223	93	238	226	95	60-125	1.54	

Batch Information

Analytical Batch: XGC9883
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV L R
 Analyst: BMZ
 Analytical Date/Time: 8/30/2017 1:32:00AM

Prep Batch: XXX38204
 Prep Method: Sonication Extraction Soil SW8080 PCB
 Prep Date/Time: 8/19/2017 10:15:37AM
 Prep Initial Wt./Vol.: 22.55g
 Prep Extract Vol: 5.00mL

Method Blank

Blank ID: MB for HBN 1766622 [XXX/38217]
 Blank Lab ID: 1406843

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1175815001, 1175815002

Results by 8270D SIM LV (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
2-Methylnaphthalene	0.0250U	0.0500	0.0150	ug/L
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0250U	0.0500	0.0150	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
Surrogates				
2-Methylnaphthalene-d10 (surr)	91.6	47-106		%
Fluoranthene-d10 (surr)	92.2	24-116		%

Batch Information

Analytical Batch: XMS10339
 Analytical Method: 8270D SIM LV (PAH)
 Instrument: SVA Agilent 780/5975 GC/MS
 Analyst: DSD
 Analytical Date/Time: 8/24/2017 8:28:00PM

Prep Batch: XXX38217
 Prep Method: SW3520C
 Prep Date/Time: 8/21/2017 9:31:48AM
 Prep Initial Wt./Vol.: 250 mL
 Prep Extract Vol: 1 mL



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38217]
 Blank Spike Lab ID: 1406844
 Date Analyzed: 08/24/2017 20:48

Spike Duplicate ID: LCSD for HBN 1175815 [XXX38217]
 Spike Duplicate Lab ID: 1406845
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002

Results by 8270D SIM LV (PAH)

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	2	1.58	79	2	1.69	85	(41-115)	6.90	(< 20)
2-Methylnaphthalene	2	1.46	73	2	1.56	78	(39-114)	6.30	(< 20)
Acenaphthene	2	1.91	95	2	2.05	102	(48-114)	7.00	(< 20)
Acenaphthylene	2	1.55	78	2	1.66	83	(35-121)	6.60	(< 20)
Anthracene	2	1.63	81	2	1.72	86	(53-119)	5.30	(< 20)
Benzo(a)Anthracene	2	1.59	80	2	1.69	84	(59-120)	5.80	(< 20)
Benzo[a]pyrene	2	1.56	78	2	1.65	83	(53-120)	5.80	(< 20)
Benzo[b]Fluoranthene	2	1.56	78	2	1.69	85	(53-126)	7.90	(< 20)
Benzo[g,h,i]perylene	2	1.52	76	2	1.67	84	(44-128)	9.70	(< 20)
Benzo[k]fluoranthene	2	1.55	78	2	1.66	83	(54-125)	6.90	(< 20)
Chrysene	2	1.66	83	2	1.76	88	(57-120)	5.90	(< 20)
Dibenzo[a,h]anthracene	2	1.45	73	2	1.67	84	(44-131)	14.20	(< 20)
Fluoranthene	2	1.56	78	2	1.68	84	(58-120)	7.50	(< 20)
Fluorene	2	1.57	78	2	1.69	85	(50-118)	7.60	(< 20)
Indeno[1,2,3-c,d] pyrene	2	1.52	76	2	1.66	83	(48-130)	8.20	(< 20)
Naphthalene	2	1.53	77	2	1.63	82	(43-114)	6.10	(< 20)
Phenanthrene	2	1.56	78	2	1.67	83	(53-115)	6.40	(< 20)
Pyrene	2	1.63	82	2	1.74	87	(53-121)	6.40	(< 20)
Surrogates									
2-Methylnaphthalene-d10 (surr)	2	85.2	85	2	91	91	(47-106)	6.60	
Fluoranthene-d10 (surr)	2	82.6	83	2	90.4	90	(24-116)	9.00	

Batch Information

Analytical Batch: XMS10339
 Analytical Method: 8270D SIM LV (PAH)
 Instrument: SVA Agilent 780/5975 GC/MS
 Analyst: DSD

Prep Batch: XXX38217
 Prep Method: SW3520C
 Prep Date/Time: 08/21/2017 09:31
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 09/14/2017 4:10:02PM



Matrix Spike Summary

Original Sample ID: 1175809002
 MS Sample ID: 1406846 MS
 MSD Sample ID: 1406847 MSD

Analysis Date: 08/24/2017 22:31
 Analysis Date: 08/24/2017 22:51
 Analysis Date: 08/24/2017 23:12
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1175815001, 1175815002

Results by 8270D SIM LV (PAH)

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.0256U	1.96	1.82	93	2.05	1.96	96	48-114	7.30	(< 20)
Acenaphthylene	0.0256U	1.96	1.51	77	2.05	1.61	78	35-121	6.40	(< 20)
Anthracene	0.0256U	1.96	1.54	79	2.05	1.62	79	53-119	5.10	(< 20)
Benzo(a)Anthracene	0.0256U	1.96	1.5	76	2.05	1.63	80	59-120	8.50	(< 20)
Benzo[a]pyrene	0.0103U	1.96	1.44	73	2.05	1.57	77	53-120	8.50	(< 20)
Benzo[b]Fluoranthene	0.0256U	1.96	1.48	75	2.05	1.57	77	53-126	6.00	(< 20)
Benzo[g,h,i]perylene	0.0256U	1.96	1.32	67	2.05	1.47	72	44-128	10.60	(< 20)
Benzo[k]fluoranthene	0.0256U	1.96	1.35	69	2.05	1.46	71	54-125	8.00	(< 20)
Chrysene	0.0256U	1.96	1.57	80	2.05	1.69	83	57-120	7.60	(< 20)
Dibenzo[a,h]anthracene	0.0103U	1.96	1.25	64	2.05	1.40	68	44-131	11.20	(< 20)
Fluoranthene	0.0256U	1.96	1.47	75	2.05	1.62	79	58-120	9.90	(< 20)
Fluorene	0.0256U	1.96	1.52	78	2.05	1.62	79	50-118	6.40	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0256U	1.96	1.29	66	2.05	1.43	70	48-130	10.50	(< 20)
Naphthalene	0.0510U	1.96	1.47	75	2.05	1.58	77	43-114	7.70	(< 20)
Phenanthrene	0.0256U	1.96	1.5	77	2.05	1.60	78	53-115	6.30	(< 20)
Pyrene	0.0256U	1.96	1.58	80	2.05	1.71	83	53-121	8.20	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		1.96	1.64	83	2.05	1.73	85	47-106	5.80	
Fluoranthene-d10 (surr)		1.96	1.62	83	2.05	1.77	87	24-116	8.70	

Batch Information

Analytical Batch: XMS10339
 Analytical Method: 8270D SIM LV (PAH)
 Instrument: SVA Agilent 780/5975 GC/MS
 Analyst: DSD
 Analytical Date/Time: 8/24/2017 10:51:00PM

Prep Batch: XXX38217
 Prep Method: 3520 Liq/Liq Ext for 8270 PAH SIM LV
 Prep Date/Time: 8/21/2017 9:31:48AM
 Prep Initial Wt./Vol.: 255.00mL
 Prep Extract Vol: 1.00mL

Print Date: 09/14/2017 4:10:03PM

Method Blank

Blank ID: MB for HBN 1766630 [XXX/38220]
 Blank Lab ID: 1406883

Matrix: Soil/Solid (dry weight)

QC for Samples:

1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by 8270D SIM (PAH)

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1-Methylnaphthalene	12.5U	25.0	7.50	ug/Kg
2-Methylnaphthalene	12.5U	25.0	7.50	ug/Kg
Acenaphthene	12.5U	25.0	7.50	ug/Kg
Acenaphthylene	12.5U	25.0	7.50	ug/Kg
Anthracene	12.5U	25.0	7.50	ug/Kg
Benzo(a)Anthracene	12.5U	25.0	7.50	ug/Kg
Benzo[a]pyrene	12.5U	25.0	7.50	ug/Kg
Benzo[b]Fluoranthene	12.5U	25.0	7.50	ug/Kg
Benzo[g,h,i]perylene	12.5U	25.0	7.50	ug/Kg
Benzo[k]fluoranthene	12.5U	25.0	7.50	ug/Kg
Chrysene	12.5U	25.0	7.50	ug/Kg
Dibenzo[a,h]anthracene	12.5U	25.0	7.50	ug/Kg
Fluoranthene	12.5U	25.0	7.50	ug/Kg
Fluorene	12.5U	25.0	7.50	ug/Kg
Indeno[1,2,3-c,d] pyrene	12.5U	25.0	7.50	ug/Kg
Naphthalene	10.0U	20.0	6.00	ug/Kg
Phenanthrene	12.5U	25.0	7.50	ug/Kg
Pyrene	12.5U	25.0	7.50	ug/Kg
Surrogates				
2-Methylnaphthalene-d10 (surr)	92.2	50-150		%
Fluoranthene-d10 (surr)	98.3	50-150		%

Batch Information

Analytical Batch: XMS10330
 Analytical Method: 8270D SIM (PAH)
 Instrument: SVA Agilent 780/5975 GC/MS
 Analyst: NRB
 Analytical Date/Time: 8/22/2017 12:45:00AM

Prep Batch: XXX38220
 Prep Method: SW3550C
 Prep Date/Time: 8/21/2017 10:41:26AM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38220]

Blank Spike Lab ID: 1406884

Date Analyzed: 08/22/2017 01:05

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by 8270D SIM (PAH)

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
1-Methylnaphthalene	111	102	91	(43-111)
2-Methylnaphthalene	111	94.3	85	(39-114)
Acenaphthene	111	124	112 *	(44-111)
Acenaphthylene	111	98.9	89	(39-116)
Anthracene	111	102	92	(50-114)
Benzo(a)Anthracene	111	99.1	89	(54-122)
Benzo[a]pyrene	111	96.3	87	(50-125)
Benzo[b]Fluoranthene	111	98.8	89	(53-128)
Benzo[g,h,i]perylene	111	94.2	85	(49-127)
Benzo[k]fluoranthene	111	97.4	88	(56-123)
Chrysene	111	105	95	(57-118)
Dibenzo[a,h]anthracene	111	96.1	87	(50-129)
Fluoranthene	111	103	93	(55-119)
Fluorene	111	102	92	(47-114)
Indeno[1,2,3-c,d] pyrene	111	94.2	85	(49-130)
Naphthalene	111	97.5	88	(38-111)
Phenanthrene	111	101	91	(49-113)
Pyrene	111	107	96	(55-117)
Surrogates				
2-Methylnaphthalene-d10 (surr)	111	95.6	96	(50-150)
Fluoranthene-d10 (surr)	111	96.5	97	(50-150)

Batch Information

Analytical Batch: XMS10330

Analytical Method: 8270D SIM (PAH)

Instrument: SVA Agilent 780/5975 GC/MS

Analyst: NRB

Prep Batch: XXX38220

Prep Method: SW3550C

Prep Date/Time: 08/21/2017 10:41

Spike Init Wt./Vol.: 111 ug/Kg Extract Vol: 5 mL

Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1175599003
 MS Sample ID: 1406895 MS
 MSD Sample ID: 1406896 MSD

Analysis Date: 08/22/2017 21:33
 Analysis Date: 08/22/2017 21:54
 Analysis Date: 08/22/2017 22:14
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815009, 1175815010, 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by 8270D SIM (PAH)

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1-Methylnaphthalene	14.5U	142	124	88	132	112	85	43-111	10.30	(< 20)
2-Methylnaphthalene	9.56J	142	123	80	132	110	77	39-114	10.80	(< 20)
Acenaphthene	14.5U	142	151	107	132	137	104	44-111	9.90	(< 20)
Acenaphthylene	14.5U	142	120	85	132	108	82	39-116	10.70	(< 20)
Anthracene	14.5U	142	138	97	132	126	96	50-114	9.20	(< 20)
Benzo(a)Anthracene	24.8J	142	130	75	132	118	71	54-122	10.00	(< 20)
Benzo(a)pyrene	30.0	142	135	74	132	125	72	50-125	7.30	(< 20)
Benzo(b)Fluoranthene	14.5U	142	133	94	132	125	95	53-128	6.60	(< 20)
Benzo(g,h,i)perylene	14.5U	142	117	83	132	110	83	49-127	6.50	(< 20)
Benzo(k)fluoranthene	14.5U	142	124	87	132	111	85	56-123	10.30	(< 20)
Chrysene	39.6	142	140	71	132	129	68	57-118	7.80	(< 20)
Dibenzo(a,h)anthracene	14.5U	142	124	88	132	115	87	50-129	7.80	(< 20)
Fluoranthene	36.2	142	134	69	132	121	64	55-119	10.70	(< 20)
Fluorene	21.6J	142	144	87	132	132	84	47-114	8.60	(< 20)
Indeno[1,2,3-c,d] pyrene	12.4J	142	121	77	132	112	76	49-130	7.70	(< 20)
Naphthalene	11.6U	142	120	85	132	109	83	38-111	9.50	(< 20)
Phenanthrene	67.2	142	193	89	132	179	85	49-113	7.60	(< 20)
Pyrene	53.9	142	149	67	132	136	62	55-117	9.30	(< 20)
Surrogates										
2-Methylnaphthalene-d10 (surr)		142	128	90	132	116	88	50-150	9.80	
Fluoranthene-d10 (surr)		142	122	86	132	107	82	50-150	12.30	

Batch Information

Analytical Batch: XMS10333
 Analytical Method: 8270D SIM (PAH)
 Instrument: SVA Agilent 780/5975 GC/MS
 Analyst: NRB
 Analytical Date/Time: 8/22/2017 9:54:00PM

Prep Batch: XXX38220
 Prep Method: Sonication Extr Soil 8270 PAH SIM 5ml
 Prep Date/Time: 8/21/2017 10:41:26AM
 Prep Initial Wt./Vol.: 30.09g
 Prep Extract Vol: 5.00mL

Print Date: 09/14/2017 4:10:07PM

Method Blank

Blank ID: MB for HBN 1766707 [XXX/38234]
 Blank Lab ID: 1407194

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8082A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aroclor-1016	25.0U	50.0	15.0	ug/Kg
Aroclor-1221	100U	200	62.0	ug/Kg
Aroclor-1232	25.0U	50.0	15.0	ug/Kg
Aroclor-1242	25.0U	50.0	15.0	ug/Kg
Aroclor-1248	25.0U	50.0	15.0	ug/Kg
Aroclor-1254	25.0U	50.0	15.0	ug/Kg
Aroclor-1260	25.0U	50.0	15.0	ug/Kg

Surrogates

Decachlorobiphenyl (surr)	95	60-125		%
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Batch Information

Analytical Batch: XGC9881
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV H F
 Analyst: BMZ
 Analytical Date/Time: 8/28/2017 2:23:00PM

Prep Batch: XXX38234
 Prep Method: SW3550C
 Prep Date/Time: 8/22/2017 8:28:02AM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Print Date: 09/14/2017 4:10:08PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38234]
Blank Spike Lab ID: 1407195
Date Analyzed: 08/28/2017 14:37

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8082A

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Aroclor-1016	222	167	75	(47-134)
Aroclor-1260	222	209	94	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	95	95	(60-125)

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV H F
Analyst: BMZ

Prep Batch: XXX38234
Prep Method: SW3550C
Prep Date/Time: 08/22/2017 08:28
Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/14/2017 4:10:10PM



Matrix Spike Summary

Original Sample ID: 1175815012
MS Sample ID: 1407196 MS
MSD Sample ID: 1407197 MSD

Analysis Date: 08/28/2017 15:06
Analysis Date: 08/28/2017 15:21
Analysis Date: 08/28/2017 15:35
Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815011, 1175815012, 1175815013, 1175815014, 1175815015

Results by SW8082A

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aroclor-1016	26.3U	231	185	80	232	195	84	47-134	5.13	(< 30)
Aroclor-1260	26.3U	231	171	74	232	175	75	53-140	1.60	(< 30)
Surrogates										
Decachlorobiphenyl (surr)		231	195	84	232	195	84	60-125	0.26	

Batch Information

Analytical Batch: XGC9881
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV H F
Analyst: BMZ
Analytical Date/Time: 8/28/2017 3:21:00PM

Prep Batch: XXX38234
Prep Method: Sonication Extraction Soil SW8080 PCB
Prep Date/Time: 8/22/2017 8:28:02AM
Prep Initial Wt./Vol.: 22.70g
Prep Extract Vol: 5.00mL

Print Date: 09/14/2017 4:10:10PM

Method Blank

Blank ID: MB for HBN 1767225 [XXX/38302]
 Blank Lab ID: 1409302

Matrix: Soil/Solid (dry weight)

QC for Samples:
 1175815006

Results by SW8082A

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aroclor-1016	25.0U	50.0	15.0	ug/Kg
Aroclor-1221	100U	200	62.0	ug/Kg
Aroclor-1232	25.0U	50.0	15.0	ug/Kg
Aroclor-1242	25.0U	50.0	15.0	ug/Kg
Aroclor-1248	25.0U	50.0	15.0	ug/Kg
Aroclor-1254	25.0U	50.0	15.0	ug/Kg
Aroclor-1260	25.0U	50.0	15.0	ug/Kg

Surrogates

Decachlorobiphenyl (surr)	99	60-125		%
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Batch Information

Analytical Batch: XGC9888
 Analytical Method: SW8082A
 Instrument: HP 6890 Series II ECD SV L R
 Analyst: BMZ
 Analytical Date/Time: 9/1/2017 2:36:00PM

Prep Batch: XXX38302
 Prep Method: SW3550C
 Prep Date/Time: 8/30/2017 10:27:10PM
 Prep Initial Wt./Vol.: 22.5 g
 Prep Extract Vol: 5 mL

Print Date: 09/14/2017 4:10:11PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1175815 [XXX38302]
 Blank Spike Lab ID: 1409303
 Date Analyzed: 09/01/2017 14:51

Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815006

Results by SW8082A

Parameter	Blank Spike (ug/Kg)			CL
	Spike	Result	Rec (%)	
Aroclor-1016	222	149	67	(47-134)
Aroclor-1260	222	198	89	(53-140)
Surrogates				
Decachlorobiphenyl (surr)	222	97	97	(60-125)

Batch Information

Analytical Batch: **XGC9888**
 Analytical Method: **SW8082A**
 Instrument: **HP 6890 Series II ECD SV L R**
 Analyst: **BMZ**

Prep Batch: **XXX38302**
 Prep Method: **SW3550C**
 Prep Date/Time: **08/30/2017 22:27**
 Spike Init Wt./Vol.: 222 ug/Kg Extract Vol: 5 mL
 Dupe Init Wt./Vol.: Extract Vol:



Matrix Spike Summary

Original Sample ID: 1175011050
MS Sample ID: 1409304 MS
MSD Sample ID: 1409305 MSD

Analysis Date: 09/01/2017 15:05
Analysis Date: 09/01/2017 15:20
Analysis Date: 09/01/2017 15:35
Matrix: Soil/Solid (dry weight)

QC for Samples: 1175815006

Results by SW8082A

Parameter	Sample	Matrix Spike (ug/Kg)			Spike Duplicate (ug/Kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aroclor-1016	40.0U	353	303	86	356	274	77	47-134	10.00	(< 30)
Aroclor-1260	40.0U	353	342	97	356	335	94	53-140	2.12	(< 30)
Surrogates										
Decachlorobiphenyl (surr)		353	331	94	356	335	94	60-125	1.02	

Batch Information

Analytical Batch: XGC9888
Analytical Method: SW8082A
Instrument: HP 6890 Series II ECD SV L R
Analyst: BMZ
Analytical Date/Time: 9/1/2017 3:20:00PM

Prep Batch: XXX38302
Prep Method: Sonication Extraction Soil SW8080 PCB
Prep Date/Time: 8/30/2017 10:27:10PM
Prep Initial Wt./Vol.: 22.76g
Prep Extract Vol: 5.00mL

Print Date: 09/14/2017 4:10:14PM



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CLIENT: MWH now part of Stantec Consulting, Inc. PHONE NO: 907-266-1148
 CONTACT: Douglas Quist
 PROJECT NAME: Pilot Point Corrective Action
 REPORTS TO: Douglas Quist E-MAIL: Douglas.Quist@mwhglobal.com
 INVOICE TO: City of Pilot Point QUOTE #: P.O. #:

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

#	PRESERVATIVE USED:	TYPE	HCL	HCL	HCL	HNO3	NONE	REMARKS/LOC ID	
									C
11	AK101	G	X	X	X	X	X	AK101	
11	AK102/103	G	X	X	X	X	X	AK102/103	
6	AK102/103	G	X	X	X	X	X	AK102/103	
	8620C		X	X	X	X	X	8620C	
	6020A		X	X	X	X	X	6020A	
	8270D SIM		X	X	X	X	X	8270D SIM	
	FAH							FAH	

5 Relinquished By: (1) *Douglas Quist* Date: 8/18/17 Time: 0945
 Relinquished By: (2) _____ Date: _____ Time: _____
 Relinquished By: (3) _____ Date: _____ Time: _____
 Relinquished By: (4) *[Signature]* Date: 8/18/17 Time: 0945

4 DOD Project? YES NO
 Cooler ID: 17PIP001
 Requested Turnaround Time and/or Special Instructions: Standard
 Data Deliverable Requirements:
 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT
 Temp Blank °C: 2.3 041 or Ambient []
 (See attached Sample Receipt Form)



SGS North America Inc.
CHAIN OF CUSTODY RECORD

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Locations Nationwide
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CLIENT: MWH now part of Stantec Consulting, Inc. PHONE NO: 907-266-1148
 CONTACT: Douglas Quist
 PROJECT NAME: Pilot Point Corrective Action PROJECT/ PWSID/ PERMIT#:
 REPORTS TO: Douglas Quist E-MAIL: Douglas.Quist@mwhglobal.com
 INVOICE TO: Douglas Quist QUOTE #:
 City of Pilot Point P.O. #:
 RESERVED for lab use MATRIX/ MATRIX CODE

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

#	C O N T A I N E R S	Preserv- ative Used:	TYPE C = COMP G = GRAB MI = Multi Incre- mental Soils	AK101/826C GRO/OC	AK102/103 DRO/RO	6020A RCRA 8 metals + Ni, V	8270D SIM PAH	8082A TCBS	8011 EDB	REMARKS/ LOC ID
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	shop spill area
3	S		S	X	X	X	X	X	X	leaking drums stockpile
3	S		S	X	X	X	X	X	X	leaking drums area
3	S		S	X	X	X	X	X	X	leaking drums area
3	S		S	X	X	X	X	X	X	small spills area #3

4 DOD Project? YES **NO** Data Deliverable Requirements:
 Cooler ID: 17PIP002
 Requested Turnaround Time and/or Special Instructions:
Standard
 Chain of Custody Seal: (Circle)
 Temp Blank °C: 1.7D41 or Ambient []
 (See attached Sample Receipt Form) **INTACT** BROKEN ABSENT
 (See attached Sample Receipt Form)

Received By: Douglas Quist
 Date: 8/18/17
 Time: 0945
 Relinquished By: (1)
 Relinquished By: (2)
 Relinquished By: (3)
 Relinquished By: (4)



SGS North America Inc.
CHAIN OF CUSTODY RECORD

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Instructions: Sections 1 - 5 must be filled out.
Omissions may delay the onset of analysis.

CLIENT: MWH now part of Stantec Consulting, Inc.
 CONTACT: Douglas Quist PHONE NO: 907-266-1148
 PROJECT NAME: Pilot Point Corrective Action
 REPORTS TO: Douglas Quist E-MAIL: Douglas.Quist@mwhglobal.com
 INVOICE TO: City of Pilot Point QUOTE #: P.O. #:

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE
130A-C	17PIP054SL0.5	8/15/17	1642	S
131A-C	17PIP058SL0.5	8/15/17	1646	S
132A-C	17PIP067SL0.5	8/15/17	1705	S
133A-C	17PIP077SL0.5	8/15/17	1805	S
134A-C	17PIP079SL1.0	8/15/17	1807	S
135A-C	17PIP279SL1.0	8/15/17	1811	S
136A	Trip Blank	8/15/17	2:00	S

Relinquished By: (1) *Jaughas Dant* Date: 8/18/17 Time: 0945
 Relinquished By: (2) Received By: Received By: Received By:
 Relinquished By: (3) Received For Laboratory By: Received For Laboratory By:
 Relinquished By: (4) Date: 8/18/17 Time: 0945

#	C O N T A I N E R S	Preserv- active Used:	TYPE C = COMP G = GRAB M = Multi Incr- mental Soils	AK101/8260C GRO/VOC	AK102/103 DRO/RRO	6020A RCRA 8 metals + Ni, V	8270D SIM PAH	8082A PCBs	EDB 8011	MeOH			REMARKS/ LOC ID
										none	none	none	
3	S			X	X	X	X	X	X	none	none	none	small spills stockpile
3	S			X	X	X	X	X	X	none	none	none	small spills stockpile
3	S			X	X	X	X	X	X	none	none	none	leaking drums stockpile
3	S			X	X	X	X	X	X	none	none	none	shop spill stockpile
3	S			X	X	X	X	X	X	none	none	none	shop spill stockpile
3	S			X	X	X	X	X	X	none	none	none	shop spill stockpile
1	S			X						none	none	none	shop spill stockpile

4 DOD Project? YES NO
 Cooler ID: 17PIP002
 Data Deliverable Requirements:
 Requested Turnaround Time and-or Special Instructions:
Standard
 Chain of Custody Seal: (Circle)
 Temp Blank °C: _____ or Ambient []
 (See attached Sample Receipt Form) **INTACT** **BROKEN** **ABSENT**
 (See attached Sample Receipt Form)

http://www.sgs.com/terms_and_conditions.htm



e-Sample Receipt Form

SGS Workorder #:

1175815



1 1 7 5 8 1 5

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
Chain of Custody / Temperature Requirements	<input checked="" type="checkbox"/>	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	<input checked="" type="checkbox"/>	1-F, 1-B
COC accompanied samples?	<input checked="" type="checkbox"/>	
<input type="checkbox"/> N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	<input checked="" type="checkbox"/>	Cooler ID: 17PIP001 @ 2.3 °C Therm. ID: D41
	<input checked="" type="checkbox"/>	Cooler ID: 17PIP002 @ 1.7 °C Therm. ID: D41
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	<input type="checkbox"/> N/A	
If <0°C, were sample containers ice free?	<input type="checkbox"/> N/A	
If samples received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
Holding Time / Documentation / Sample Condition Requirements		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	<input checked="" type="checkbox"/>	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	<input checked="" type="checkbox"/>	
**Note: If times differ <1hr, record details & login per COC.		
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	<input checked="" type="checkbox"/>	
Were proper containers (type/mass/volume/preservative***) used?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> ***Exemption permitted for metals (e.g.200.8/6020A).
Volatile / LL-Hg Requirements		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<input checked="" type="checkbox"/>	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	<input checked="" type="checkbox"/>	
Were all soil VOAs field extracted with MeOH+BFB?	<input checked="" type="checkbox"/>	
Note to Client: Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1175815001-A	HCL to pH < 2	OK	1175815008-C	Methanol field pres. 4 C	OK
1175815001-B	HCL to pH < 2	OK	1175815009-A	No Preservative Required	OK
1175815001-C	HCL to pH < 2	OK	1175815009-B	No Preservative Required	OK
1175815001-D	HCL to pH < 2	OK	1175815009-C	Methanol field pres. 4 C	OK
1175815001-E	HCL to pH < 2	OK	1175815010-A	No Preservative Required	OK
1175815001-F	HCL to pH < 2	OK	1175815010-B	No Preservative Required	OK
1175815001-G	HCL to pH < 2	OK	1175815010-C	Methanol field pres. 4 C	OK
1175815001-H	HCL to pH < 2	OK	1175815011-A	No Preservative Required	OK
1175815001-I	No Preservative Required	OK	1175815011-B	No Preservative Required	OK
1175815001-J	No Preservative Required	OK	1175815011-C	Methanol field pres. 4 C	OK
1175815001-K	HNO3 to pH < 2	OK	1175815012-A	No Preservative Required	OK
1175815002-A	HCL to pH < 2	OK	1175815012-B	No Preservative Required	OK
1175815002-B	HCL to pH < 2	OK	1175815012-C	Methanol field pres. 4 C	OK
1175815002-C	HCL to pH < 2	OK	1175815013-A	No Preservative Required	OK
1175815002-D	HCL to pH < 2	OK	1175815013-B	No Preservative Required	OK
1175815002-E	HCL to pH < 2	OK	1175815013-C	Methanol field pres. 4 C	OK
1175815002-F	HCL to pH < 2	OK	1175815014-A	No Preservative Required	OK
1175815002-G	HCL to pH < 2	OK	1175815014-B	No Preservative Required	OK
1175815002-H	HCL to pH < 2	OK	1175815014-C	Methanol field pres. 4 C	OK
1175815002-I	No Preservative Required	OK	1175815015-A	No Preservative Required	OK
1175815002-J	No Preservative Required	OK	1175815015-B	No Preservative Required	OK
1175815002-K	HNO3 to pH < 2	OK	1175815015-C	Methanol field pres. 4 C	OK
1175815003-A	HCL to pH < 2	OK	1175815016-A	Methanol field pres. 4 C	OK
1175815003-B	HCL to pH < 2	OK	1175815017-A	No Preservative Required	OK
1175815003-C	HCL to pH < 2	OK	1175815017-B	No Preservative Required	OK
1175815003-D	HCL to pH < 2	OK	1175815017-C	Methanol field pres. 4 C	OK
1175815003-E	HCL to pH < 2	OK	1175815018-A	No Preservative Required	OK
1175815003-F	HCL to pH < 2	OK	1175815018-B	No Preservative Required	OK
1175815004-A	No Preservative Required	OK	1175815018-C	Methanol field pres. 4 C	OK
1175815004-B	No Preservative Required	OK	1175815019-A	No Preservative Required	OK
1175815004-C	Methanol field pres. 4 C	OK	1175815019-B	No Preservative Required	OK
1175815005-A	No Preservative Required	OK	1175815019-C	Methanol field pres. 4 C	OK
1175815005-B	No Preservative Required	OK	1175815020-A	No Preservative Required	OK
1175815005-C	Methanol field pres. 4 C	OK	1175815020-B	No Preservative Required	OK
1175815006-A	No Preservative Required	OK	1175815020-C	Methanol field pres. 4 C	OK
1175815006-B	No Preservative Required	OK			
1175815006-C	Methanol field pres. 4 C	OK			
1175815007-A	No Preservative Required	OK			
1175815007-B	No Preservative Required	OK			
1175815007-C	Methanol field pres. 4 C	OK			
1175815008-A	No Preservative Required	OK			
1175815008-B	No Preservative Required	OK			

Container Id

Preservative

Container
Condition

Container Id

Preservative

Container
Condition

Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

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

DM- The container was received damaged.

FR- The container was received frozen and not usable for Bacteria or BOD analyses.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

Technical Report for

SGS North America, Inc

1175815

SGS Accutest Job Number: FA46996

Sampling Date: 08/15/17

Report to:

**SGS North America, Inc
200 W Potter Dr
Anchorage, AK 99518
julie.shumway@sgs.com**

ATTN: Julie Shumway

Total number of pages in report: 33



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

**Caitlin Brice, M.S.
General Manager**

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(L-A-B L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, GA, IA, KY, MA, NV, OK, OR, UT, WA

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Test results relate only to samples analyzed.

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Sample Summary

SGS North America, Inc

Job No: FA46996

1175815

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
FA46996-1	08/15/17	12:42 JS	08/24/17	SO	Soil	17PIP009SL2.5
FA46996-2	08/15/17	12:45 JS	08/24/17	SO	Soil	17PIP209SL2.5
FA46996-3	08/15/17	13:50 JS	08/24/17	SO	Soil	17PIP017SL0.5
FA46996-4	08/15/17	14:32 JS	08/24/17	SO	Soil	17PIP021SL0.75
FA46996-5	08/15/17	14:36 JS	08/24/17	SO	Soil	17PIP025SL0.75
FA46996-6	08/15/17	16:20 JS	08/24/17	SO	Soil	17PIP051SL2.0
FA46996-7	08/15/17	16:42 JS	08/24/17	SO	Soil	17PIP054SL0.5
FA46996-8	08/15/17	16:46 JS	08/24/17	SO	Soil	17PIP058SL0.5
FA46996-9	08/15/17	17:05 JS	08/24/17	SO	Soil	17PIP067SL0.5
FA46996-10	08/15/17	18:05 JS	08/24/17	SO	Soil	17PIP077SL0.5
FA46996-11	08/15/17	18:07 JS	08/24/17	SO	Soil	17PIP079SL1.0
FA46996-12	08/15/17	18:11 JS	08/24/17	SO	Soil	17PIP279SL1.0
FA46996-13	08/15/17	12:40 JS	08/24/17	SO	Soil	17PIP007SL2.5

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary (continued)

SGS North America, Inc
1175815

Job No: FA46996

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA46996-14	08/15/17	12:41 JS	08/24/17	SO	Soil	17PIP008SL2.5
FA46996-15	08/15/17	12:42 JS	08/24/17	SO	Soil	17PIP010SL2.5
FA46996-16	08/15/17	12:44 JS	08/24/17	SO	Soil	17PIP011SL2.5

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc

Job No: FA46996

Site: 1175815

Report Date: 9/1/2017 8:48:22 AM

16 Sample(s) were collected on 08/15/2017 and were received at SGS Accutest Southeast (SASE) on 08/24/2017 properly preserved, at 4.4 Deg. C and intact. These Samples received an SASE job number of FA46996. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

GC Volatiles By Method SW846 8011M

Matrix: SO

Batch ID: OP66645

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA46996-6MS, FA46996-6MSD were used as the QC samples indicated.

General Chemistry By Method SM19 2540G

Matrix: SO

Batch ID: GN76132

Sample(s) FA46996-16DUP, FA46996-1DUP were used as the QC samples for Solids, Percent.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Kim Benham, Client Services (signature on file)

Summary of Hits

Job Number: FA46996
Account: SGS North America, Inc
Project: 1175815
Collected: 08/15/17



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

FA46996-1 **17PIP009SL2.5**

No hits reported in this sample.

FA46996-2 **17PIP209SL2.5**

No hits reported in this sample.

FA46996-3 **17PIP017SL0.5**

No hits reported in this sample.

FA46996-4 **17PIP021SL0.75**

No hits reported in this sample.

FA46996-5 **17PIP025SL0.75**

No hits reported in this sample.

FA46996-6 **17PIP051SL2.0**

No hits reported in this sample.

FA46996-7 **17PIP054SL0.5**

No hits reported in this sample.

FA46996-8 **17PIP058SL0.5**

No hits reported in this sample.

FA46996-9 **17PIP067SL0.5**

No hits reported in this sample.

FA46996-10 **17PIP077SL0.5**

No hits reported in this sample.

FA46996-11 **17PIP079SL1.0**

No hits reported in this sample.

Summary of Hits

Job Number: FA46996
Account: SGS North America, Inc
Project: 1175815
Collected: 08/15/17



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

FA46996-12 **17PIP279SL1.0**

No hits reported in this sample.

FA46996-13 **17PIP007SL2.5**

No hits reported in this sample.

FA46996-14 **17PIP008SL2.5**

No hits reported in this sample.

FA46996-15 **17PIP010SL2.5**

No hits reported in this sample.

FA46996-16 **17PIP011SL2.5**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 17PIP009SL2.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-1	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.5
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95103.D	1	08/29/17 21:04	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.25 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00021	0.000070	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	110%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID: 17PIP209SL2.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-2	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 80.4
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95104.D	1	08/29/17 21:19	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.07 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00026	0.000086	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	127%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.2
4

Report of Analysis

Client Sample ID: 17PIP017SL0.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-3	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 89.9
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95107.D	1	08/29/17 22:05	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.38 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00022	0.000072	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	87%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.3
4

Report of Analysis

Client Sample ID: 17PIP021SL0.75	Date Sampled: 08/15/17
Lab Sample ID: FA46996-4	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.8
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95108.D	1	08/29/17 22:20	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.29 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00021	0.000069	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	113%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.4
4

Report of Analysis

Client Sample ID: 17PIP025SL0.75	Date Sampled: 08/15/17
Lab Sample ID: FA46996-5	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.4
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95109.D	1	08/29/17 22:35	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.43 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00020	0.000068	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	109%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.5
4

Report of Analysis

Client Sample ID: 17PIP051SL2.0	Date Sampled: 08/15/17
Lab Sample ID: FA46996-6	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 94.5
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95110.D	1	08/29/17 22:50	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.29 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00021	0.000070	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	108%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.6
4

Report of Analysis

Client Sample ID: 17PIP054SL0.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-7	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 96.1
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95111.D	1	08/29/17 23:05	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.06 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00022	0.000072	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	106%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.7
4

Report of Analysis

Client Sample ID: 17PIP058SL0.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-8	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.4
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95112.D	1	08/29/17 23:21	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.32 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00021	0.000069	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	107%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.8
4

Report of Analysis

Client Sample ID: 17PIP067SL0.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-9	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 89.3
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95113.D	1	08/29/17 23:36	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.49 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00021	0.000071	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	125%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.9
4

Report of Analysis

Client Sample ID: 17PIP077SL0.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-10	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 91.0
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95114.D	1	08/29/17 23:51	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.05 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00023	0.000076	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	109%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.10 4

Report of Analysis

Client Sample ID: 17PIP079SL1.0	Date Sampled: 08/15/17
Lab Sample ID: FA46996-11	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 85.2
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95115.D	1	08/30/17 00:06	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.00 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00025	0.000082	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	108%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.11
4

Report of Analysis

Client Sample ID: 17PIP279SL1.0	Date Sampled: 08/15/17
Lab Sample ID: FA46996-12	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 86.1
Method: SW846 8011M SW846 8011 M	
Project: 1175815	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD95116.D	1	08/30/17 00:21	AN	08/29/17 18:55	OP66645	GDD2776
Run #2							

	Initial Weight	Final Volume
Run #1	5.27 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.00023	0.000077	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	114%		63-137%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

4.12
4

Report of Analysis

Client Sample ID: 17PIP007SL2.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-13	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 94.6
Project: 1175815	

4.13
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	94.6		%	1	08/28/17 10:02	VK	SM19 2540G

RL = Reporting Limit

Report of Analysis

Client Sample ID: 17PIP008SL2.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-14	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.5
Project: 1175815	

4.14
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	95.5		%	1	08/28/17 10:02	VK	SM19 2540G

RL = Reporting Limit

Report of Analysis

Client Sample ID: 17PIP010SL2.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-15	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.5
Project: 1175815	

4.15
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	95.5		%	1	08/28/17 10:02	VK	SM19 2540G

RL = Reporting Limit

Report of Analysis

Client Sample ID: 17PIP011SL2.5	Date Sampled: 08/15/17
Lab Sample ID: FA46996-16	Date Received: 08/24/17
Matrix: SO - Soil	Percent Solids: 95.9
Project: 1175815	

4.16
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General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	95.9		%	1	08/28/17 10:02	VK	SM19 2540G

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SGS North America Inc.
CHAIN OF CUSTODY RECORD

FA46996




* 1 1 7 5 8 1 5 *

Locations Nationwide

- Alaska
- New Jersey
- North Carolina
- West Virginia
- Maryland
- New York
- Indiana
- Kentucky

www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division					SGS Reference: SGS Orlando, FL				
CONTACT: Julie Shumway PHONE NO: (907) 562-2343					Additional Comments: All soils report out in dry weight unless otherwise requested.				
PROJECT NAME: 1175815 PROJECT/PWSID/PERMIT#:					 280-100477 Chain of Custody				
REPORTS TO: E-MAIL: Julie.Shumway@sgs.com									
INVOICE TO: QUOTE #: 1175815					PRESERVED FOR LAB USE: <input type="checkbox"/> SAMPLE IDENTIFICATION: DATE: TIME: MATRIX/MATRIX: # COINTEGRATION: PRESERVE: GRAB: X: MS: MSD: SGS lab #: Loc ID: REMARKS:				
SGS - Alaska P.O. #: 1175815					1 17PIP009SL2.5 08/15/17 1242 S 1 GRAB X 1175815004 Shop Spill Area 2 17PIP209SL2.5 08/15/17 1245 S 1 GRAB X 1175815005 Shop Spill Area 3 17PIP017SL0.5 08/15/17 1350 S 1 GRAB X 1175815006 Drums Stock 4 17PIP021SL0.75 08/15/17 1432 S 1 GRAB X 1175815007 Drums Area 5 17PIP025SL0.75 08/15/17 1436 S 1 GRAB X 1175815008 Drums Area 6 17PIP051SL2.0 08/15/17 1620 S 1 GRAB X 1175816009 Small Spills Area 7 17PIP034SL0.5 08/15/17 1642 S 1 GRAB X 1175815010 Small Spills Stock 8 17PIP058SL0.5 08/15/17 1646 S 1 GRAB X 1175816011 Small Spills Stock 9 17PIP067SL0.5 08/15/17 1705 S 1 GRAB X 1175815012 Drums Stock 10 17PIP077SL0.5 08/15/17 1805 S 1 GRAB X 1175815013 Shop Spill Stock				
Relinquished By: (1)		Date	Time	Received By:		DOD Project? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Data Deliverable Requirements:	
Relinquished By: (2)		Date	Time	Received By:		Report to DL (J Flags) <input checked="" type="checkbox"/>		Cooler ID: Level 2	
Relinquished By: (3)		Date	Time	Received By:		Requested Turnaround Time and-or Special Instructions:			
Relinquished By: (4)		Date	Time	Received For Laboratory By:		Temp Blank °C: 4.4, 4.4		Chain of Custody Seal: (Circle)	
						or Ambient []		INTACT BROKEN ABSENT	

[X] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-6301
 [] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

http://www.sgs.com/terms_and_conditions.htm

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SGS North America Inc.
CHAIN OF CUSTODY RECORD

FA46996

Locations Nationwide
Alaska Maryland
New Jersey New York
North Carolina Indiana
West Virginia Kentucky
www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division					SGS Reference: SGS Orlando, FL					Page <u>2</u> of <u>2</u>				
CONTACT: Julie Shumway PHONE NO: (907) 562-2343					Additional Comments: All soils report out in dry weight unless otherwise requested.									
PROJECT NAME: 1175815		PROJECT/PWSID/PERMIT#:			# C O N T A I N E R S	Preservative Used:	TYPE C = COMP G = GRAB M = MUD I = Incremental S = Soils	EDB by Microextract 8011	Hold for Analysis	MS	MSD	SGS lab #	Loc ID	REMARKS
REPORTS TO:		E-MAIL: Julie.Shumway@sgs.com												
INVOICE TO: SGS - Alaska		QUOTE #: 1175815												
RESERVED for lab use		SAMPLE IDENTIFICATION												
		DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX										
11	17PIP079SL1.0	08/15/17	1807	S	1	GRAB	X					1175815014		Shop Spill Stock
12	17PIP279SL1.0	08/15/17	1811	S	1	GRAB	X					1175815015		Shop Spill Stock
13	17PIP007SL2.5	08/15/17	1240	S	1	GRAB		X				1175815017		Shop Spill Area
14	17PIP008SL2.5	08/15/17	1241	S	1	GRAB		X				1175815018		Shop Spill Area
15	17PIP010SL2.5	08/15/17	1243	S	1	GRAB		X				1175815019		Shop Spill Area
16	17PIP011SL2.5	08/15/17	1244	S	1	GRAB		X				1175815020		Shop Spill Area
Relinquished By: (1)		Date	Time	Received By:		DOD Project? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Report to DL (J Flags) <input checked="" type="checkbox"/>		Cooler ID:		Data Deliverable Requirements:		
<i>Julie Shumway</i>		8/21/17	0947	<i>Kooda</i>		8-22-17 0945						Level 2		
Relinquished By: (2)		Date	Time	Received By:		Requested Turnaround Time and-or Special Instructions:								
Fx						Standard								
Relinquished By: (3)		Date	Time	Received By:		Temp Blank °C:		Chain of Custody Seal: (Circle)						
Relinquished By: (4)		Date	Time	Received For Laboratory By:		or Ambient []		INTACT BROKEN ABSENT						
				<i>Peter H</i>		9:15 8-24-17								

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

http://www.sgs.com/terms_and_conditions.htm

1175815_EDB_8 21 17.xls

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SGS Accutest Sample Receipt Summary

Job Number: FA46996

Client: SGS

Project: 1175815

Date / Time Received: 8/24/2017 9:15:00 AM

Delivery Method: FX

Airbill #s: 787489947146

Therm ID: IR 1; Therm CF: 0.4; # of Coolers: 2
 Cooler Temps (Raw Measured) °C: Cooler 1: (4.0); Cooler 2: (4.0);
 Cooler Temps (Corrected) °C: Cooler 1: (4.4); Cooler 2: (4.4);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Sample Information

Y or N N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Intact
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

Trip Blank Information

Y or N N/A

- 1. Trip Blank present / cooler
 - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____
 Residual Chlorine Test Strip Lot #: _____

Comments

SM001 Rev. Date 05/24/17 Technician: PETERH Date: 8/24/2017 9:15:00 AM Reviewer: _____ Date: _____

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GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA46996
Account: SGS/SAKA SGS North America, Inc
Project: 1175815

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66645-MB	DD95102.D	1	08/29/17	AN	08/29/17	OP66645	GDD2776

The QC reported here applies to the following samples:

Method: SW846 8011M

FA46996-1, FA46996-2, FA46996-3, FA46996-4, FA46996-5, FA46996-6, FA46996-7, FA46996-8, FA46996-9, FA46996-10, FA46996-11, FA46996-12

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.21	0.070	ug/kg	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	113% 63-137%

Blank Spike Summary

Job Number: FA46996
Account: SGS/SAKA SGS North America, Inc
Project: 1175815

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66645-BS	DD95100.D	1	08/29/17	AN	08/29/17	OP66645	GDD2776

The QC reported here applies to the following samples:

Method: SW846 8011M

FA46996-1, FA46996-2, FA46996-3, FA46996-4, FA46996-5, FA46996-6, FA46996-7, FA46996-8, FA46996-9, FA46996-10, FA46996-11, FA46996-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
106-93-4	1,2-Dibromoethane	1.75	1.9	109	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	108%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA46996
Account: SGS/SAKA SGS North America, Inc
Project: 1175815

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66645-BS2	DD95101.D	1	08/29/17	AN	08/29/17	OP66645	GDD2776

The QC reported here applies to the following samples:

Method: SW846 8011M

FA46996-1, FA46996-2, FA46996-3, FA46996-4, FA46996-5, FA46996-6, FA46996-7, FA46996-8, FA46996-9, FA46996-10, FA46996-11, FA46996-12

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
106-93-4	1,2-Dibromoethane	1.75	1.9	109	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	111%	63-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA46996
Account: SGS/SAK/SGS North America, Inc
Project: 1175815

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP66645-MS	DD95119.D	1	08/30/17	AN	08/29/17	OP66645	GDD2776
OP66645-MSD	DD95120.D	1	08/30/17	AN	08/29/17	OP66645	GDD2776
FA46996-6	DD95110.D	1	08/29/17	AN	08/29/17	OP66645	GDD2776

The QC reported here applies to the following samples:

Method: SW846 8011M

FA46996-1, FA46996-2, FA46996-3, FA46996-4, FA46996-5, FA46996-6, FA46996-7, FA46996-8, FA46996-9, FA46996-10, FA46996-11, FA46996-12

CAS No.	Compound	FA46996-6 ug/kg	Spike Q ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND	1.85	2.2	119	1.85	2.0	108	10	72-134/28

CAS No.	Surrogate Recoveries	MS	MSD	FA46996-6	Limits
460-00-4	4-Bromofluorobenzene	110%	106%	108%	63-137%

* = Outside of Control Limits.

Laboratory Data Review Checklist

Completed By:

Douglas Quist

Title:

Senior Chemist

Date:

10-13-2017

CS Report Name:

City of Pilot Point Former Alaska Packers Association Cannery Site – ADEC

Report Date:

February 2018

Consultant Firm:

Stantec Consulting Services Inc.

Laboratory Name:

SGS North America, Inc. (Anchorage)

Laboratory Report Number:

1175815

ADEC File Number:

Hazard Identification Number:

1028

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and
- perform
- all of the submitted sample analyses?

 Yes No

Comments:

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

 Yes No

Comments:

2. Chain of Custody (CoC)

- a. CoC information completed, signed, and dated (including released/received by)?

 Yes No

Comments:

- b. Correct Analyses requested?

 Yes No

Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

 Yes No

Comments:

- b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

 Yes No

Comments:

- c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

 Yes No

Comments:

- d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No

Comments:

Not applicable – no discrepancies

- e. Data quality or usability affected?

Comments:

Not applicable

4. Case Narrative

- a. Present and understandable?

Yes No

Comments:

- b. Discrepancies, errors, or QC failures identified by the lab?

Yes No

Comments:

- c. Were all corrective actions documented?

Yes No

Comments:

- d. What is the effect on data quality/usability according to the case narrative?

Comments:

Data are unaffected and are considered usable.

5. Samples Results

- a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

- b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Note, LOQs for soil for the following analytes were above the cleanup level, but all analytes were not detected.

<u>Analyte</u>	<u>SCL</u>	<u>LOQ range</u>
1,1,2,2-Tetrachloroethane	3 µg/kg	3.44 to 6.25 µg/kg
1,1,2-Trichloroethane	1.4 µg/kg	2.75 to 4.99 µg/kg
1,2,3-Trichloropropane	0.031 µg/kg	6.90 to 12.4 µg/kg
Chloroform	7.1 µg/kg	6.90 to 12.4 µg/kg
Vinyl chloride	0.8 µg/kg	2.75 to 4.99 µg/kg

e. Data quality or usability affected?

Yes No

Comments:

Samples results for those analytes where LOQs are above the Cleanup Levels were all not detected. Data usability is not affected.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

Yes No

Comments:

iii. If above LOQ, what samples are affected?

Comments:

Not applicable

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Not applicable

v. Data quality or usability affected?

Comments:

Not applicable

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

- i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

 Yes No

Comments:

- ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

 Yes No

Comments:

- iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

 Yes No

Comments:

8270D SIM – PAH LCS recovery for acenaphthene (112%) did not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

8260C – LCS recoveries for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

8260C – LCSD recoveries for several analytes do not meet QC criteria. These analytes were not detected above the LOQ in the associated samples.

- iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

 Yes No

Comments:

1175825001(1407124MSD) (1407055) MSD

8260C - MSD RPD for trichlorofluoromethane (28.9%), 1,2,3-trichlorobenzene (26.3%), and vinyl acetate (24.2%) do not meet QC criteria. These analytes were not detected above the LOQ in the parent sample.

8260C - MSD RPD for naphthalene (24.1%) does not meet QC criteria. Result for this analyte is estimated in the parent sample.

1175806001MSD (1407063) MSD

8260C - MSD RPD for naphthalene (24.1%) does not meet QC criteria. Result for this analyte is estimated in the parent sample.

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Samples 17PIP067SL0.5 is flagged J as estimated for naphthalene at 13.2 µg/kg. All other results were not detected.

- vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Yes, data flagged as J- estimated where detected.

- vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data is not affected and is considered usable.

c. Surrogates – Organics Only

- i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No

Comments:

- ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No

Comments:

17PIP017SL0.5 (1175815006) PS

AK102 - Surrogate recovery for 5a-androstane (0%) does not meet QC criteria due to sample dilution (4X) and a final extraction volume of 10 mL.

AK103 - Surrogate recovery for n-triacontane (0%) does not meet QC criteria due to sample dilution (20X) and a final extraction volume of 10 mL.

8270D SIM - PAH surrogate recovery for Fluoranthene-d10 (163%) do not meet QC criteria due to sample dilution (40X).

8082A - Surrogate recovery for decachlorobiphenyl (18%) does not meet QC criteria due to matrix interference. The sample was re-extracted and the original results were confirmed.

17PIP079SL1.0 (1175815014) PS

AK103 - Surrogate recovery for n-triacontane (0%) does not meet QC criteria due to sample dilution (40X).

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

17PIP279SL1.0 (1175815015) PS

AK103 - Surrogate recovery for n-triacontane (0%) does not meet QC criteria due to sample dilution (10X) and a final extraction volume of 5 mL.

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

8082A - Surrogate recovery for decachlorobiphenyl (59%) does not meet QC criteria due to matrix interference.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Those that are at or near the LOQ are flagged as J, estimated. All other detected results are well above the LOQ and reported without the necessity of qualifiers.

iv. Data quality or usability affected?

Comments:

Data are considered usable.

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

Comments:

One cooler each for soil and water.

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes No

Comments:

Not applicable, as only one cooler per sample matrix.

iii. All results less than LOQ?

Yes No

Comments:

iv. If above LOQ, what samples are affected?

Comments:

Not applicable.

v. Data quality or usability affected?

Comments:

Not applicable, all Trip Blank results were non detect or below the LOQ.

e. Field Duplicate

- i. One field duplicate submitted per matrix, analysis and 10 project samples?

 Yes No

Comments:

- ii. Submitted blind to lab?

 Yes No

Comments:

- iii. Precision – All relative percent differences (RPD) less than specified DQOs?
-
- (Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration R_2 = Field Duplicate Concentration Yes No

Comments:

All RPDs for soil analytes which were detected were below 50%.

All RPD for water analytes that were detected were below 30% with the following exceptions:

Diesel Range Organics were 0.283 U and 0.782 = RPD of -93%

Residual Range Organics were 0.236 U and 0.820 = RPD of -113%

Trichloroethene were 0.58 J and 0.38 J = RPD of 42%

- iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality are not considered affected as all are at or near the LOQ and are below the relative cleanup standards.

- f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below).

 Yes No Not Applicable

Not applicable, only disposable field sampling equipment used.

- i. All results less than LOQ?

 Yes No

Comments:

Not applicable

ii. If above LOQ, what samples are affected?

Comments:

Not applicable

iii. Data quality or usability affected?

Comments:

Not applicable

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

a. Defined and appropriate?

Yes No

Comments:

Not applicable, standard laboratory data qualifiers were used by the project laboratory.